## Methodological Appendix

### Contents

| ors and Events of Brazilian Environmental Foreign Policy Database2                         |
|--|
| tries centrality and influence2  |
| ernative thresholds for the moving window3   |
| m-wise data on agency centrality5  |
| s at the UNFCCC  |
| Diagnostics for the aggregation of Brazil's cooperation indices with EU, AOSIS, and China7 |
| native specifications for the PCA10  |
| uding BASIC countries in the PCA10   |
| anding the PCA to include all country groupings15  |
| gregated cooperation data20  |
| oility check — Placebo test using other countries' cooperation with EU, AOSIS, and the     |

# The Actors and Events of Brazilian Environmental Foreign Policy Database

The Actors and Events of Brazilian Environmental Foreign Policy database (Maitino 2025) compiles the individual participants in Brazilian delegations to multilateral environmental conferences related to the UN system from 1970 to 2018.

The process of building the database can be summarized in three stages. First, guided by the United Nations Information Portal on Multilateral Environmental Agreements (InformMEA) and supplementary literature (e.g. Johnson 2012; Chasek, Downie, and Brown 2017; Ivanova 2021), we compiled a list of the main multilateral environmental agreements as the events of interest for the research¹. Multilateral events of all main issue areas in environmental governance were included in the database, although access to participant lists varied across issues, which may result in some bias in the analysis. Then, we proceeded to collect official documents containing participant lists, processing, and classifying the data obtained in these sources. In this process, 549 events were identified, and the list of participants successfully obtained for 303 events, in a total of 4806 persons and 7766 participations in delegations. For each event, information on date and place of the meeting were collected; for each name, the organization to Ih It was associated and Its position at the moment of participation, when such information was available. To enable proper network analysis, organization and individuals' names were treated to avoid errors due to spelling variation—individuals' names, in particular, were standardized through the use of clustering and supervised data cleaning algorithms provided by Google Refine.

This database was then used to generate a projected network of organizations that participate in the community. The network uses the organizations to which individual participants belong (e.g., governmental departments, subnational entities, NGOs, business groups) as nodes and their co-participation in the same international events as edges. From this network, we compute the betweenness centrality for the ministries of Foreign Affairs and Environment.

### Ministries centrality and influence

As described in the main document, we use the *Actors and Events of Brazilian Environmental Foreign Poicy* database to compute centrality scores for the Ministry of Foreign Affairs and for the Ministry of Environment. As we are interested in the agencies' capacities for coordinating the policy community, we selected the ministries' betweenness centrality (in the network of organizations) as our measure of interest.

Betweenness is given by  $B_k = \sum g_{i,k,j}/g_{i,j}$ , where  $g_{i,k,j}$  means the number of shortest paths linking i and j passing through k and  $g_{i,j}$  the total number of shortest paths linking i and j. In our

<sup>1</sup> Once relevant conventions and conferences were identified, we added negotiation meetings prior to treaty signing, plenipotentiary meetings, and meetings of the convention's main body (COP/MOPs). These were separated in the following issue-areas: biodiversity, endangered species, climate, desertification, financing, forests, environmental governance, UN sustainable development, chemicals and hazardous waste, ozone, oceans.

case, shortest paths also consider edge weight, which measures the strength of the connection between the organizations (the number of events in which they co-participate).

Betwenness centrality was calculated and normalized through R package igraph (Csardi and Nepusz 2006). To compute normalized betweenness  $B^n$ , igraph uses  $B^n = \frac{2B}{(n-1)(n-2)}$ , where  $B^n$  represents raw betweenness and  $B^n$  is the number of vertices in the graph. As igraph considers edge weights as costs and, in our case, weight represents strength of the connection, we used inverse weights for the calculation.

As we aim to uncover the relational capacities of the ministries, when generating the networks of organizations we assume interactions in events last over time. This is also important as multilateral environmental events have different periodicity (e.g., climate COPs occur every year; CBD MOPs every two years) and this can make centrality scores computed for annual networks too erratic, even if the underlying patterns in which we are interested remain stable. Exactly how long these interactions should last, however, is up for debate.

In the main document, we reported betweenness centrality scores based on a 4-year moving window, as this corresponds to the duration of a presidential term in Brazil. This allows us to compute annual betweenness centrality scores while maintaining some stability in our measure. As robustness checks, we present betweenness scores for both shorter and longer thresholds in the moving window, as well as the results for when we compute betweenness separately for each presidential term.

#### Alternative thresholds for the moving window

**Figure 1** below, presented in the main document, shows actors' betweenness centrality in a network based on a 4-year moving window. This means that, for year T, the network encompasses all events between T-3 and T (both included). As discussed in the main document, in the last half of Lula's first administration, we see a sharp rise in MoE centrality and a decline in MFA centrality. In Lula's second administration, this trend is inverted, and the ministries change place.

Environment Lula 2 R. 2 Cardoso 1 Cardoso 2 Lula 1 Rousseff 1 Temer 1.00 0.75 0.50 -0.25 -Betweenness 0.00 Foreign Affairs 1.00 0.75 0.50 0.25 -0.00 -COP4 COP12 COP16 COP24 COP1 COP8 COP20

Figure 1. Betweenness centrality in 4-year moving window

**Figures 2 and 3** below show betweenness centrality for 5- and 3-year moving windows, respectively. As one can see, the timing and direction of changes coincide with those seen in the 4-year moving window.

Figure 2. Betweenness centrality in 5-year moving window Organization betweenness (5-year window)

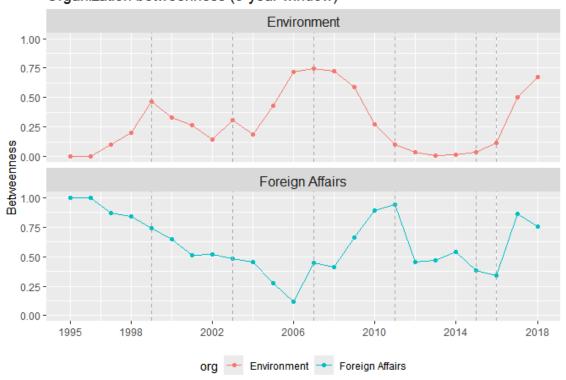
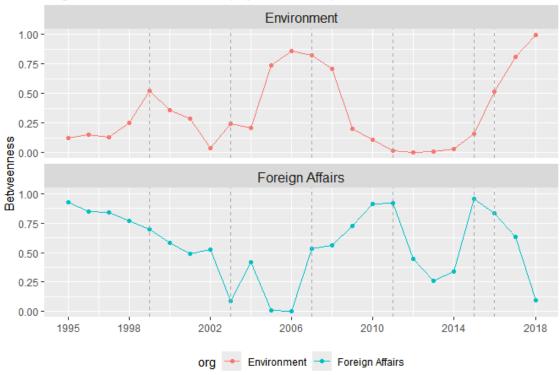


Figure 3. Betweenness centrality in 3-year moving window
Organization betweenness (3-year window)



### Term-wise data on agency centrality

**Table 1** presents actors' betweenness centrality for different periods, providing a measure for ministries influence in each presidential administration.

Table 1. Betweenness centrality for selected ministries, per presidential administration

|                       |           | -         |           |           |            |                |
|-----------------------|-----------|-----------|-----------|-----------|------------|----------------|
|                       | Cardoso 1 | Cardoso 2 | Lula 1    | Lula 2    | Rousseff 1 | Rousseff/Temer |
|                       | 1995-1998 | 1999-2002 | 2003-2006 | 2007-2010 | 2011-2014  | 2015-2018      |
| Foreign Affairs       | 0.82      | 0.51      | 0.01      | 0.10      | 0.36       | 0.59           |
| Environment           | 0.22      | 0.15      | 0.9       | 0.94      | 0.03       | 0.84           |
| Average<br>centrality | 0.05      | 0.02      | 0.01      | 0.01      | 0.00       | 0.01           |

Results are in line with those obtained in the moving-windows calculations. As we can see, organization centrality varies significantly across presidential administrations. We can clearly see how, in the 1990s, during the Cardoso presidency, the Ministry of Environment had little leverage over international environmental policy. The Ministry of Foreign Affairs, on the other hand, was highly central, dominating the network—especially in the first term. Lula's administrations saw a massive change in this regard: Environment became, by far, the most

central organization, and we see a very concentrated network, as Foreign Affairs loses relevance. The Ministry of Foreign Affairs grows in influence during Rousseff's presidency and Environment becames largely irrelevant. This irrelevancy is short-lived, however, as the Environment ministry reclaims its space after the 2016 impeachment and Michel Temer assumes the presidency.

### Positions at the UNFCCC

To measure the timing and direction of changes in actors' positions at the UNFCCC, we use Castro's (2017) *Relational Data Between Parties to the UNFCCC*, which covers negotiations from 1995 to 2013. This database compiled countries' negotiation interactions from detailed descriptions of negotiations published in the *Earth Negotiation Bulletin* reports, identifying various types of interaction between country dyads and classifying them. We use the database's most straightforward classification scheme, a binary variable (*cooperation*) that assigns interactions as cooperative or conflictive.

From this data, we compute, for each year, an average score of cooperation between Brazil and the country groupings of interest—for the results presented in the main document, we selected the European Union, G-77+China, and AOSIS (here, we also report variations with different groupings as robustness checks). The cooperation index for year t and group G can be computed by:

$$Index_{G,t} = \frac{\sum_{i}^{G}(Coop_{i,t} - Conf_{i,t})}{Int_{t}},$$

where *i* is any country that pertains to group *G*, *Coop* is the sum of cooperative interactions between that country and Brazil in year *t*, *Conf* is the sum of conflictive interactions between that country and Brazil, and *Int* is the total number of interactions Brazil during year *t*.

After computing cooperation indices for the various groupings, we proceed to aggregate them via Principal Component Analysis (PCA). We favor the PCA over the separate indices to minimize the fact that, as we use data on dyadical interactions, variation might be more reflective of changes in the other countries' positions than in Brazil's. Still, we include the data on cooperation with the EU, AOSIS, and G-77 as robustness checks below. Following standard procedures for PCA, we standardize the data (using R's scale() function) before extracting principal components (using R stats princomp() function). We then analyze the most relevant dimensions, the proportion of explained variance, and the contribution of each variable to the dimension.

For the PCA index reported in the main document, we then proceeded to aggregate the main components by multiplying each for its proportion of explained variance and summing them, as described below.

# PCA Diagnostics for the aggregation of Brazil's cooperation indices with EU, AOSIS, and G77+China

To assess the structure of the underlying dimensions captured by the PCA, we present here key diagnostic results. **Table 3** reports the standard deviation and the proportion of explained variance for each principal component, allowing an evaluation of the relative contribution of each component to the total variance in the data.

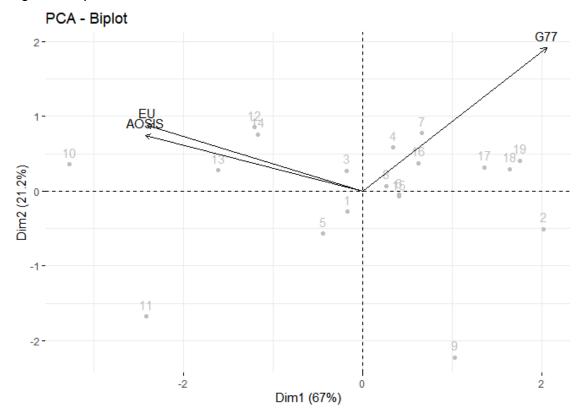
Table 3. Summary information - PCA for EU, AOSIS, and G77+China

|             | Standard deviation | Proportion of variance | Cumulative proportion |
|-------------|--------------------|------------------------|-----------------------|
| Component 1 | 1.38               | 0.67                   | 0.67                  |

| Component 2 | 0.78 | 0.21 | 0.88 |
|-------------|------|------|------|
| Component 3 | 0.58 | 0.12 | 1.00 |

**Figure 4** provides a biplot of the first two principal components, which together capture 88% of the variance. The arrows represent the variable loadings and the circles the distribution of observations. Analyzing the biplot, we can note how, in line with our theoretical framework, conflict is mostly explained by the first dimension, which opposes cooperation with the G77 in one direction and cooperation with the EU and AOSIS in the opposite direction.

Figure 4. Biplot - PCA for EU, AOSIS, and G77+China



**Figure 5** plots the observations along the two main dimensions, identifying the year and presidential term associated with each point.

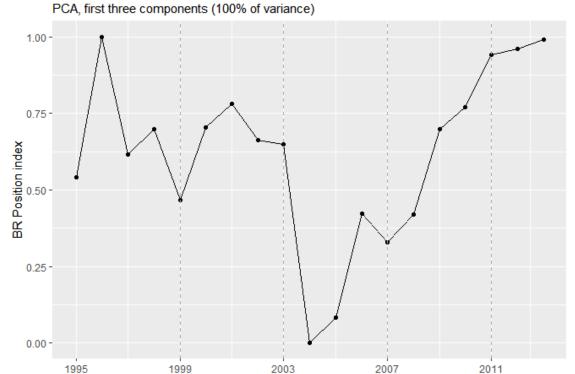
PCA components 2001 1998 2004 2010 2007 1997 2002 0 -Dim2 (21% variance) governo 1995 Cardoso 1 1996 1999 Cardoso 2 Lula 1 Lula 2 Rousseff 1 2005 -2-2003 -2 0 2 Dim1 (67% variance) - EU/AOSIS-G77

Figure 5. Observations in two-dimensional space – PCA for EU, AOSIS, and G77+China

We can see how, in line with our analysis in the main document, the first Lula administration is the period with most within-term variation, with Brazilian position initially approaching those of AOSIS and EU countries.

For the final index, presented in the main document, we aggregated the three relevant components using the following formula:  $FinalIndex_{year} = 0.67 * Comp. 1_{year} + 0.21 * Comp. 2_{year} + 0.12 * Comp. 3_{year}$ . Figure 6 presents the index's evolution over time.

Figure 6. Final cooperation index – PCA for EU, AOSIS, and G77+China Brazilian cooperation with groupings at UNFCCC



### Alternative specifications for the PCA

To assess the robustness of the main PCA-based index, which aggregates Brazil's cooperation levels with the EU, AOSIS, and the G77, we present a series of alternative specifications. These variations incorporate additional cooperation patterns—such as alignment with BASIC countries and other country groupings—to test whether the underlying structure of the index holds under different group selections. Exploring alternative specifications is important for two reasons. First, it allows us to evaluate whether our results are driven by broader shifts in other countries' positions rather than by Brazil's strategic orientation. Second, it helps determine whether the observed variation reflects the intended dimension of cooperation or is instead sensitive to specific group choices. By expanding the set of included variables, we try to show that the patterns captured by the PCA are not artifacts of an arbitrary selection of partners.

#### Including BASIC countries in the PCA

Our first alternative specification adds the cooperation scores for Brazil and other countries from the BASIC (Brazil, South Africa, India, and China) grouping, assessing whether this changes our results. BASIC was only created as a formal negotiation grouping in 2009, arguing for the continuity of the Kyoto Protocol and opposing clear differentiation of responsibilities within developing countries (Blaxekjær and Nielsen 2015)—positions that bring it closer to our notion of the *geopolitical gains* framing. While BASIC countries do coordinate positions, the actual degree to which they remain together in negotiations is highly variable. Still, Brazil shares

important structural characteristics with the other BASIC countries—such as high GDP, large populations, and intermediate levels of development—that are known to shape national preferences in climate negotiations. In this sense, including BASIC cooperation allows us to test whether the original index is sensitive to the exclusion of a group with which Brazil is more structurally aligned. It also helps ensure that our results are not driven solely by patterns of convergence or divergence with countries that differ markedly from Brazil in terms of capabilities and interests.

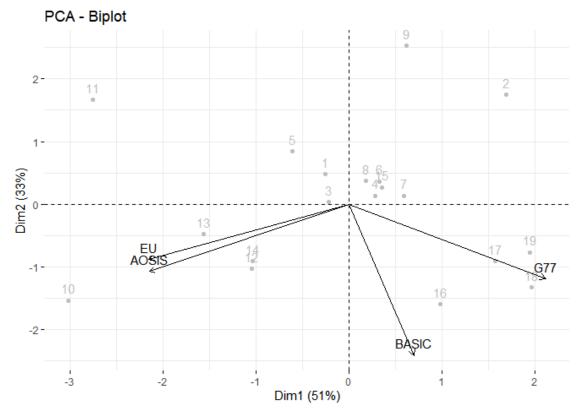
To assess the structure of the underlying dimensions captured by the PCA, we present here key diagnostic results. **Table 4** reports the standard deviation and the proportion of explained variance for each principal component, allowing an evaluation of the relative contribution of each component to the total variance in the data. Results are rounded for presentation.

Table 4. Summary information – PCA for EU, AOSIS, G77+China, and BASIC

|             | Standard deviation | Proportion of variance | Cumulative proportion |
|-------------|--------------------|------------------------|-----------------------|
| Component 1 | 1.39               | 0.51                   | 0.51                  |
| Component 2 | 1.12               | 0.33                   | 0.84                  |
| Component 3 | 0.6                | 0.09                   | 0.93                  |
| Component 4 | 0.5                | 0.06                   | 1.00                  |

**Figure 7** shows the biplot for this PCA specification. In the biplot, we can see that the first dimension is mainly driven by convergence with AOSIS-EU/G77, while the second dimension is mostly related to convergence with BASIC.

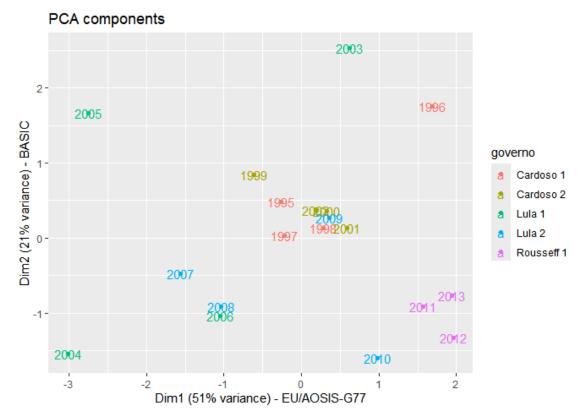
Figure 7. Biplot – PCA for EU, AOSIS, G77+China, and BASIC



In the paper, we advanced the notion that cooperation with AOSIS, EU and the G77 serves as a proxy for a specific line of conflict in the negotiations—the disputes around responsibility and the CBDR principle. While cooperation with BASIC countries is partly related to this dimension (going in the same direction as agreement with G77 countries), it seems to primarily answer to a different logic from cooperation with AOSIS-EU/G77.

**Figure 8** plots the observations along the two main dimensions, identifying the year and presidential term associated with each point. We note how the first Lula administration is still the period with most within-term variation, as we see a significant movement in the first dimension, initially approaching the EU/AOSIS pole and, afterwards, moving in the opposite direction.

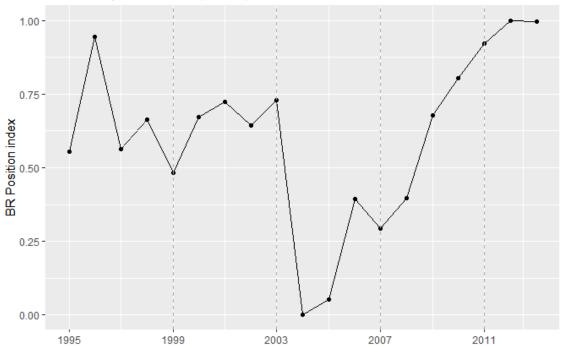
Figure 8. Observations in two-dimensional space — PCA for EU, AOSIS, G77+China, and BASIC



If we plot the first dimension over time, we can see it closely resembles our results for the PCA index presented in the main document. This is presented in **Figure 9** below. This shows that timing and direction of changes remains roughly the same as in the original specification.

Figure 9. First component over time – PCA for EU, AOSIS, G77+China, and BASIC Brazil position - PCA 1st component (51% of variation)

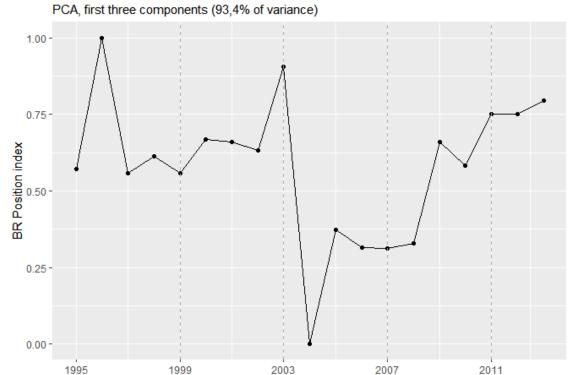
positive = close to G77, negative = close to EU/AOSIS PCA of cooperation with EU, AOSIS, BASIC and G77



If we aggregate the first three components, we also see roughly the same pattern of changes in the Brazilian position. For this, we aggregated the three relevant components using the following formula:  $FinalIndex_{year} = \frac{(0.51*Comp.1_{year} + 0.33*Comp.2_{year} + 0.09*Comp.3_{year})}{0.93}.$ 

Figure 10 presents the index's evolution over time.

Figure 10. Final index over time – PCA for EU, AOSIS, G77+China, and BASIC Brazilian cooperation with groupings at UNFCCC



### Expanding the PCA to include all country groupings

As an additional robustness check, we construct a PCA-based index that incorporates Brazil's cooperation scores with a larger number of country groupings available in Castro's database rather than limiting the analysis to the EU, AOSIS, and G77. This comprehensive specification tests whether the results obtained using a more selective set of partners are robust to the inclusion of a wider range of cooperative relationships. By considering a broaderset of groupings, we reduce the risk that our findings are an artifact of group selection or that they reflect patterns specific to a few coalitions rather than broader trends in Brazil's diplomatic behavior.

Castro's database identifies 27 country groupings operating at the UNFCCC during the 1995-2013 period, but we cannot include them all, as we only have 19 observations, and the number of variables must not exceed this number. Calculations for cooperation scores with Brazil were performed for the 19 most active coalitions in the Castro database (i.e. those who appear most frequently as senders or targets). Thus, we compute a PCA index aggregating Brazilian cooperation with countries from 19 selected country groupings: G77, Umbrella Group, Asian Group, African Group, OPEC (Organization of Petroleum Exporting Countries), Arab Group, CfRN (Coalition for Rainforest Nations), LDCs (Least Developed Countries), AOSIS, LMDC (Like-Minded Developing Countries), EU, ALBA (Bolivarian Alliance of the Americas), BASIC, Southern African Development Community, Central America, SICA (Central American Integration System), Economies in Transition (EITs), EIG (Environmental Integrity Group), and the Caribbean Community (CARICOM).

**Table 5** reports the standard deviation and the proportion of explained variance for each component, allowing an evaluation of the relative contribution of each component to the total variance in the data. Results are rounded for presentation.

Table 5. Summary information – PCA for all available groupings

|              | Standard deviation | Proportion of variance | Cumulative proportion |
|--------------|--------------------|------------------------|-----------------------|
| Component 1  | 2.96               | 0.514                  | 0.514                 |
| Component 2  | 1.78               | 0.185                  | 0.699                 |
| Component 3  | 1.42               | 0.119                  | 0.818                 |
| Component 4  | 0.99               | 0.057                  | 0.875                 |
| Component 5  | 0.82               | 0.039                  | 0.914                 |
| Component 6  | 0.74               | 0.032                  | 0.946                 |
| Component 7  | 0.54               | 0.017                  | 0.964                 |
| Component 8  | 0.42               | 0.010                  | 0.974                 |
| Component 9  | 0.39               | 0.009                  | 0.983                 |
| Component 10 | 0.34               | 0.007                  | 0.99                  |
| Component 11 | 0.26               | 0.004                  | 0.994                 |
| Component 12 | 0.20               | 0.002                  | 0.996                 |
| Component 13 | 0.16               | 0.001                  | 0.998                 |
| Component 14 | 0.14               | 0.001                  | 0.999                 |
| Component 15 | 0.11               | 0.001                  | 0.999                 |
| Component 16 | 0.05               | 0.000                  | 0.999                 |
| Component 17 | 0.03               | 0.000                  | 0.999                 |
| Component 18 | 0.01               | 0.000                  | 1                     |

**Figure 11** shows the biplot for this PCA specification. In the biplot, we can see that it is now the second dimension that is mainly driven by the conflict between those who emphasize developed countries' responsibilities and those who argue for an increase in developing countries commitment. While not as clear as in the other specifications, we can still see that the G77, AOSIS, and the EU correspond to the most 'extreme' values in this dimension. While variance is more explained by the first dimension, it's interpretation is unclear.

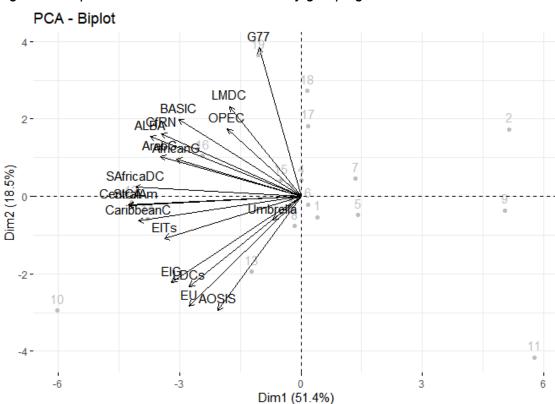


Figure 11. Biplot – PCA for most active country groupings

**Figure 12** plots the observations along the two main dimensions, identifying the year and presidential term associated with each point. As in other specifications, the first Lula administration remains the period with most within-term variation, with significant movement now in the second, vertical, dimension, initially approaching the EU/AOSIS pole and, afterwards, moving in the opposite direction.

PCA components 2013 2012 Dim2 (18.5% variance) - G77 x AOSIS 2011 1996 2010 governo Cardoso 1 200998 2001 Cardoso 2 2006 2002 1995 1999 2003 Lula 1 2008 Lula 2 Rousseff 1 2007 2004 2005 -3 3 -6 6 Dim1 (51.4% variance)

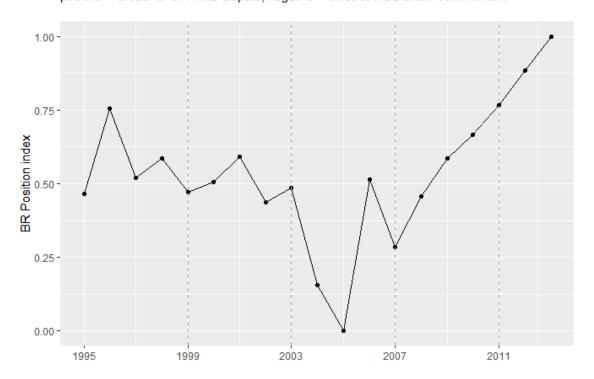
Figure 12. Observations in two-dimensional space - PCA for all country groupings

As we are interested in the variation along an axis that opposes *ecological problem* and *geopolitical gains* framings, we focus on the second dimension of the PCA. **Figure 13** shows how this dimension develops over time.

Figure 13. Second component over time – PCA for most active country groupings

Brazil position - PCA 2nd component (18.5% of variation)

positive = Closer to G77/NxS dispute, negative = close to AOSIS/env commitment



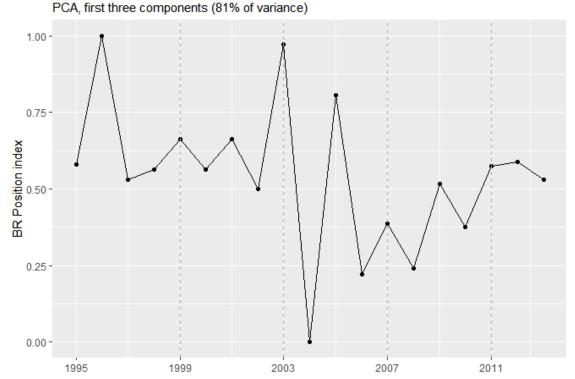
The timing and direction of changes is similar to that observed in the other PCA specifications. The first Lula administration is a moment of change in the Brazilian position, with the first half showing an increase in the *ecological problem* framing and the second half a return to positions associated with *geopolitical gains*. This trend towards this type of position continues in the second Lula administration, as in the other PCA indices. Data for the Rousseff administration, however, seems slightly different—in this specification, the rising trend continues, whereas in previous cases we saw relative stability.

Trends are also relatively similar, although more erratic when we take the first three components into account, as in **Figure 14** below. For this, we aggregated the three relevant components using the following formula:  $FinalIndex_{year} = (0.51*Comp.1_{year} + 0.18*Comp.2_{year} + 0.12*Comp.3_{year})$ 

0.81

Figure 14. First three components over time – PCA for most active country groupings

Brazilian cooperation with groupings at UNFCCC



The persistence of the trends in different PCA specifications suggests that the observed changes are not results of changes in selected partners' positions but, indeed, related to the Brazilian positions at the UNFCCC.

### Disaggregated cooperation data

To further assess the robustness of our PCA-based index, we examine the disaggregated cooperation scores with the EU, AOSIS, and G77 individually. This approach allows us to verify whether the patterns captured by the composite index are consistent when each component is considered separately. By analyzing the cooperation trajectories with each group in isolation, we can identify whether the overall trend is driven disproportionately by one particular coalition or reflects a broader and more balanced pattern of alignment. This disaggregated perspective also enhances interpretability, offering additional insight into the specific dimensions of Brazil's engagement with different negotiating blocs.

**Figure 15, 16, and 17** below show how Brazilian cooperation with the European Union (red line), the G77 (blue line), and AOSIS (green line) varies over time. Positive scores mean, on average, Brazil tends to agree with statements by grouping members and/or grouping members tend to disagree with Brazilian statements. Values range from -1 (disagreement is manifested for every statement).

Figure 15. Brazilian cooperation with G77 at UNFCCC

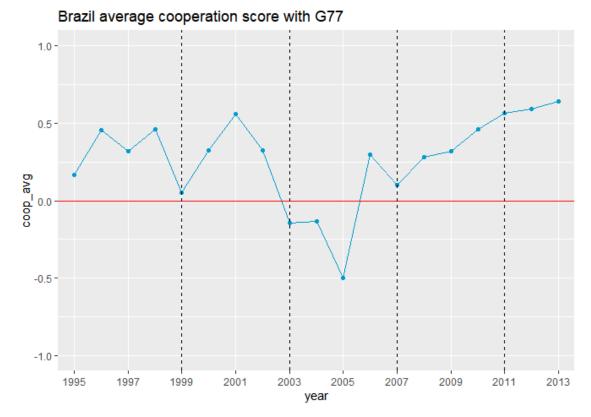


Figure 16. Brazilian cooperation with the EU at UNFCCC

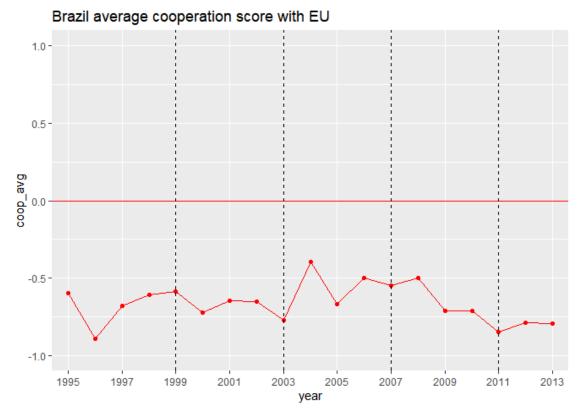
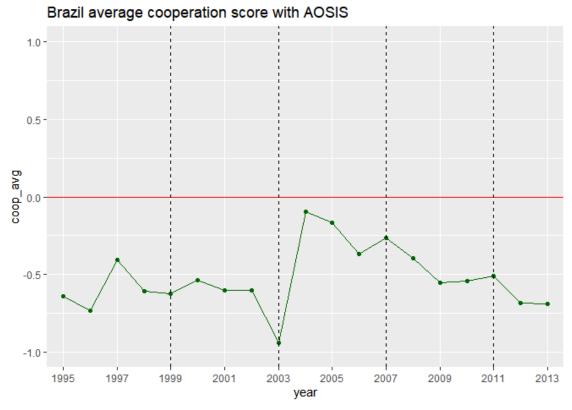


Figure 17. Brazilian cooperation with AOSIS at UNFCCC



The figures show how Brazilian positions are consistently closer to the G77's than to the EU's and the AOSIS's.

Cooperation with the EU shows little variation over time, being relatively stable but for a peak growth in cooperation in 2004. Cooperation with the G77 closely follows the trends seen in the PCA indices. As in the PCA, we see a period of relative disengagement with the G77, in particular during the first half of Lula's first administration, followed by a peak growth in 2006 and stable approximation from 2008 onwards. Cooperation with the AOSIS seems to follow an inverse trajectory: during the first years of Lula's first term, we see a significant rise in cooperation; afterwards, we see slow decline.

# Credibility check – Placebo test using other countries' cooperation with EU, AOSIS, and the G77+China

To assess the credibility of our findings, we present descriptive data on the positions of other countries over time as a form of robustness check analogous to an outcome placebo test . While our analysis identifies an association between changes in the centrality of Brazilian bureaucratic agencies and shifts in Brazil's negotiating positions, our design does not permit causal claims. This is mostly due to problems in treatment identification, as the association we found might be a result of various confounders—in particular, broader factors such as changes in the UNFCCC negotiation agenda, evolving global climate politics, or issue-specific cycles may influence Brazil's positions independently of domestic bureaucratic dynamics. Although we cannot directly control for such confounders, we can observe their potential downstream effects by examining whether similar timing and direction of changes are evident in the positions of other relevant countries. If parallel trends appear across multiple countries, this would suggest that the shifts attributed to Brazilian bureaucratic dynamics may, in fact, reflect more general external developments. Conversely, if such trends are absent in other countries' trajectories, it would strengthen the plausibility that the observed changes in Brazil are at least partially shaped by domestic institutional dynamics.

Following good practice for placebo testing (Eggers, Tuñón, and Dafoe 2024), we select countries that are unlikely to have their positions relevantly affected by Brazilian positions (as this could violate the assumption that treatment has no average effect on placebo outcomes) and run our analyses for a variety of countries (as results are probabilistic and prone to p-hacking).

Thus, we compute the cooperation indices for major climate powers (the United States and China), other emerging powers (India, South Africa, and Indonesia), and other major Latin American countries (Argentina, Mexico).

For each country, we check whether the timing and direction of changes in the cooperation indices are similar to the theoretical expectations we derived from changes in the Brazilian MFA and MoE centrality scores. Results are presented in **Table 6** below and in Figures 18-24.

Table 6. Patterns of selected countries' cooperation with G77, EU, and AOSIS over time

| Term | Cardoso 1 | Cardoso 2 | Lula 1 | Lula 2 | Rousseff 1 |
|------|-----------|-----------|--------|--------|------------|
|      |           |           |        |        |            |

| Period                                       | 1995-1998<br>(COP 01-4)  | 1999-2002<br>(COP 05-8)   | 2003-2006<br>(COP 09-12)  | 2007-2010<br>(COP 13-16)  | 2011-2014<br>(COP 17-20)   |
|--|--|---|---|---|--|
| Expectation                                  | High coop. with<br>G77<br>Low coop.with<br>AOSIS/EU                                  | No change<br>(stability)  | ↓ Coop. with G77 ↑ Coop. with EU/AOSIS  | ↑ Coop. with G77 ↓ Coop. with EU/AOSIS  | No change<br>(stability)   |
| Pattern<br>found in<br>Brazilian<br>position | G77: rise<br>EU: stability<br>AOSIS: stability                                       | G77: rise and<br>fall<br>EU: stability<br>AOSIS:<br>stability   | G77: fall in first half, rise in second half EU: small increase AOSIS: large increase                   | G77: slow rise<br>EU: slow decline<br>AOSIS: slow decline                       | G77: stability<br>EU: stability<br>AOSIS: slow<br>decline and<br>stability |
| Pattern in<br>US                             | G77: slow decline<br>EU: slow decline<br>AOSIS: slow decline                         | G77: stability<br>EU: stability<br>AOSIS: stability             | G77: slow rise<br>EU: slow decline<br>AOSIS: slow decline   | G77: stability<br>EU: stability<br>AOSIS: stability                             | G77: slow decline<br>EU: stability<br>AOSIS: stability                     |
| Pattern in<br>China                          | G77: slow rise<br>EU: slow decline<br>AOSIS: slow decline                            | G77: decline<br>EU: stability<br>AOSIS: stability<br>G77: sharp | G77: rise<br>EU: stability<br>AOSIS: stability<br>G77: sharp decline                                    | G77: rise<br>EU: stability<br>AOSIS: stability                                  | G77: rise and fall<br>EU: stability<br>AOSIS: stability                    |
| Pattern in<br>India                          | G77: sharp rise<br>EU: decline<br>AOSIS: decline                                     | decline EU: slow rise AOSIS: slow rise                          | in first half, sharp<br>rise in second half<br>EU: stability<br>AOSIS: stability                        | G77: slow rise<br>EU: stability<br>AOSIS: stability                             | G77: slow rise<br>EU: stability<br>AOSIS: slow decline                     |
| Pattern in S.<br>Africa                      | Not enough info  | Not enough info   | G77: fall and rise<br>EU: slow rise<br>AOSIS: rise and fall   | G77: rise and fall<br>EU: slow decline<br>AOSIS: slow rise                      | G77: rise<br>EU: decline<br>AOSIS: stability                               |
| Pattern in<br>Indonesia                      | G77: rise<br>EU: slow rise<br>AOSIS: slow decline                                    | G77: sharp<br>decline<br>EU: sharp rise<br>AOSIS: stability     | G77: sharp rise<br>EU: sharp decline<br>AOSIS: rise and fall<br>with peak in 2005                       | G77: rise<br>EU: stability<br>AOSIS: slow rise                                  | G77: decline<br>EU: stability<br>AOSIS: fall and rise                      |
| Pattern in<br>Argentina                      | G77: rise and fall<br>EU: stability<br>AOSIS: stability                              | G77: rise<br>EU: slow<br>decline<br>AOSIS: rise and<br>fall     | G77: sharp decline<br>in first half, rise in<br>second half<br>EU: slow decline<br>AOSIS: rise and fall | G77: sharp fall and<br>sharp rise<br>EU: rise and stability<br>AOSIS: slow rise | G77: small rise and<br>fall<br>EU: decline<br>AOSIS: decline               |
| Pattern in<br>Mexico                         | G77: sharp rise,<br>sharp decline, rise<br>EU: sharp decline<br>AOSIS: rise and fall | G77: decline<br>EU: rise<br>AOSIS: rise                         | G77: rise in first<br>half, decline in<br>second<br>EU: decline<br>AOSIS: fall and rise                 | G77: rise<br>EU: slow rise<br>AOSIS: slow rise                                  | G77: decline<br>EU: stability<br>AOSIS: stability                          |

Analyzing the results, we find that trends for most analyzed countries do not match the timing and direction of changes observed in Brazil. The shifts in Brazil's cooperation patterns—especially during the Lula period—do not appear to be part of a general trend across countries. This strengthens the plausibility that the changes observed in Brazil are linked to domestic bureaucratic dynamics rather than global negotiation cycles alone. Still, we find partial alignment in some cases and periods, as in the case of India and South Africa during the 1<sup>st</sup> Lula administration. This might be a problem for our analysis but since this alignment is mostly

restricted to the first Lula administration, it might reflect efforts in position coordination—Brazil, India and South Africa established the IBSA Dialogue forum in 2003, engaging in regular meetings to debate positions in various multilateral for a, including the UNFCCC. While the influence of IBSA was limited and relatively short-lived, it might reduce the usefulness of these countries as placebo treatments

Figure 18. US cooperation with the EU, AOSIS, and G77 at the UNFCCC

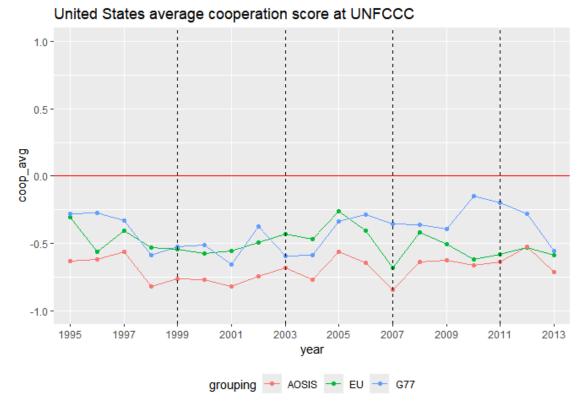


Figure 19. China cooperation with the EU, AOSIS, and G77 at the UNFCCC China average cooperation score at UNFCCC

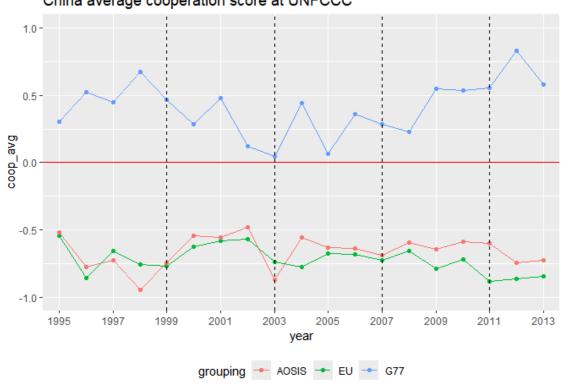


Figure 20. India cooperation with the EU, AOSIS, and G77 at the UNFCCC India average cooperation score at UNFCCC

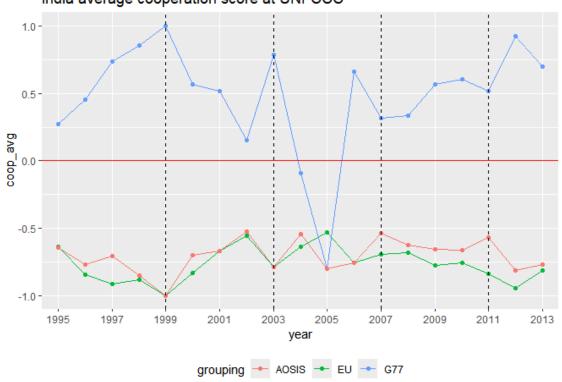


Figure 21. South Africa cooperation with the EU, AOSIS, and G77 at the UNFCCC South Africa average cooperation score at UNFCCC

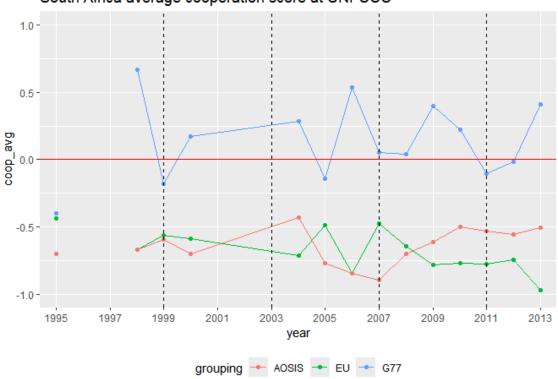


Figure 22. Indonesia cooperation with the EU, AOSIS, and G77 at the UNFCCC Indonesia average cooperation score at UNFCCC

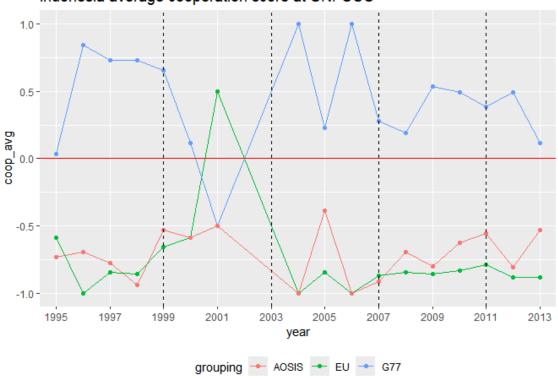


Figure 23. Argentina cooperation with the EU, AOSIS, and G77 at the UNFCCC Argentina average cooperation score at UNFCCC

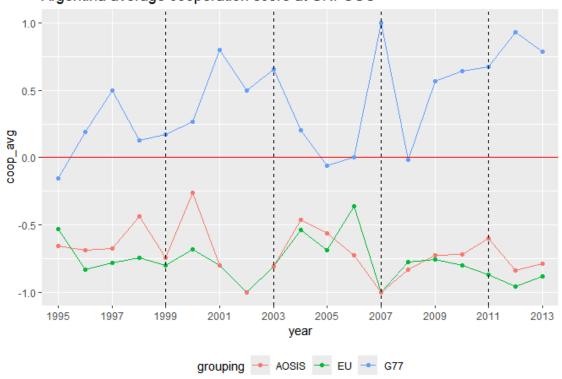


Figure 24. Mexico cooperation with the EU, AOSIS, and G77 at the UNFCCC Mexico average cooperation score at UNFCCC

