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Leader similarity and international sanctions

Abstract

It is well-established that political leaders matter for domestic outcomes, but statistical evidence for their relevance in international politics is comparatively scarce. We ask whether the personal relationship between political leaders can change the propensity for nonviolent conflict between nation-states in the form of sanctions. Panel probit models with data from 1970 to 2004 are estimated to evaluate whether more similar leaders are less likely to sanction each other. Our results indicate that higher leader similarity reduces the likelihood of sanction imposition. The effect is most pronounced for sanctions imposed through unilateral political decisions. The probability of such sanctions ranges from 2.3% at the highest observed leader similarity to 7.2% at the lowest. Leader similarity especially matters for sanctions aimed at democratic change or human rights, for non-trade sanctions, and when at least one autocracy is involved. Finally, leader similarity has become more important after the Cold War.

Keywords: Geopolitics, International sanctions, Leader similarity, Political leaders.

1 Introduction

"I believe him, and I'm convinced that he is [a flawless democrat]."
(German chancellor Gerhard Schroeder on Vladimir Putin, 2004).

"I knew Putin very well. I got along with him great. He liked me. I liked him."
(Former US President Donald Trump, 2022).

In recent years, economists and political scientists have abandoned the idea that political leaders can be characterized solely by a policy platform, which has long dominated political economy research. It has, for example, been shown that political leaders' ideology, education, and professional background matter for policy decisions (Dreher and Yu 2020; Dreher et al. 2009; Funke et al. 2023; Gutmann et al. 2024; Hayo and Neumeier 2016; Mehmood and Seror 2023; Neumeier 2018; Peveri 2022). It has also been demonstrated that whether politicians are, based on their looks, perceived as attractive or trustworthy determines their electoral success, their political work, and the performance of their national economy (e.g., Berggren et al. 2010; François et al. 2023; Gründler et al. 2024). Most of these studies are concerned with domestic politics, while less attention has been paid to whether such traits of politicians matter for international cooperation and conflict.[1] Still, some recent studies have emphasized that leader characteristics and leaders' interactions with each other can shape foreign policy behavior and international outcomes (Byman and Pollack 2001; Saunders 2011; Dube and Harish 2020; Horowitz and Stam 2014; Ellis et al. 2015; Hermann 1980; Holmes and Yarhi-Milo 2017; Holmes 2018; Yarhi-Milo 2018; Holmes and Wheeler 2020; Wheeler 2018).

In international relations, it is natural to think of political leaders not just as isolated decision-makers, but as being continuously involved in interactions with other leaders. This leads to the question of which of these leader pairs cooperate more successfully or are more likely engaged in conflict with each other. At the country level, it has been demonstrated that the intensity of bilateral economic exchange is determined by countries' shared history and cultural similarities (Guiso et al. 2009). Only

few empirical studies have started to generate comparable insights for political leaders. Foster and Keller (2023), for example, provide some evidence suggesting that pairs of cognitively simple leaders experience more interstate conflicts than pairs of cognitively complex leaders or asymmetric pairs that consist of both types of leaders. At the same time, cases where personal relationships between leaders have affected those between their nations exist in abundance (e.g., Zurcher and Murphy 2025). When Mark Carney replaced Justin Trudeau as Canada's prime minister, relations with US president Trump and his government improved instantly. Carney is not only older than Trudeau (i.e., closer to Trump's age), he also had a successful career in international banking and running financial institutions, allowing him to accumulate significant personal wealth.

Here, we seek to determine whether international sanctions are imposed less often between political leaders who share greater similarity (measured as described in Section 3.1). The literature on international sanctions has, thus far, ignored individual leader characteristics as a factor in sanction imposition and effectiveness, despite the attention they receive in the broader international political economy literature. Levy (2023) also considers the incorporation of psychological factors into influential bargaining models a central task for future international relations research. Most similar to our study is DiLorenzo and Rooney (2025). They find that pairs of countries whose leaders share a similar background are less likely engaged in an interstate conflict with each other. Our focus on sanctions instead of conflict implies some notable differences between our study and DiLorenzo and Rooney (2025). First, international sanctions occur much more frequently than military interstate disputes. The number of imposed sanctions has increased dramatically since the end of the Cold War (Felbermayr et al. 2020). If leader similarity has a significant effect on international sanctions, it is of great importance to the day-to-day business of international politics, and not just to the most severe escalations of interstate conflict. Moreover, the larger number of international sanctions compared to military conflicts facilitates the study of the heterogeneity of causes of different types of sanctions. Second, sanction imposition is

typically a more legalistic process than the decision to start an interstate conflict (see, e.g., Eaton and Sykes 2002).[2] It is, therefore, more difficult for leader traits to influence the decision to impose sanctions than that to start a war.

In our empirical analysis, we estimate panel probit models with sender-year and dyad fixed effects. Our dataset combines data from the Global Sanctions Data Base (GSDB, see Felbermayr et al. 2020) with data on leader similarity by DiLorenzo and Rooney (2025). It covers 293,594 observations corresponding to 156 potential sender countries, 155 potential target countries, and 13,242 directed country-pairs (or dyads) over the period from 1970 to 2004. As many sanctions are imposed by international organizations consisting of a group of countries, an individual political leader has only limited influence on these decisions. Thus, we estimate most models without these multilateral sanctions.

We find that higher leader similarity significantly reduces the likelihood of sanction imposition. This result holds across various model specifications and estimation techniques. The effect is especially pronounced when United Nations (UN) and European Union (EU) sanctions are excluded, that is, when sanctions are imposed through unilateral political decisions. The predicted probability of such sanctions being imposed ranges from 2.3% at the highest observed leader similarity in the sample to 7.2% at the lowest. Moreover, the influence of leader similarity is strongest in sanctions aimed at political or human rights improvements—compared to those related to conflict, terrorism, regime destabilization, or policy change. Political leaders can be expected to enjoy most discretion regarding the imposition of these types of sanctions. Finally, leader similarity has become more important after the Cold War; and the imposition of non-trade sanctions (e.g., arms and military sanctions) and of sanctions from or against autocracies depends most on the similarity of the involved political leaders.

The remainder of this article is structured as follows. Section 2 briefly outlines the theoretical rationale for why sanctions are more likely imposed between leaders with a less similar background. Section 3 describes our estimation strategy and the data used

in our empirical analysis. We discuss our empirical results, including extensions and robustness tests, in Section 4. Section 5 concludes.

2 Theory

Sanctions are an instrument of foreign influence that is supposed to induce a policy change by the target country's government. In a globally interconnected world with abundant political and economic international externalities, sanctions offer an alternative policy instrument for the sender country's government where voluntary (self-enforcing) international agreements fail to internalize the most significant externalities (Aidt et al. 2021, 2025; Gutmann et al. 2025). How much compliance can be extracted via sanctions depends on the cost of sanctions to the sender and the target, as well as both parties' patience (Eaton and Engers 1992).[3]

In practice, sanctions are costly to both senders and targets (Gutmann et al. 2023a, 2023b) and a first-best outcome, thus, cannot be achieved when they are employed. In a world of complete information, that is, zero transaction costs, sanctions would never need to be used, as credible sanction threats would be anticipated and the target would adjust its behavior in advance (Coase 1960; Eaton and Engers 1999). In the remaining cases, sanctions would also not be deployed in equilibrium, although the target makes no concession, and the sender government would, therefore, not even bother to formulate a threat in the first place. Therefore, implemented international sanctions are a second-best instrument for a world of incomplete information. Transaction costs include the cost of the bargaining process and determine, for example, whether information on the sender's and the target's type is available to both parties. If the costliness of sanctions to the other party or the other party's patience is private information, bargaining can fail and sanctions may be used in equilibrium (Hovi et al. 2005; Spaniel and Smith 2015).[4] Sanctions may also be used because of asymmetric information between the sender government and an audience, such as voters or the international community, if the sender government wants to be seen as doing something, for example, about a violation of international law, even though it is not able to change

the target government's policy choice (Hovi et al. 2005). Diplomacy is generally supposed to reduce information asymmetries between governments. However, because significant transaction costs are involved and diplomats are often incentivized not to reveal truthful information (e.g., regarding their government's resolve), information asymmetries persist to a large extent and political leaders often become involved in communication and negotiations that determine whether political disagreements escalate to the level of sanctions.

Based on this theory of sanction imposition, the level of similarity of two political leaders may affect the likelihood that one is imposing sanctions against the other via different channels. While it is not our goal to test them against each other, they provide alternative and complementary explanations for how leader similarity affects sanction policy. First, leader similarity reduces the cost of contracting and, thereby, widens the scope for voluntary agreements between the two nations (see also Gerber et al. 2013; Giannetti and Yafeh 2012). Many international externalities are accordingly internalized without the need for sanction threats. Second, by improving communication and promoting trust,[5] leader similarity can reduce the likelihood that sanctions are imposed when there is uncertainty about the other leader's policies or their intentions. Arms sanctions could, for example, be avoided if the sender trusted the target government to not use acquired arms to wage war or commit atrocities (Efrat and Yair 2024). Absent such trust, sanctions may be used to further incentivize or coerce the target government to comply with the expected behavior. Since trust is a subjective leader characteristic, the level of trust between two political leaders may determine in an otherwise identical situation if sanctions are imposed. Third, if leader similarity allows one leader to better judge the type of the other (see, e.g., Holmes 2013, 2018), that is, how patient they are or how costly sanctions would be to them, fewer or no sanctions would be imposed in equilibrium. This is because potential targets would know when to acquiesce, and potential senders would know that imposing sanctions in the remaining cases would not yield results.[6] Finally, if more similar leaders have more trust in each other, using sanctions could potentially erode that trust and thereby re-

duce their ability to conclude unrelated mutually beneficial agreements in the future. In other words, sanctions would be less likely to be imposed between more similar leaders, because their opportunity costs are higher.

To understand why similarity is expected to enhance trust, communication, and mutual understanding, as we have assumed thus far, we have to integrate non-rational-choice based theories of social interaction into our framework of analysis (see Akerlof and Kranton 2000, on integrating identity into rational choice models).[7] Social interactions are frequently characterized by homophily and in-group bias (Currarini and Mengel 2016), two of the most widely observed social phenomena. Homophily describes the tendency to associate with similar others and leads to smoother coordination and communication as well as enhanced trust (Békés and Ottaviano 2025; Currarini et al. 2009; Ertug et al. 2020). In-group bias describes the tendency to trust and give favorable treatment to members of one's perceived in-group (Tajfel and Turner 1986). Both similarity to others and the delineation of one's in-group can be based on a variety of personal traits, including people's age, gender, ethnicity, religion, social class, nationality, education, and occupation.[8] Both homophily and in-group bias can be motivated either by taste or by expectations about the behavior of others. Cetre et al. (2024), for example, find that 80% of the ethnically motivated in-group bias they observe in the United States and Germany is taste-based and only 20% is attributable to anticipated differences in trustworthiness. Psychological research has shown that perceived similarity plays an important role in the evolution of cooperation in a prisoner's dilemma (Fischer 2009), and that perceived similarity in a trust game is conducive to trust (Clerke and Heerey 2021). Similarity can be expected to matter for trust when trust is largely localized, rather than generalized (see Tabellini 2008). Or, in the terminology of Enke (2019, 2020), similarity is more conducive to trust, the more individuals have communal rather than universalistic values. Interestingly, based on the work of Jervis (2017), one might interpret the increased willingness to cooperate with more similar leaders as the consequence of predictable misperceptions that cause leaders to overestimate the goodwill and underestimate the threat of similar leaders.

These general insights about how similarity shapes trust and, thereby, successful cooperation have rarely been applied to the interactions of leaders in international politics. Their decisions are often assumed to be guided by strict rationality (Levy 2023), also because of the support by professional administrative bodies and the existence of institutional guardrails, which are meant to mitigate the effects of cognitive biases and human error.[9] This assumption, however, has been challenged. DiLorenzo and Rooney (2025), for example, argue that leaders' shared life experiences facilitate social bonding and the emergence of trust, which in turn reduces information and commitment problems that could lead to military disputes. Foster and Keller (2023) argue that conflict is more likely when cognitively simple leaders interact with each other.

The main implication of our theoretical arguments can be summarized in the following hypothesis:

Hypothesis 1. *Pairs of more similar leaders are less likely to impose sanctions against each other than leader pairs with fewer similarities.*

3 Data and Estimation Strategy

3.1 Data

Our dataset contains 293,594 observations covering 156 potential sender countries, 155 potential target countries, and 13,242 directed country-pairs for the period from 1970 to 2004. A list of countries can be found in Table A1. Our binary dependent variable indicates whether a potential target country is sanctioned by a potential sender country in a given year. Many sanctions are imposed by international organizations, wherein decisions are made by a group of countries. The effect of an individual country and its leader on the imposition of UN sanctions is—except for the five veto powers—very limited. The same applies to a lesser extent to sanctions imposed by the EU. Accordingly, we estimate all models (i) excluding observations with UN and EU sanctions, (ii) excluding only observations with UN sanctions, and (iii) using the full sam-

ple. Data on sanctions is taken from release 3 of the Global Sanctions Data Base (GSDB, see Felbermayr et al. 2020; Kirikakha et al. 2021; Syropoulos et al. 2024). In the full dataset, 30,793 out of 293,594 dyad-years (10.5%) are subject to sanctions. In the most restrictive estimation sample, this number drops to 785 out of 7,160 dyad-years (11.0%), as observations with UN and EU sanctions are excluded, and many observations are absorbed by dyad fixed effects due to a lack of within-dyad variation in the dependent variable.

Our main independent variable is a leader similarity index introduced by DiLorenzo and Rooney (2025). They calculate Pearson's correlation coefficient over 58 leader characteristics, separately for every leader pair.[10] The data on leader characteristics comes from the well-established but discontinued LEAD dataset by Ellis et al. (2015). It covers personal background information and life experiences in seven categories (military experience, education, family variables in childhood, family variables in adulthood, occupation, political experience, and others).[11] Observed values of the index range from –0.09 to 1.00. For example, the similarity score of Gerhard Schroeder and Vladimir Putin is 0.95. As part of our robustness tests, we re-calculate the leader similarity index by leaving out one of the seven categories at a time and, alternatively, by including only theoretically well-justified characteristics (see Section 4.2). Similarity scores are calculated for leader pairs, not for dyad-years. To deal with leadership changes within a given year while aggregating scores to the dyad-year level, we construct the leader similarity score in years of leadership transition as the average similarity of the different leader pairs who are in office in that year, weighted by the number of days each leader pair is in office. The use of this leader characteristic data, is based on the assumption that the personal background and life experiences of political leaders are not only themselves observable, but they also serve as proxies for leaders' "operational code" (Holsti 1970; Schafer and Walker 2023), that is, the way in which leaders perceive and interpret their physical and social environment.

To account for the various causes of sanction imposition in the target country, we control for a number of political and (socio-)economic factors, lagged by one year to

mitigate potential reverse causality. The economic situation is captured by the country's real GDP per capita (in logs). In addition, our models include the population size (also in logs) and a globalization index (KOFGI, see Dreher 2006; Gygli et al. 2019). The target country's political conditions—and thus the likely causes of sanctions—are described by a democracy dummy (indicating a *polity2* score by Marshall and Gurr 2020 above five), a latent human rights score by Fariss (2019), and dummy variables for a successful coup (Bjørnskov and Rode 2020) as well as minor and major conflicts (Gleditsch et al. 2002).

Table A2 provides a list of variables alongside their definitions and the underlying data sources. Table A3 shows descriptive statistics for the full dataset (Panel A) and the dataset on which most of the estimations are based (Panel B), that is, without dyad-years subject to UN or EU sanctions and without data spells that are absorbed by the two-way fixed effects. In both panels, we also distinguish between non-sanctioned and sanctioned observations. Leader similarity is lower in dyad-years subject to sanctions. Moreover, sanctioned countries tend to be less globalized and have a lower GDP per capita. They show more serious infringements of human rights, are less often democratic, and more often experience a successful coup. In the full dataset, countries subject to sanctions experience minor and major conflicts at a much higher frequency. However, this no longer holds once UN sanctions are removed from the dataset—presumably because (major) conflicts are one of the primary reasons for the UN Security Council to reach agreement on imposing sanctions.

3.2 Estimation Strategy

To evaluate the effect of leader similarity on sanction imposition, we estimate panel probit models. These allow modeling binary outcomes while accounting for unobserved heterogeneity and non-linear time trends. The general model specification can be described as follows:

$$y^*_{i,j,t} = \beta S_{i,j,t} + \gamma X^{pol}_{j,t-1} + \delta X^{econ}_{j,t-1} + \tau_{i,t} + \alpha_{i,j} + \epsilon_{i,j,t} \tag{1}$$

$y^*_{i,j,t}$ is the latent (unobserved) variable that corresponds to the observed binary outcome variable $y_{i,j,t}$. In this notation, country i (the sender) imposes sanctions on country j (the target) in year t ($y_{i,j,t} = 1$) or not ($y_{i,j,t} = 0$). $S_{i,j,t}$ represents the (weighted)[12] similarity of the leader in sender country i and the leader in target country j. $\tau_{i,t}$ represents sender-year fixed effects that capture all (time-varying) political, economic, and social conditions in the sender country. Importantly, these fixed effects account for a sender government's general (and potentially time-varying) inclination to employ international sanctions in disputes with other countries. Including these fixed effects is vital, as it separates leader similarity from the characteristics of the political leader imposing the sanctions, which are held constant. Moreover, these fixed effects nest the less granular year fixed effects, which capture any global (non-linear) time trend in the use of sanctions, such as their increased use since the end of the Cold War. Dyad fixed effects $\alpha_{i,j}$ absorb factors such as shared languages and history as well as cultural, genetic, geographic, and political proximity, to the extent that they are time-invariant (Guiso et al. 2009, e.g., show that bilateral exchange depends on shared history and culture). In addition, dyad fixed effects nest the less granular sender fixed effects and target fixed effects. Thus, they account for all time-invariant sender and target country characteristics. Since dyad fixed effects reduce the scope for potential bias in the estimation at the cost of significantly reduced efficiency (because then only variation within dyads over time is analyzed), we present estimation results with and without dyad fixed effects. We do not include target-year fixed effects, as target country leaders do not choose to be targeted by sanctions.[13] We account explicitly for a number of potentially confounding time-varying target country characteristics. $X^{pol}_{j,t-1}$ and $X^{econ}_{j,t-1}$ represent one-year lagged political and economic control variables. These are described in more detail in Section 3.1. $\epsilon_{i,j,t}$ is an idiosyncratic error term for which we assume clustering on the dyad level.

The observed binary outcome $y_{i,j,t}$ is linked to the latent variable $y^*_{i,j,t}$ as follows:

$$y_{i,j,t} = \begin{cases} 1 & \text{if } y^*_{i,j,t} > 0 \\ 0 & \text{if } y^*_{i,j,t} \leq 0 \end{cases} \tag{2}$$

Hence, the probability of observing $y_{i,j,t} = 1$ is given by the cumulative distribution function of the standard normal distribution, which is represented by $\Phi(\cdot)$:

$$P\left(y_{i,j,t} = 1 \mid S_{i,j,t}, X^{pol}_{j,t-1}, X^{econ}_{j,t-1}, \tau_{i,t}, \alpha_{i,j}\right) = \Phi\left(\beta S_{i,j,t} + \gamma X^{pol}_{j,t-1} + \delta X^{econ}_{j,t-1} + \tau_{i,t} + \alpha_{i,j}\right) \tag{3}$$

The parameters of the probit model are obtained using maximum likelihood estimation.

As these estimates describe the effects on the latent variable, we have to calculate marginal effects to quantify the effect of a change in an independent variable on the probability of the observable binary outcome occurring. The marginal effects are obtained by taking the partial derivative of the probability function in Eq. (3) with respect to the variable of interest. For example, the marginal effect for leader similarity ($S_{i,j,t}$) is calculated as follows:

$$\frac{\partial P\left(y_{i,j,t} = 1 \mid S_{i,j,t}, X^{pol}_{j,t-1}, X^{econ}_{j,t-1}, \tau_{i,t}, \alpha_{i,j}\right)}{\partial S_{i,j,t}} = \phi\left(\beta S_{i,j,t} + \gamma X^{pol}_{j,t-1} + \delta X^{econ}_{j,t-1} + \tau_{i,t} + \alpha_{i,j}\right) \cdot \beta \tag{4}$$

Since marginal effects in probit models vary across observations, due to the non-linearity of the link function, we report average marginal effects (AME), that is, we calculate the marginal effects for each observation and then take the mean value of these marginal effects. We use the delta method to estimate the standard errors corre-

sponding to the AME:

$$\begin{aligned} \text{SE(AME)} &= \sqrt{\text{Var}(\beta)} \cdot \frac{1}{N} \sum_{i=1}^{N} \phi\left(\beta S_{i,j,t} + \gamma X_{j,t-1}^{pol} + \delta X_{j,t-1}^{econ} + \tau_{i,t} + \alpha_{i,j}\right) \\ &= \sqrt{\text{Var}(\beta)} \cdot \text{AME} \end{aligned} \tag{5}$$

Hahn and Newey (2004) demonstrate in Monte Carlo studies that the bias from the incidental parameters problem in panel probit models is small. Nevertheless, we present estimates in Section 4.2 that are based on the bias correction method by Fernández-Val (2009) to address remaining concerns about incidental parameter bias. Finally, we also test the robustness of our results to OLS estimation (Angrist 2001).

4 Empirical Results

4.1 Baseline Results

Table 1 shows the AMEs from our baseline panel probit estimations. In a first step, we include only control variables that are undoubtedly exogenous to economic sanctions, that is, the lagged (socio-)economic conditions in the target country. Columns (1)–(6) include sender-year fixed effects and Columns (2), (4), and (6) additionally account for dyad fixed effects. Columns (1) and (2) exclude all observations with UN or EU sanctions in place, Columns (3) and (4) exclude observations with UN sanctions in place, and Columns (5) and (6) are based on the full sample. The discussion of the baseline results focuses on the more conservative estimates in Columns (2), (4), and (6).[14] The substantial differences in the number of observations underlying the different regression models result from two factors: (i) the exclusion of cases with UN or both UN and EU sanctions, and (ii) the absorption of data spells by the fixed effects.

[Table 1 about here]

Leader similarity consistently has a negative effect on the likelihood of sanction imposition that is significant at the 1% level across all three specifications. The estimated

effect increases when UN sanctions are excluded, and even further when also EU sanctions are excluded from the sample. This would suggest that the impact grows as a leaders' say in imposing sanctions increases. A one-unit increase in leader similarity is associated with a 5.9 percentage point (pp) decrease in sanction probability, a 12.1 pp decrease when excluding UN sanctions are excluded, and a 17.9 pp when excluding both UN and EU sanctions.[15] Since the similarity variable is based on Pearson's correlation coefficient, the AME can be interpreted as the average observed shift from no correlation (0) to perfect correlation (1) in the characteristics of the leader pair.

In a second step, we control for the political conditions in the target country that are commonly considered the primary causes of sanction imposition (Hufbauer et al. 2009). Table 2 shows the AMEs derived from these estimations. Again, we pay particular attention to the more conservative model specifications corresponding to Columns (2), (4), and (6). The estimates are smaller than those in Table 1 and reach significance at the 10% level only in Column (2) and Column (4), that is, when UN or UN and EU sanctions are excluded. As before, the effect is strongest when both UN and EU sanctions are excluded: here, a one-unit increase in leader similarity corresponds to a 7.3 pp decrease in sanction occurrence.

[Table 2 about here]

This reduction in effect size and significance is expected, given the correlation between political control variables and the target country's leader characteristics. One could, however, argue that by adding the political control variables, we are underestimating the effect of leader similarity on sanctions. If political leaders in target countries have some idea what they can get away with without getting sanctioned by a particular potential sender country, their decision to enter conflicts or commit human rights violations itself is affected by how similar they are to other political leaders who may consider sanctioning them. In that sense, the estimates in Tables 1 and 2 could be considered reasonable upper and lower bounds.

Turning briefly to the (lagged) control variables, we find that a higher GDP per capita in the target country reduces the likelihood of sanctions. Globalization shows

a similar negative effect, though not in all samples. Sanctions are also less likely used against democratic countries and those with greater respect for human rights. While conflicts (and successful coups) generally increase the likelihood of sanctions, this effect is not uniform across models; in particular, the results for major conflicts may reflect the absorption of numerous spells and the exclusion of UN sanctions. Comparing the effect of leader similarity with that of the main causes of sanction imposition suggests that leader similarity's impact is—not too surprisingly—smaller than that of the standard control variables. Yet, the effect of leader similarity is empirically relevant, as demonstrated by the predicted probability of sanction imposition across its observed empirical range (from –0.09 to 1). In the most conservative model (Column 2 of Table 2), this probability increases from 2.3% at the highest observed leader similarity to 7.2% at the lowest.

4.2 Extensions and Robustness Tests

In line with our theoretical considerations and the empirical evidence provided above (but also to conserve space), all results hereafter are based on estimation samples without UN and EU sanctions.

Alternative Estimation Methods. To test the robustness of our results, we first apply alternative estimation techniques. Table A4 presents the marginal effects from probit estimations that incorporate the incidental parameter bias correction method proposed by Fernández-Val (2009).[16] The absolute values of the AMEs with the narrow set of controls are smaller than those reported in Column (1) of Table 1, yet they remain highly statistically significant. Estimates using the broad set of controls are nearly identical to those in Column (1) of Table 2. These results suggest that our estimations are not substantially affected by an incidental parameter problem.

Next, we re-estimate our baseline models as linear probability models using the least squares method. The results are presented in Table A5. In two of these models, we add linear and quadratic time trends for the target countries (Columns 5 and 6 are extensions of Column 4) to further control for unobserved factors affecting these coun-

tries.[17] Except in Column (1), the estimated effects are larger and exhibit higher levels of statistical significance compared to the baseline probit estimations (see Columns 1 and 2 of Tables 1 and 2). This provides further evidence justifying an interpretation of our baseline results as a conservative lower bound for the effect of leader similarity on the likelihood of sanction imposition. Furthermore, our results remain robust and the estimated effect size even increases when we incorporate target country time trends in Columns 5 and 6.

Effect Heterogeneity. The GSDB records nine frequently coinciding categories of objectives or reasons for imposing sanctions (democracy, human rights, destabilize regime, policy change, prevent war, end war, territorial conflict, terrorism, and "others") based on information in official documents. To test if the effect of leader similarity depends on the context in which sanctions are imposed, we re-estimate our models, excluding sanction cases with one declared objective at a time.[18] Table 3 presents the results using dyad fixed effects.

[Table 3 about here]

While our findings are in general robust to this jackknife-style test based on sanction objectives, it is striking that excluding sanctions aimed at promoting democracy or improving human rights in the target country causes the estimated effects to become much smaller and statistically insignificant (or just marginally significant when excluding human rights sanctions in the estimations using the narrow set of controls). This suggests that leader similarity plays most into the decision whether to impose sanctions in situations where democratic change or improvements in human rights are sought. These are arguably the most controversial types of foreign interventions, due to legitimacy concerns and their questionable track record (see, e.g., Coyne 2008; Steinbach et al. 2023). It is, therefore, not surprising that political leaders appear to have more discretion in these decisions than with regard to sanctions that target, for example, supporters or instigators of conflict and terrorism. Consistent with that interpretation, excluding conflict- or terrorism-related sanctions from the sample does

not alter the results. The same holds for sanctions aiming at regime destabilization, policy changes, and other objectives. In fact, some coefficients are even larger than the baseline (see the bottom right panel of Table 3), indicating that leader similarity is less relevant to sanction imposition when these objectives are concerned.

A second set of jackknife-style tests examines additional effect heterogeneity. Table 4 first presents results when sanctions from specific periods are excluded. When post-Cold War sanctions are omitted, the effects of leader similarity are smaller than in the baseline estimations (shown again in the bottom right panel of Table 4). In contrast, excluding Cold War sanctions amplifies these effects. This suggests that leader similarity has played a greater role since 1991. This finding is unsurprising, as—at least within our sample period, which ends in 2004—the world was no longer divided into two rival blocs. As a result, leaders had greater discretion in shaping foreign policy.

[Table 4 about here]

Next, the estimations exclude sanctions imposed on democratic countries, which strengthens the effect of leader similarity on sanction decisions, suggesting that the targeting of autocratic countries is more influenced by leader similarity. This aligns with the findings in Table 3 where sanctions aimed at promoting democratic change drive the overall results. A similar pattern emerges when US sanctions are excluded. Since this subsection already excludes UN and EU sanctions, the share of non-democratic sanctioning countries naturally increases significantly. Autocratic leaders typically have greater discretion in imposing sanctions, which explains the significantly stronger observed effect. Finally, removing trade sanctions—the most common type—also amplifies the effect of leader similarity. This suggests that the imposition of trade sanctions is constrained by a country's economic interests, diminishing the role of leader similarity compared to non-trade sanctions (e.g., arms, military, financial, travel, and "other" sanctions).[19]

Dyadic Confounders. Our baseline models do not include indicators for the general affinity between two countries, as such variables could be heavily influenced by leader similarity and would thus be post-treatment confounders (i.e., bad control variables). However, controlling for several dyadic confounders remains a useful robustness test. We use a rather crude binary country affinity measure from Tomashevskiy (2025), which is quite stable over time and unlikely to be immediately affected by shifts in leader characteristics. Joint Democracy is coded one if both states score at least six on the polity2 index (Marshall and Gurr 2020). Rivalry is a binary variable based on the work of Thompson and Dreyer (2011) and operationalized by DiLorenzo and Rooney (2025). Joint IGOs counts the number of intergovernmental organizations in which both states are members (Pevehouse et al. 2021). These dyadic confounders are largely consistent with those proposed by DiLorenzo and Rooney (2025). As shown in Table A6, the results remain virtually the same as those in Column (2) of Table 2 after these dyadic confounders are individually and jointly controlled for. This reiterates that leader similarity does not just reflect the affinity between countries, which is anyway in large parts captured by the dyad fixed effects.

Leader Characteristics. Our next modification to the baseline model deals with variants of the leader similarity variable. As explained in Section 3.1 and Endnote 11, the original indicator is based on the correlation of 58 characteristics, spanning seven categories, between two leaders. Here, we conduct two robustness tests. First, we recalculate the index for each leader pair, but omitting one category of characteristics at a time. Second, we construct a theory-derived version of the similarity measure that includes only characteristics that can be theoretically justified.[20] These alternative leader similarity indices then serve as explanatory variables in models otherwise corresponding to Column (2) of Tables 1 and 2. Table A7 presents the results. Excluding any single category of characteristics or basing the similarity indicator only on theoretically justified characteristics leaves the results virtually unchanged—except if we exclude political experience, which slightly increases both the estimated effect size and standard errors. Overall, these modifications suggest that no single category of

characteristics or the consideration of theoretically implausible leader characteristics drives our results.

Alternative Similarity Metric. Our final robustness test concerns an alternative measurement of leader similarity, while using the same data as the original indicator. Gower's distance is calculated instead of the Pearson correlation coefficient, as it can directly account for nominal and ordinal variables. To make it comparable with the original indicator, we subtract the Gower's distance metric from 1. Table A8 presents the results of estimating probit models (Columns 1 and 2) and linear probability models (Columns 3 and 4) while using this alternative leader similarity indicator. Gower-based leader similarity also has a significant negative effect on sanction imposition. The marginal effects are larger than those in Tables 1, 2, and A5, which can be explained by the lower standard deviation in Gower's similarity (0.06) compared to the correlation-based measure (0.35).

5 Conclusion

In this study, we seek to determine whether international sanctions are less likely imposed between pairs of political leaders who share greater similarity. To answer this question, we estimate panel probit models with sender-year and dyad fixed effects as well as different similarity measures and sets of target country control variables. Our dataset covers 293,594 observations corresponding to 156 potential sender countries, 155 potential target countries, and 13,242 directed country-pairs over the period from 1970 to 2004.

Our main finding suggests that higher leader similarity significantly reduces the likelihood of sanction imposition. This result holds across various specifications and estimation techniques, also when controlling for the primary reasons for sanction imposition. The effect is most pronounced when UN and EU sanctions are excluded, that is, when focusing on sanctions imposed following a unilateral political decision-making process. The probability of sanction imposition rises from 2.3% at the highest

observed leader similarity in the sample to 7.2% at the lowest. Moreover, we find that the influence of leader similarity is strongest on the decision to impose sanctions aimed at democratic change or human rights improvements, where we argue that political leaders have some of the highest levels of discretion. Finally, leader similarity has become more important after the Cold War, and the imposition of sanctions from or against autocracies and of non-trade sanctions (e.g., arms and military sanctions) depends most on the similarity of the involved political leaders.

We study sanction imposition, but leader similarity may also influence the severity of imposed sanctions. It has been argued that weak sanctions are imposed to be perceived as doing something (Hovi et al. 2005). Weak sanctions may be imposed where only stronger sanctions would be effective, but the leader does not want to impose serious sanctions on the target and chooses weak sanctions to avoid looking unresponsive. This warrants further inquiry, but more and better data on sanction intensity is needed with a similar time and country coverage as in the Global Sanctions Database. Also with respect to leader characteristics, more detailed data and a broader country and time coverage would be desirable to further advance research on how leaders matter in international relations.

Finally, beyond our specific research question, our study contributes to the broader behavioral revolution in international relations (Hafner-Burton et al. 2017) and international law (van Aaken 2014; van Aaken and Simsek 2021). It highlights the potential of studying the relevance of leader types for foreign policy in a dyadic setting to better understand which combinations of leader types are conducive to international conflict or cooperation. Future studies may, for example, utilize recent advances in the measurement of politicians' projected persona through public statements (Birkenmaier and Lechner 2025). Projected personality traits can act both as moderators and mediators between more exogenous personality traits and policy outcomes. For our research question, it would seem particularly fruitful if public speech could be distinguished by whether it explicitly addresses international topics or audiences.

Notes

[1]Our focus here is on quantitative tests of psychological or sociological models of political leader behavior. Of course, the political psychology of international relations has formulated theories and conducted qualitative research on the role of leaders at least since the 1960s (see Holsti 1976, for criticisms of and challenges affecting this early strand of research).

[2]In the United States, as an example of a democracy with substantial executive authority, sanctions operate within explicit legal frameworks such as the International Emergency Powers Act and the Trading with the Enemy Act. To impose sanctions, the president must declare a state of emergency based on defined criteria and must report regularly to Congress. The sanctions further have to be continuously renewed. Congress can terminate the underlying emergency by joint resolution, which the president cannot veto. Further government agencies are involved in the implementation of the sanctions. A US military attack, on the other hand, requires far fewer documented procedural steps, although prolonged conflict requires affirmative congressional votes. In other democracies, such as Canada, the gap between the procedural requirements of sanctions and warfare can be even wider.

[3]Li (2025) demonstrates that leaders with a reputation for madness are less likely to back down when targeted with sanctions.

[4]The government and opposition parties may also differ in their commitment to sanctions, which further complicates the evaluation of their credibility as a threat (Onder 2019).

[5]Trust is defined, here, following Gambetta (1988) as a sufficiently high probability on a subjective probability scale with which leader A judges that leader B will perform a particular action that affects A's own choice. Trust corresponds to a probability high enough that A is willing to cooperate with B and, for example, not impose sanctions.

[6]Sanctions might still be used to deter transgressions of third-party leaders who are less similar to the potential sender, but this incentive is independent of the similarity of the sender and target at hand.

[7]Although similarity effects may be more pronounced in the automatic than in the reflective system of thinking, our arguments do not presuppose particular types of decision situations, as heuristics can be expected to be employed either way (see, e.g., Vis 2019). Moreover, to the extent that similarity reduces transaction costs, heuristics are not needed for leader similarity to have an effect and the applied system of thinking should be even less relevant in that case.

[8]Falk and Zehnder (2013) show in a field experiment that in-group bias even exists among inhabitants of the same city district. Even-Tov et al. (2023) find favoritism simply due to a shared first name.

[9]However, there is research that explicitly addresses non-rationality in international relations regarding direct interactions between leaders (Holmes 2018; Holmes and Wheeler 2020; Holmes and Yarhi-Milo 2017). It specifically deals with the biological and cultural mechanisms that are used in face-to-face interactions to infer a counterpart's intentions. In other words, whereas we are interested

in predicting which leaders are generally more likely to successfully cooperate, this strand of international relations literature can explain in detail how cooperation is achieved while two leaders interact in person. There are also important overlaps in the argumentation. Holmes (2013, 2018), for example, argues that the other's intentions can still be inferred if interacting leaders are very dissimilar, but to a lesser degree.

[10]As part of our robustness tests, we also calculate a different leader similarity metric based on the reversed Gower's distance (Gower 1971). This measure can directly handle different types of data (nominal, ordinal, and continuous) and might be more appropriate than the Pearson correlation coefficient, which is designed for continuous data.

[11]The individual variables are **Military experience:** Military service (combat/noncombat), military education, rebel participation, national war participation (victory/loss), and rebel war participation (victory/loss). **Education:** Primary education, boarding school, and education level. **Family variables, childhood:** Only/firstborn/middle-born/"illegitimate" child, first son/daughter, parental status, orphan, royalty, father occupation, mother in labor force, and childhood health. **Family variables, adulthood:** Married (ever/in power), divorced (ever), number of spouses in life, number of sons/daughters, number of children/adopted children, and children died. **Occupation:** Education, journalism, law, engineering, medicine, science, agriculture, military career, religion, labor, activist, career politician, writer, film/music, aristocrat/landowner, police, and interpreter. **Political experience:** Years in politics before becoming leader and puppet leader. **Others:** Physical/mental health and gender. For further details, we refer to Ellis et al. (2015).

[12]The weighting procedure is explained in Section 3.1.

[13]Target-year fixed effects would fully account for the number of countries by which a target is sanctioned in any given year, and leader similarity would then only serve to explain the composition of those sender countries. Moreover, all observations of targets of UN sanctions or countries not sanctioned in a given year would be dropped. This would substantially reduce our sample size to 852 observations and discard most of the variation in the sanction imposition variable, ultimately causing the probit models to fail to converge in light of 598 fixed effects to be estimated (305 sender-year, 143 dyad-year, and 150 target-year fixed effects). For comparison, DiLorenzo and Rooney (2025) control for dyad fixed effects and year fixed effects.

[14]These model specifications are indeed very conservative. All dyads in which we observe no (or only) sanctions are dropped from our sample, although such a pattern could, according to our theory, be the consequence of permanently high (low) leader similarity between two countries. This concerns about 82%–93% of the original sample.

[15]This pattern is not replicated in the specifications without dyad fixed effects, where the estimated similarity effect remains stable across samples.

[16]These estimations converge when using sender-year fixed effects but fail to do so when dyad fixed effects are also included. Accordingly, we cannot employ bias correction as the default estimation method.

[17]Probit models with these trends face convergence issues similar to those resulting from the use of target-year fixed effects (see Endnote 13).

[18]The majority of sanctions have multiple objectives. When we exclude sanctions with one objective from the estimation, these sanctions, therefore, may have also had a number of other objectives. Our exercise here should, thus, be considered a robustness test rather than a way to cleanly separate sanctions with particular goals.

[19]Excluding sanctions against non-democracies, non-US sanctions, and non-trade sanctions—combined with the absorption of spells with no within-dyad variation—results in treatment groups that are too small for meaningful estimations.

[20]Specifically, the 49 variables we identify as relevant are **Military experience:** Military service (combat/noncombat), military education, rebel participation, national war participation (victory/loss), and rebel war participation (victory/loss). **Education:** Primary education, boarding school, and education level. **Family variables, childhood:** parental status, orphan, royalty, father occupation and mother in labor force. **Family variables, adulthood:** Married (ever/in power), divorced (ever), number of spouses in life, number of sons/daughters, number of children/adopted children, and children died. **Occupation:** Education, journalism, law, engineering, medicine, science, agriculture, military career, religion, labor, activist, career politician, writer, film/music, aristocrat/landowner, police, and interpreter. **Political experience:** Years in politics before becoming leader and puppet leader.

References

Aidt, T. S., F. Albornoz, and E. Hauk. 2021. "Foreign influence and domestic policy." *Journal of Economic Literature* 59 (2): 426–487.

———. 2025. "Foreign influence." In *Elgar Encyclopedia of Public Choice*, edited by C. Bjornskov and R. Jong-A-Pin, 325–332. Cheltenham and Northampton: Edward Elgar.

Akerlof, G. A., and R. E. Kranton. 2000. "Economics and identity." *The Quarterly Journal of Economics* 115 (3): 715–753.

Angrist, J. D. 2001. "Estimation of limited dependent variable models with dummy endogenous regressors: Simple strategies for empirical practice." *Journal of Business & Economic Statistics* 19 (1): 2–28.

Békés, G., and G. I. P. Ottaviano. 2025. "Cultural homophily and collaboration in superstar teams." *Management Science* 71 (10): 8097–8993.

Berggren, N., H. Jordahl, and P. Poutvaara. 2010. "The looks of a winner: Beauty and electoral success." *Journal of Public Economics* 94 (1): 8–15.

Birkenmaier, L., and C. Lechner. 2025. "Measuring politicians' public personality traits using computational text analysis: A multimethod feasibility study for agency and communion." *Political Analysis*.

Bjørnskov, C., and M. Rode. 2020. "Regime types and regime change: A new dataset on democracy, coups, and political institutions." *Review of International Organizations* 15:531–551.

Byman, D. L., and K. M. Pollack. 2001. "Let us now praise great men: Bringing the statesman back in." *International Security* 25 (4): 107–146.

Cetre, S., Y. Algan, G. Grimalda, F. Murtin, D. Pipke, L. Putterman, U. Schmidt, and V. Siegerink. 2024. "Ethnic bias, economic achievement and trust between large ethnic groups: A study in Germany and the U.S." *Journal of Economic Behavior & Organization* 224:996–1021.

Clerke, A. S., and E. A. Heerey. 2021. "The influence of similarity and mimicry on decisions to trust." *Collabra: Psychology* 7 (1): 23441.

Coase, R. H. 1960. "The problem of social cost." *Journal of Law and Economics* 3:1–44.

Coyne, C. J. 2008. *After War: The Political Economy of Exporting Democracy.* Stanford: Stanford University Press.

Currarini, S., M. O. Jackson, and P. Pin. 2009. "An economic model of friendship: Homophily, minorities, and segregation." *Econometrica* 77 (4): 1003–1045.

Currarini, S., and F. Mengel. 2016. "Identity, homophily and in-group bias." *European Economic Review* 90:40–55.

Davies, S., T. Pettersson, and M. Öberg. 2022. "Organized violence 1989-2021 and drone warfare." *Journal of Peace Research* 59 (4): 809–825.

DiLorenzo, M., and B. Rooney. 2025. "Leader similarity and international conflict." *Journal of Peace Research* 62 (1): 102–118.

Dreher, A. 2006. "Does globalization affect growth? Evidence from a new index of globalization." *Applied Economics* 38 (10): 1091–1110.

Dreher, A., M. J. Lamla, S. M. Lein, and F. Somogyi. 2009. "The impact of political leaders' profession and education on reforms." *Journal of Comparative Economics* 37 (1): 169–193.

Dreher, A., and S. Yu. 2020. "The alma mater effect: Does foreign education of political leaders influence UNGA voting?" *Public Choice* 185 (1): 45–64.

Dube, O., and S. P. Harish. 2020. "Queens." *Journal of Political Economy* 128 (7): 2579–2652.

Eaton, J., and M. Engers. 1992. "Sanctions." *Journal of Political Economy* 100 (5): 899–928.

———. 1999. "Sanctions: Some simple analytics." *The American Economic Review: Papers and Proceedings* 89 (2): 409–414.

Eaton, J., and A. O. Sykes. 2002. "International sanctions." In *The New Palgrave Dictionary of Economics and the Law*, edited by P. Newman, 1010–1017. London: Palgrave Macmillan.

Efrat, A., and O. Yair. 2024. "Should we sell arms to human rights violators? What the public thinks." *Defence and Peace Economics* 35 (6): 694–712.

Ellis, C. M., M. C. Horowitz, and A. C. Stam. 2015. "Introducing the LEAD Dataset." *International Interactions* 41 (4): 718–741.

Enke, B. 2019. "Kinship, cooperation, and the evolution of moral systems." *The Quarterly Journal of Economics* 134 (2): 953–1019.

———. 2020. "Moral values and voting." *Journal of Political Economy* 128 (10): 3679–3729.

Ertug, G., J. Brennecke, B. Kovács, and T. Zou. 2020. "What does homophily do? A review of the consequences of homophily." *Academy of Management Annals* 16 (1): 38–69.

Even-Tov, O., K. Huang, B. Trueman, J. E. Bogard, and N. J. Goldstein. 2023. "Sharing names and information: Incidental similarities between CEOs and analysts can lead to favoritism in information disclosure." *Proceedings of the National Academy of Sciences* 120 (49): e2311250120.

Falk, A., and C. Zehnder. 2013. "A city-wide experiment on trust discrimination." *Journal of Public Economics* 100:15–27.

Fariss, C. J. 2019. "Yes, human rights practices are improving over time." *American Political Science Review* 113 (3): 868–881.

Felbermayr, G., A. Kirilakha, C. Syropoulos, E. Yalcin, and Y. V. Yotov. 2020. "The Global Sanctions Data Base." *European Economic Review* 129:103561.

Fernández-Val, I. 2009. "Fixed effects estimation of structural parameters and marginal effects in panel probit models." *Journal of Econometrics* 150 (1): 71–85.

Fischer, I. 2009. "Friend or foe: Subjective expected relative similarity as a determinant of cooperation." *Journal of Experimental Psychology: General* 138 (3): 341–350.

Foster, D. M., and J. W. Keller. 2023. "Interactive leader psychology and the ebb and flow of interstate rivalry." *International Studies Quarterly* 67 (4): sqad076.

François, A., S. Panel, and L. Weill. 2023. "Dictators' facial characteristics and foreign direct investment." *The Leadership Quarterly* 34 (2): 101644.

Funke, M., M. Schularick, and C. Trebesch. 2023. "Populist leaders and the economy." *The American Economic Review* 113 (12): 3249–3288.

Gambetta, D. 1988. "Can we trust trust?" In *Trust: Making and Breaking Cooperative Relations*, edited by D. Gambetta, 213–237. Oxford: Basil Blackwell.

Gerber, E. R., A. D. Henry, and M. Lubell. 2013. "Political homophily and collaboration in regional planning networks." *American Journal of Political Science* 57 (3): 598–610.

Giannetti, M., and Y. Yafeh. 2012. "Do cultural differences between contracting parties matter? Evidence from syndicated bank loans." *Management Science* 58 (2): 365–383.

Gleditsch, N. P., P. Wallensteen, M. Eriksson, M. Sollenberg, and H. Strand. 2002. "Armed conflict 1946-2001: A new dataset." *Journal of Peace Research* 39 (5): 615–637.

Gower, J. C. 1971. "A general coefficient of similarity and some of its properties." *Biometrics* 27 (4): 857–871.

Gründler, K., N. Potrafke, and T. Wochner. 2024. "The beauty premium of politicians in office." *Journal of Economic Behavior & Organization* 217:298–311.

Guiso, L., P. Sapienza, and L. Zingales. 2009. "Cultural biases in economic exchange?" *The Quarterly Journal of Economics* 124 (3): 1095–1131.

Gutmann, J., K. Metelska-Szaniawska, and S. Voigt. 2024. "Leader characteristics and constitutional compliance." *European Journal of Political Economy* 84:102423.

Gutmann, J., M. Neuenkirch, and F. Neumeier. 2023a. "The economic effects of international sanctions: An event study." *Journal of Comparative Economics* 51 (4): 1214–1231.

———. 2023b. "The impact of economic sanctions on target countries: A review of the empirical evidence." *EconPol Forum* 24 (3): 5–9.

———. 2025. "Political economy of international sanctions." In *Elgar Encyclopedia of Public Choice*, edited by C. Bjornskov and R. Jong-A-Pin, 571–578. Cheltenham and Northampton: Edward Elgar.

Gygli, S., F. Haelg, N. Potrafke, and J.-E. Sturm. 2019. "The KOF Globalisation Index – revisited." *Review of International Organizations* 14 (3): 543–574.

Hafner-Burton, E. M., S. Haggard, D. A. Lake, and D. G. Victor. 2017. "The behavioral revolution and international relations." *International Organization* 71 (S1): S1–S31.

Hahn, J., and W. Newey. 2004. "Jackknife and analytical bias reduction for nonlinear panel models." *Econometrica* 72 (4): 1295–1319.

Hayo, B., and F. Neumeier. 2016. "Political leaders' socioeconomic background and public budget deficits: Evidence from OECD countries." *Economics & Politics* 28 (1): 55–78.

Hermann, M. G. 1980. "Explaining foreign policy behavior using the personal characteristics of political leaders." *International Studies Quarterly* 24 (1): 7–46.

Holmes, M. 2013. "The force of face-to-face diplomacy: Mirror neurons and the problem of intentions." *International Organization* 67 (4): 829–861.

———. 2018. *Face-to-face Diplomacy: Social Neuroscience and International Relations.* Cambridge University Press.

Holmes, M., and N. J. Wheeler. 2020. "Social bonding in diplomacy." *International Theory* 12 (1): 133–161.

Holmes, M., and K. Yarhi-Milo. 2017. "The psychological logic of peace summits: How empathy shapes outcomes of diplomatic negotiations." *International Studies Quarterly* 61 (1): 107–122.

Holsti, O. R. 1970. "The "operational code"' approach to the study of political leaders: John Foster Dulles' philosophical and instrumental beliefs." *Canadian Journal of Political Science* 3 (1): 123–157.

———. 1976. "Foreign policy formation viewed cognitively." In *Structure of Decision: The Cognitive Maps of Political Elites*, edited by R. Axelrod, 18–54. Princeton University Press.

Horowitz, M. C., and A. C. Stam. 2014. "How prior military experience influences the future militarized behavior of leaders." *International Organization* 68 (3): 527–559.

Hovi, J., R. Huseby, and D. F. Sprinz. 2005. "When do (imposed) economic sanctions work?" *World Politics* 57 (4): 479–499.

Hufbauer, G. C., J. J. Schott, K. A. Elliott, and B. Oegg. 2009. *Economic Sanctions Reconsidered.* Third Edition. Washington: Peterson Institute.

Jervis, R. 2017. *Perception and misperception in international politics: New edition.* Princeton University Press.

Kirikakha, A., G. J. Felbermayr, C. Syropoulos, E. Yalcin, and Y. V. Yotov. 2021. "The Global Sanctions Data Base (GSDB): An update that includes the years of the Trump presidency." In *Research Handbook on Economic Sanctions*, edited by P. A. van Bergeijk, 62–106. Cheltenham and Northampton: Edward Elgar.

Levy, J. S. 2023. "Foreign policy decision-making." In *The Oxford Handbook of Political Psychology*, edited by L. Huddy, D. O. Sears, J. S. Levy, and J. Jerit, 349–391. Oxford University Press.

Li, M. 2025. "Understanding the effect of madman leaders on economic sanctions." *International Interactions* 51 (2): 320–343.

Marshall, M. G., and T. R. Gurr. 2020. "Polity5: Political regime characteristics and transitions, 1800-2028." Accessed April 23, 2020. https://www.systemicpeace.org/inscrdata.html.

Mehmood, S., and A. Seror. 2023. "Religious leaders and rule of law." *Journal of Development Economics* 160:102974.

Neumeier, F. 2018. "Do businessmen make good governors?" *Economic Inquiry* 56 (4): 2116–2136.

Onder, M. 2019. *International economic sanctions outcome: The influence of political agreement*. Dissertation. Wayne State University.

Pevehouse, J. C. W., T. Nordstrom, R. W. McManus, and A. S. Jamison. 2021. "Tracking organizations in the world: The Correlates of War IGO version 3.0." *Journal of Peace Research* 57 (3): 492–503.

Peveri, J. 2022. "The wise, the politician, and the strongman: Types of national leaders and quality of governance." *Journal of Comparative Economics* 50 (4): 849–895.

Saunders, E. N. 2011. *Leaders at War: How Presidents Shape International Conflict*. Cornell University Press.

Schafer, M., and S. G. Walker. 2023. "Operational code analysis." In *Routledge Handbook of Foreign Policy Analysis Methods*, edited by P. A. Mello and F. Ostermann, 255–268. Routledge.

Spaniel, W., and B. C. Smith. 2015. "Sanctions, uncertainty, and leader tenure." *International Studies Quarterly* 59 (4): 735–749.

Steinbach, A., J. Gutmann, M. Neuenkirch, and F. Neumeier. 2023. "Economic sanctions and human rights: Quantifying the legal proportionality principle." *Harvard Human Rights Journal* 36:1–40.

Syropoulos, C., G. J. Felbermayr, A. Kirilakha, E. Yalcin, and Y. V. Yotov. 2024. "The Global Sanctions Data Base–release 3: COVID-19, Russia, and multilateral sanctions." *Review of International Economics* 32 (1): 12–48.

Tabellini, G. 2008. "The scope of cooperation: Values and incentives." *The Quarterly Journal of Economics* 123 (3): 905–950.

Tajfel, H., and J. C. Turner. 1986. "The social identity theory of intergroup behavior." In *Psychology of Intergroup Relations*, Second Edition, edited by S. Worchel and W. G. Austin, 7–24. Nelson-Hall.

Thompson, W., and D. Dreyer. 2011. *The Handbook of Interstate Rivalries, 1494-2010.* CQ Press.

Tomashevskiy, A. 2025. "Friends and partners: Estimating latent affinity networks with the graphical LASSO." *Journal of Peace Research* 62 (4): 1112–1127.

van Aaken, A. 2014. "Behavioral international law and economics." *Harvard International Law Journal* 55 (2): 421–482.

van Aaken, A., and B. Simsek. 2021. "Rewarding in international law." *American Journal of International Law* 115 (2): 195–241.

Vis, B. 2019. "Heuristics and political elites' judgment and decision-making." *Political Studies Review* 17 (1): 41–52.

Wheeler, N. J. 2018. *Trusting Enemies: Interpersonal Relationships in International Conflict*. Oxford University Press.

World Bank. 2023. "World Development Indicators." https://data.worldbank.org/.

Yarhi-Milo, K. 2018. *Who Fights for Reputation: The Psychology of Leaders in International Conflict*. Princeton University Press.

Zurcher, A., and J. Murphy. 2025. "Trump disliked Trudeau – why Carney may fare better." Accessed May 2, 2025. https://bbc.com/news/articles/cm2er30r713o.

Tables

Table 1: Explaining Sanctions with Leader Similarity and Socio-Economic Variables (Narrow)

	(1) w/o UN/EU	(2) w/o UN/EU	(3) w/o UN	(4) w/o UN	(5) All Obs.	(6) All Obs.
Leader Similarity	–0.0203***	–0.1792***	–0.0338***	–0.1212***	–0.0241***	–0.0588***
	(0.0023)	(0.0450)	(0.0024)	(0.0337)	(0.0021)	(0.0135)
lag log(GDP pc)^T	0.0063***	–0.1041**	0.0038***	–0.1456***	0.0200***	–0.2559***
	(0.0011)	(0.0499)	(0.0011)	(0.0307)	(0.0008)	(0.0124)
lag log(Population)^T	0.0083***	0.8252***	0.0092***	1.1100***	0.0133***	0.0424*
	(0.0004)	(0.1784)	(0.0004)	(0.1124)	(0.0004)	(0.0220)
lag Globalization^T	–0.0015***	–0.0099***	–0.0016***	–0.0072***	–0.0055***	–0.0222***
	(0.0001)	(0.0027)	(0.0001)	(0.0022)	(0.0001)	(0.0011)
Sender-Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Dyad FE		Yes		Yes		Yes
Observations	165,364	7,160	167,012	11,924	293,594	51,097
Unique Dyads	11,801	431	11,990	563	13,242	1,937
Std. Dev. of Similarity	0.3504	0.3610	0.3508	0.3698	0.3505	0.3628

Notes: Marginal effects of panel probit models. The LHS variable indicates whether sanctions of sender country i against target country j are in place in year t. Standard errors in parentheses are clustered at the dyad level. ***/**/* indicates significance at the 1%/5%/10% level. Differences in the number of observations are due to (i) the exclusion of UN and EU sanctions or UN sanctions and (ii) the absorption of data spells by the fixed effects.

Table 2: Explaining Sanctions with Leader Similarity, Socio-Economic Variables, and Reasons for Sanction Imposition (Broad)

	(1) w/o UN/EU	(2) w/o UN/EU	(3) w/o UN	(4) w/o UN	(5) All Obs.	(6) All Obs.
Leader Similarity	–0.0143***	–0.0725*	–0.0259***	–0.0498*	–0.0164***	0.0184
	(0.0022)	(0.0390)	(0.0023)	(0.0293)	(0.0020)	(0.0132)
lag log(GDP pc)^T	0.0062***	–0.0822*	0.0040***	–0.1145***	0.0250***	–0.2349***
	(0.0011)	(0.0486)	(0.0011)	(0.0286)	(0.0008)	(0.0142)
lag log(Population)^T	0.0067***	0.5956***	0.0065***	0.8723***	–0.0055***	–0.0012
	(0.0006)	(0.1628)	(0.0006)	(0.1054)	(0.0007)	(0.0137)
lag Globalization^T	–0.0007***	–0.0064**	–0.0008***	–0.0027	–0.0032***	–0.0115***
	(0.0001)	(0.0025)	(0.0001)	(0.0019)	(0.0001)	(0.0007)
lag Democracy^T	–0.0290***	–0.2962***	–0.0307***	–0.2732***	–0.0189***	–0.2964***
	(0.0020)	(0.0412)	(0.0020)	(0.0366)	(0.0016)	(0.0201)
lag Human Rights^T	–0.0052***	–0.0811***	–0.0080***	–0.0685***	–0.0433***	–0.1124***
	(0.0009)	(0.0209)	(0.0009)	(0.0172)	(0.0010)	(0.0069)
lag Successful Coups^T	0.0018	0.0594**	0.0085	0.0660***	–0.0030	0.0091
	(0.0040)	(0.0295)	(0.0039)	(0.0189)	(0.0027)	(0.0084)
lag Minor Conflict^T	0.0132***	0.1130***	0.0127***	0.0849***	0.0218***	0.0114
	(0.0017)	(0.0250)	(0.0018)	(0.0186)	(0.0014)	(0.0080)
lag Major Conflict^T	–0.0359***	0.0536	–0.0331***	0.0256	0.0450***	0.1340***
	(0.0034)	(0.0443)	(0.0032)	(0.0307)	(0.0019)	(0.0099)
Sender-Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Dyad FE		Yes		Yes		Yes
Observations	165,364	7,160	167,012	11,924	293,594	51,097
Unique Dyads	11,801	431	11,990	563	13,242	1,937
Std. Dev. of Similarity	0.3504	0.3610	0.3508	0.3698	0.3505	0.3628

Notes: Marginal effects of panel probit models. The LHS variable indicates whether sanctions of sender country i against target country j are in place in year t. Standard errors in parentheses are clustered at the dyad level. ***/**/* indicates significance at the 1%/5%/10% level. Differences in the number of observations are due to (i) the exclusion of UN and EU sanctions or UN sanctions and (ii) the absorption of data spells by the fixed effects.

Table 3: Effect Heterogeneity for Sanction Objectives (w/o UN/EU Sanctions)

	Excl. "Democracy"		**Excl. "Human Rights"**	
	Narrow	Broad	Narrow	Broad
Leader Similarity	–0.0444	0.0095	–0.1068*	–0.0141
	(0.0657)	(0.0567)	(0.0555)	(0.0522)
Observations	4,452	4,452	4,813	4,813
Unique Dyads	296	296	271	271
	Excl. "Destab. Regime"		**Excl. "Policy Change"**	
	Narrow	Broad	Narrow	Broad
Leader Similarity	–0.1998***	–0.0924**	–0.2105***	–0.1453**
	(0.0410)	(0.0356)	(0.0680)	(0.0650)
Observations	7,048	7,048	3,160	3,160
Unique Dyads	429	429	197	197
	Excl. "Prevent War"		**Excl. "End War"**	
	Narrow	Broad	Narrow	Broad
Leader Similarity	–0.2242***	–0.1239*	–0.1746***	–0.0642*
	(0.0766)	(0.0686)	(0.0455)	(0.0389)
Observations	3,065	3,065	6,956	6,956
Unique Dyads	191	191	425	425
	Excl. "Territ. Conflict"		**Excl. "Terrorism"**	
	Narrow	Broad	Narrow	Broad
Leader Similarity	–0.1921***	–0.0872**	–0.1793***	–0.0791**
	(0.0441)	(0.0377)	(0.0455)	(0.0390)
Observations	6,982	6,982	6,770	6,770
Unique Dyads	424	424	414	414
	Excl. "Other Objectives"		**Full Dataset**	
	Narrow	Broad	Narrow	Broad
Leader Similarity	–0.2299***	–0.0710*	–0.1792***	–0.0725*
	(0.0424)	(0.0388)	(0.0450)	(0.0390)
Observations	7,125	7,125	7,160	7,160
Unique Dyads	431	431	431	431

Notes: Marginal effects of panel probit models. The LHS variable indicates whether sanctions of sender country i against target country j are in place in year t. Standard errors in parentheses are clustered at the dyad level. ***/**/* indicates significance at the 1%/5%/10% level. The differences in the number of observations are due to the exclusion of sanctions of a particular objective. Models include control variables (Narrow: lag log(GDP pc)^T, lag log(Population)^T, and lag Globalization^T; Broad (additionally): lag Democracy^T, lag Human Rights^T, lag Successful Coups^T, and two lagged conflict indicators), sender-year fixed effects, and dyad fixed effects. Estimates are available on request. "Full Dataset" replicates the results from Column (2) of Tables 1 and 2, respectively.

Table 4: Effect Heterogeneity for Further Categories (w/o UN/EU Sanctions)

	Excl. Post-Cold War Sanctions		**Excl. Cold War Sanctions**	
	Narrow	Broad	Narrow	Broad
Leader Similarity	–0.2038**	–0.1115	–0.2281***	–0.1228**
	(0.0950)	(0.1399)	(0.0640)	(0.0624)
Observations	1,356	1,356	2,699	2,699
Unique Dyads	89	89	306	306
	Excl. Sanctions ag. Democracies		**Excl. US Sanctions**	
	Narrow	Broad	Narrow	Broad
Leader Similarity	–0.3263***	–0.0974***	–0.2454***	–0.2014***
	(0.0493)	(0.0350)	(0.0657)	(0.0618)
Observations	5,075	5,075	3,849	3,849
Unique Dyads	325	325	284	284
	Excl. Trade Sanctions		**Full Dataset**	
	Narrow	Broad	Narrow	Broad
Leader Similarity	–0.3480***	–0.2647***	–0.1792***	–0.0725*
	(0.0708)	(0.0948)	(0.0450)	(0.0390)
Observations	2,044	2,044	7,160	7,160
Unique Dyads	142	142	431	431

Notes: Marginal effects of panel probit models. The LHS variable indicates whether sanctions of sender country i against target country j are in place in year t. Standard errors in parentheses are clustered at the dyad level. ***/**/* indicates significance at the 1%/5%/10% level. The differences in the number of observations are due to the exclusion of sanctions of a particular category. Models include control variables (Narrow: lag log(GDP pc)^T, lag log(Population)^T, and lag Globalization^T; Broad (additionally): lag Democracy^T, lag Human Rights^T, lag Successful Coups^T, and two lagged conflict indicators), sender-year fixed effects, and dyad fixed effects. Estimates are available on request. "Full Dataset" replicates the results from Column (2) of Tables 1 and 2, respectively.

Appendix

Data Description

Table A1: Countries

Afghanistan, Albania, Algeria, Angola, Argentina, Armenia, Australia, Austria, Azerbaijan, Bahrain, Bangladesh, Belarus, Belgium, Benin, Bhutan, Bolivia, Botswana, Brazil, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Canada, Cape Verde, Central African Republic, Chad, Chile, China, Colombia, Comoros, Costa Rica, Croatia, Cuba, Cyprus, Czech Republic, Denmark, Djibouti, Dominican Republic, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eritrea, Estonia, Ethiopia, Fiji, Finland, France, Gabon, Gambia, Georgia, Germany, Ghana, Greece, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Hungary, India, Indonesia, Iran, Iraq, Ireland, Israel, Italy, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kuwait, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liberia, Libya, Lithuania, Luxembourg, Madagascar, Malawi, Malaysia, Mali, Mauritania, Mauritius, Mexico, Moldova, Mongolia, Morocco, Mozambique, Myanmar, Namibia, Nepal, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, North Macedonia, Norway, Oman, Pakistan, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Poland, Portugal, Qatar, Romania, Russia, Rwanda, Saudi Arabia, Senegal, Serbia, Sierra Leone, Singapore, Slovakia, Slovenia, Solomon Islands, Somalia, South Africa, South Korea, Spain, Sri Lanka, Sudan, Suriname, Swaziland, Sweden, Switzerland, Syria, Tajikistan, Tanzania, Thailand, Togo, Tunisia, Türkiye, Turkmenistan, Uganda, Ukraine, United Arab Emirates, United Kingdom, United States of America, Uruguay, Uzbekistan, Venezuela, Vietnam, Yemen, Zambia, Zimbabwe.

Table A2: Definitions of Variables and Data Sources

Variable	**Definition & Source**
Sanctions	Binary indicators for dyad-years with sanctions in place. *Source:* GSDB (Felbermayr et al. 2020; Kirikakha et al. 2021; Syropoulos et al. 2024).
Leader Similarity	Continuous measure of leader similarity calculated as Pearson's correlation coefficient (r) based on similarity data from the LEAD dataset. Weighted by the number of overlapping days of two leaders, if more than one leader pair exists in a dyad-year. *Source:* Leader Similarity (DiLorenzo and Rooney 2025), LEAD Dataset (Ellis et al. 2015).
Gower's Leader Similarity	Continuous measure of leader similarity calculated as the reversed Gower's Distance (or Gower-based similarity Gower 1971) based on similarity data from the LEAD dataset. Weighted by the number of overlapping days of two leaders, if more than one leader pair exists in a dyad-year. *Source:* LEAD Dataset (Ellis et al. 2015).
lag log(GDP pc)^T	Natural logarithm of real GDP per capita of the target country in USD, lagged by one year. *Source:* Trade and GDP Data (Gleditsch et al. 2002).
lag log(Population)^T	Natural logarithm of the population size of the target country, lagged by one year. *Source:* World Development Indicators (World Bank 2023).
lag Globalization^T	Index measuring the economic, social, and political dimensions of globalization in the target country, lagged by one year. *Source:* KOF Globalisation Index (Dreher 2006; Gygli et al. 2019).
lag Democracy^T	Binary democracy indicator based on the target country's polity2 index, which ranges from +10 (strongly democratic) to –10 (strongly autocratic). Coded "1" if the index is larger than five, lagged by one year. *Source:* Polity5 dataset (Marshall and Gurr 2020).

Table A2: Definitions of Variables and Data Sources (Continued)

Variable	**Definition & Source**
lag Human Rights^T	Latent human rights variable with higher values indicating a better protection of human rights in the target country, lagged by one year. *Source:* Human Rights Protection Scores (Fariss 2019).
lag Successful Coups^T	Binary indicator coded "1" if a successful coup occurs in the target country, lagged by one year. *Source:* Coup Dataset (Bjørnskov and Rode 2020).
lag Minor Conflict^T / lag Major Conflict^T	Binary indicators coded "1" if armed conflicts resulting in 25 to 999 / at least 1,000 battle-related deaths occur in the target country, lagged by one year. *Source:* UCDP/PRIO Armed Conflict Dataset (Gleditsch et al. 2002; Davies et al. 2022).
Country Affinity	Binary indicator coded "1" for the presence of affinity links between country pairs. *Source:* Affinity Data (Tomashevskiy 2025).
Joint Democracy	Binary indicator coded "1" if the polity2 index of both sender and target is larger than five. *Source:* Constructed based on the Polity5 dataset (Marshall and Gurr 2020).
Rivalry	Binary indicator coded "1" if sender and target are classified as rivals, i.e., they perceive each other as threatening competitors. *Source:* Handbook of Interstate Rivalries (Thompson and Dreyer 2011).
Joint IGOs	Count variable indicating the number of intergovernmental organizations of which both sender and target are members. *Source:* Correlates of War Intergovernmental Organizations (Pevehouse et al. 2021).

Table A3: Descriptive Statistics

Panel A: Full Dataset

	All Observations ($N = 293,594$)	No Sanctions ($N = 262,801$)	Sanctions ($N = 30,793$)
Continuous Variables (Mean Values)			
Leader Similarity	0.62	0.62	0.60
Gower's Leader Similarity	0.78	0.78	0.78
lag log(GDP pc)^T	8.32	8.37	7.88
lag log(Population)^T	9.06	9.03	9.29
lag Globalization^T	45.43	46.14	39.30
lag Human Rights^T	–0.07	0.03	–0.94
Joint IGOs	26.22	26.05	27.74
Binary Variables ($X = 1$ in percent)			
lag Democracy^T	34.21	36.14	17.68
lag Successful Coups^T	2.56	2.45	3.54
lag Minor Conflict^T	15.24	13.97	26.14
lag Major Conflict^T	6.12	4.95	16.05
Country Affinity	14.92	14.53	18.22
Joint Democracy	13.70	14.31	8.49
Rivalry	0.56	0.46	1.41

Panel B: Main Estimation Dataset (w/o UN/EU Sanctions and w/o Absorbed Spells)

	All Observations ($N = 7,160$)	No Sanctions ($N = 6,375$)	Sanctions ($N = 785$)
Continuous Variables (Mean Values)			
Leader Similarity	0.59	0.58	0.66
Gower's Leader Similarity	0.78	0.78	0.78
lag log(GDP pc)^T	8.11	8.10	8.12
lag log(Population)^T	9.67	9.67	9.69
lag Globalization^T	42.29	42.59	39.89
lag Human Rights^T	–0.25	–0.23	–0.40
Joint IGOs	24.99	24.70	27.36
Binary Variables ($X = 1$ in percent)			
lag Democracy^T	31.52	33.22	17.71
lag Successful Coups^T	2.75	2.51	4.71
lag Minor Conflict^T	17.07	17.22	15.80
lag Major Conflict^T	3.87	4.14	1.66
Country Affinity	14.82	14.38	18.34
Joint Democracy	12.85	12.99	11.72
Rivalry	0.67	0.66	0.76

Notes: Panel A shows descriptive statistics for the full dataset, Panel B for the dataset used in the estimations with sender-year and dyad fixed effects and without sanctions imposed by the UN or the EU.

Additional Results

Table A4: Bias Corrected Probit Estimations (w/o UN/EU Sanctions)

	(1) Narrow	(2) Broad
Leader Similarity	–0.0104***	–0.0148***
	(0.0020)	(0.0020)
lag log(GDP pc)^T	0.0027***	0.0047***
	(0.0008)	(0.0008)
lag log(Population)^T	0.0038***	0.0068***
	(0.0004)	(0.0005)
lag Globalization^T	–0.0006***	–0.0007***
	(0.0001)	(0.0001)
lag Democracy^T		–0.0273***
		(0.0017)
lag Human Rights^T		–0.0039***
		(0.0007)
lag Successful Coups^T		0.0009
		(0.0037)
lag Minor Conflict^T		0.0112***
		(0.0018)
lag Major Conflict^T		–0.0357***
		(0.0033)
Sender-Year FE	Yes	Yes
Observations	165,364	165,364
Unique Dyads	11,801	11,801
Std. Dev. of Similarity	0.3504	0.3504

Notes: Marginal effects of bias-corrected panel probit models according to Fernández-Val (2009). The LHS variable indicates whether sanctions of sender country i against target country j are in place in year t. Standard errors in parentheses are clustered at the dyad level. ***/**/* indicates significance at the 1%/5%/10% level.

Table A5: Linear Probability Models (w/o UN/EU Sanctions)

	(1) Narrow	(2) Broad	(3) Narrow	(4) Broad	(5) Broad	(6) Broad
Leader Similarity	–0.0145***	–0.0198***	–0.1934***	–0.1016**	–0.1585***	–0.1507***
	(0.0020)	(0.0028)	(0.0448)	(0.0402)	(0.0307)	(0.0269)
lag log(GDP pc)^T	0.0042***	0.0053***	–0.0730*	–0.0642	–0.1064**	–0.1845***
	(0.0009)	(0.0013)	(0.0417)	(0.0420)	(0.0416)	(0.0317)
lag log(Population)^T	0.0032***	0.0090***	0.7962***	0.5588***	0.0970	–0.2604***
	(0.0004)	(0.0007)	(0.1379)	(0.1218)	(0.0880)	(0.0905)
lag Globalization^T	–0.0010***	–0.0008***	–0.0096***	–0.0058**	–0.0085***	–0.0152***
	(0.0001)	(0.0001)	(0.0029)	(0.0029)	(0.0022)	(0.0020)
lag Democracy^T		–0.0281***		–0.3218***	–0.1858***	–0.1148***
		(0.0017)		(0.0351)	(0.0264)	(0.0246)
lag Human Rights^T		–0.0003		–0.0515**	–0.1401***	–0.0588**
		(0.0008)		(0.0205)	(0.0192)	(0.0264)
lag Successful Coups^T		0.0001		0.0717***	0.0977***	0.0875***
		(0.0050)		(0.0276)	(0.0245)	(0.0201)
lag Minor Conflict^T		0.0104***		0.1127***	0.0119	0.0329
		(0.0021)		(0.0339)	(0.0235)	(0.0210)
lag Major Conflict^T		–0.0325***		0.0596	–0.0781**	–0.0338
		(0.0028)		(0.0453)	(0.0354)	(0.0287)
Sender-Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Dyad FE			Yes	Yes	Yes	Yes
Linear Target Country Trends					Yes	Yes
Quadratic Target Country Trends						Yes
Observations	165,364	165,364	7,160	7,160	7,160	7,160
Unique Dyads	11,801	11,801	431	431	431	431
Std. Dev. of Similarity	0.3504	0.3504	0.3610	0.3610	0.3610	0.3610

Notes: Coefficients of linear probability models. The LHS variable indicates whether sanctions of sender country i against target country j are in place in year t. Standard errors in parentheses are clustered at the dyad level. ***/**/* indicates significance at the 1%/5%/10% level. Differences in the number of observations are due to the absorption of data spells by the fixed effects.

Table A6: Controlling for Dyadic Confounders (w/o UN/EU Sanctions)

	(1)	(2)	(3)	(4)	(5)
Leader Similarity	−0.0739*	−0.0688*	−0.0723*	−0.0887**	−0.0830**
	(0.0390)	(0.0387)	(0.0390)	(0.0408)	(0.0413)
Country Affinity	−0.0410				−0.0003
	(0.0294)				(0.0268)
Joint Democracy		−0.0708			−0.0829
		(0.1277)			(0.1430)
Rivalry			−0.5228*		−0.6616**
			(0.2910)		(0.3248)
Joint IGOs				−0.0207***	−0.0208***
				(0.0045)	(0.0043)
lag log(Population)^T	0.5928***	0.5958***	0.5952***	0.3241**	0.3229**
	(0.1621)	(0.1629)	(0.1627)	(0.1412)	(0.1416)
lag log(GDP pc)^T	−0.0836*	−0.0834*	−0.0820*	−0.1246***	−0.1265***
	(0.0489)	(0.0487)	(0.0486)	(0.0476)	(0.0479)
lag Globalization^T	−0.0062**	−0.0064**	−0.0064**	−0.0064***	−0.0063***
	(0.0025)	(0.0025)	(0.0025)	(0.0024)	(0.0024)
lag Democracy^T	−0.2940***	−0.2314*	−0.2960***	−0.2267***	−0.1517
	(0.0410)	(0.1226)	(0.0413)	(0.0368)	(0.1334)
lag Human Rights^T	−0.0796***	−0.0810***	−0.0810***	−0.0797***	−0.0796***
	(0.0209)	(0.0209)	(0.0209)	(0.0236)	(0.0237)
lag Successful Coups^T	0.0614**	0.0608**	0.0594**	0.0836***	0.0852***
	(0.0295)	(0.0296)	(0.0295)	(0.0282)	(0.0285)
lag Minor Conflict^T	0.1139***	0.1138***	0.1130***	0.1013***	0.1025***
	(0.0253)	(0.0252)	(0.0250)	(0.0237)	(0.0241)
lag Major Conflict^T	0.0560	0.0546	0.0537	0.0486	0.0500
	(0.0444)	(0.0443)	(0.0443)	(0.0479)	(0.0480)
Sender-Year FE	Yes	Yes	Yes	Yes	Yes
Dyad FE	Yes	Yes	Yes	Yes	Yes
Observations	7,160	7,160	7,160	7,156	7,156
Unique Dyads	431	431	431	431	431
Std. Dev. of Similarity	0.3610	0.3610	0.3610	0.3610	0.3610

Notes: Marginal effects of panel probit models. The LHS variable indicates whether sanctions of sender country i against target country j are in place in year t. Standard errors in parentheses are clustered at the dyad level. ***/**/* indicates significance at the 1%/5%/10% level. Differences in the number of observations are due to the absorption of data spells by the fixed effects.

Table A7: Jackknife-Style Exclusion of Leader Characteristics (w/o UN/EU Sanctions)

	(1) Narrow	(2) Broad
excl. Military Experience	–0.1764***	–0.0730*
	(0.0459)	(0.0394)
excl. Education	–0.1644***	–0.0663*
	(0.0405)	(0.0357)
excl. Childhood Family	–0.1745***	–0.0710*
	(0.0441)	(0.0382)
excl. Adult Family	–0.1743***	–0.0712*
	(0.0440)	(0.0384)
excl. Occupation	–0.1701***	–0.0677*
	(0.0426)	(0.0370)
excl. Political Experience	–0.1999***	–0.0835
	(0.0731)	(0.0742)
excl. Other	–0.1788***	–0.0710*
	(0.0448)	(0.0388)
Theory-based	–0.1788***	–0.0709*
	(0.0448)	(0.0389)
All Characteristics	–0.1788***	–0.0725*
	(0.0448)	(0.0390)
Observations	7,160	7,160
Unique Dyads	431	431

Notes: Marginal effects of panel probit models. The LHS variable indicates whether sanctions of sender country i against target country j are in place in year t. Standard errors in parentheses are clustered at the dyad level. ***/**/* indicates significance at the 1%/5%/10% level. Models include control variables (Narrow: lag log(GDP pc)^T, lag log(Population)^T, and lag Globalization^T; Broad (additionally): lag Democracy^T, lag Human Rights^T, lag Successful Coups^T, and two lagged conflict indicators), sender-year fixed effects, and dyad fixed effects. Estimates are available on request. "All Characteristics" replicates the results from Column (2) of Tables 1 and 2, respectively.

Table A8: Gower's Leader Similarity (w/o UN/EU Sanctions)

	(1)	(2)	(3)	(4)
	Probit Models		Linear Probability Models	
	Narrow	Broad	Narrow	Broad
Gower's Leader Similarity	–0.7277***	–0.3979**	–0.7687***	–0.3313*
	(0.2177)	(0.1987)	(0.2097)	(0.1985)
lag log(GDP pc)^T	–0.0992*	–0.0772	–0.0650	–0.0611
	(0.0527)	(0.0495)	(0.0419)	(0.0420)
lag log(Population)^T	0.8585***	0.6146***	0.7729***	0.5431***
	(0.1781)	(0.1639)	(0.1347)	(0.1195)
lag Globalization^T	–0.0113***	–0.0068***	–0.0113***	–0.0065**
	(0.0028)	(0.0025)	(0.0030)	(0.0024)
lag Democracy^T		–0.3050***		–0.3315***
		(0.0428)		(0.0000)
lag Human Rights^T		–0.0829***		–0.0520**
		(0.0209)		(0.0120)
lag Successful Coups^T		0.0683**		0.0810***
		(0.0288)		(0.0026)
lag Minor Conflict^T		0.1111***		0.1099***
		(0.0245)		(0.0011)
lag Major Conflict^T		0.0481		0.0497
		(0.0452)		(0.2796)
Sender-Year FE	Yes	Yes	Yes	Yes
Dyad FE	Yes	Yes	Yes	Yes
Observations	7,160	7,160	7,160	7,160
Unique Dyads	431	431	431	431
Std. Dev. of Similarity	0.0662	0.0662	0.0662	0.0662

Notes: Marginal effects of panel probit models and coefficients of linear probability models. The LHS variable indicates whether sanctions of sender country i against target country j are in place in year t. Standard errors in parentheses are clustered at the dyad level. ***/**/* indicates significance at the 1%/5%/10% level.