# Getting Along or Getting Ahead? The Domestic Roots of Status-Seeking in International Relations*

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**Abstract**

This paper examines how domestic economic conditions shape international relations. We develop a novel measure of inter-government interactions using high-frequency event data across 18,330 country dyads from 2001-2019. To establish causality, we exploit plausibly exogenous variation in countries' natural resource wealth driven by global commodity price shocks. We find that positive resource shocks significantly increase countries' aggressive behavior in international relations, primarily through verbal rather than material confrontation. This effect operates strategically: aggression is targeted at peripheral nations while avoiding major trading partners, suggesting a deliberate approach to status enhancement that preserves economic relationships. The mechanism works through domestic political channels, with resource windfalls reducing public discontent and providing governments with political capital to pursue more assertive foreign policy. Consistent with theories of status-seeking behavior as a tool for enhancing international standing, the effects are concentrated in middle and low-income countries and in political systems with electoral accountability. Our findings highlight how domestic economic conditions influence international relations through the strategic pursuit of status, with implications for understanding the economic roots of geopolitical behavior.

**Keywords:** Economic shocks, natural resources, international interactions, status-seeking
**JEL Codes:** F51, F55, Q34

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# 1 Introduction

At the height of the Venezuelan oil boom, in a now famous address to the United Nations General Assembly in 2006, Venezuelan president Hugo Chavez made a provocative speech against the United States (US). Spurred by the domestic economic boom generated by high oil prices, and high domestic public approval ratings, Chavez referred to US president George Bush as " the devil", stating "The devil came here yesterday... It still smells of sulfur today"[1]. Through this speech, he sought to challenge US hegemony and elevate Venezuela's role in global politics. By positioning himself as a leader of the Global South and an anti-imperialist figure, Chávez aimed to assert his influence both internationally and domestically, garnering support from nations opposed to US dominance while bolstering his image at home (Simon and Parody, 2023).

What drives states to engage in such international behavior? In this paper, we propose that states' international behaviors possess domestic roots. Specifically, we show that domestic *economic conditions* are a critical contributor in empowering states to engage internationally. The Hugo Chavez speech exemplifies a particular economic condition that produces increased status-seeking behavior: natural resource price shocks. When resource-rich nations experience positive natural resource price shocks, they find themselves with increased revenues, an appeased domestic public, and enhanced leverage in the international realm. This newfound wealth may empower states, especially those in the middle and lower tiers of the international system, to engage internationally.

The underlying objectives of such international behaviors may be manifold. On the one hand, governments may use their enhanced economic position to extract concessions through coercive diplomacy, consistent with a bargaining logic (Fearon, 1995; Clayton *et al.*, 2024b, 2025). On the other hand, leaders facing domestic dissatisfaction may provoke international

[1]Hugo Chavez at UN General Assembly in 2006. Transcript accessed at https://library.brown.edu/create/modernlatinamerica/chapters/chapter-8-venezuela/primary-documents-with-accompanying-discussion-questions/document-21-address-to-the-united-nations-by-hugo-chavez-2006/ on 10/10/2024.

disputes to distract public attention, following the diversionary conflict hypothesis (Amarasinghe, 2022; Leeds and Davis, 1997; Morgan and Anderson, 1999). Alternatively, states may be motivated by a desire to achieve recognition and prestige, and engage internationally with the objective of status-seeking. (Renshon, 2017; Larson *et al.*, 2014; Dafoe *et al.*, 2014b; MacDonald and Parent, 2021). Through detailed empirical explorations, we evaluate which of these objectives are closely aligned with the observed patterns of international aggression. Our analysis allows us to exclude bargaining and diversion under duress as potential motivators, and finds strong support for the status-seeking mechanism.

This mechanism can be further understood through the lens of political economy and social identity theory: governments use international posturing to generate psychic utility for domestic audiences (Shayo, 2009; Sambanis and Shayo, 2013), which in turn relaxes political constraints and enables assertive behavior abroad. Citizens value national status and derive utility from their country's international standing (Shayo, 2009). Leaders can strategically cultivate this national identity and mobilize out-group antagonism to consolidate domestic support (Sambanis and Shayo, 2013). Symbolic foreign policy acts—such as verbal confrontation or assertive rhetoric—serve not only international signaling purposes, but also domestic political goals. This logic aligns with models of nation-building in which governments actively construct national identity to enhance state capacity and cohesion (Alesina and Reich, 2015). In the realm of international relations, status-seeking is increasingly understood as a strategic, low-cost behavior distinct from material conflict (Dafoe *et al.*, 2014a), and historical work has documented how narratives of national greatness and decline shape foreign policy choices (Prizel, 1998; Vucetic, 2021).

Building on these insights, we empirically examine the relationship between domestic economic conditions and international behavior. We provide strong evidence that natural resource windfalls—by improving public sentiment and national confidence—create the political space for governments to engage in more aggressive international posturing without incurring domestic backlash. In doing so, we provide, to the best of our knowledge, the first causal estimates

of how domestic economic conditions lead to systematic changes in interactions between governments across the world, with a focus on "regular" international relations outside of all-out war. Specifically, we combine high-frequency event data on the nature and incidence of inter-government interactions between 18,330 country dyads, with arguably exogenous variations in a country's natural resource wealth based on global commodity prices and the country's own export structure, over the years 2001-2019, to investigate whether governments are more likely to behave aggressively towards other governments when experiencing positive economic shocks.

To quantify international behavior, we construct a novel *monthly* indicator of inter-government interactions between country dyads, which we refer to as *dyadic aggression (DA)*. This index uses high-frequency data on media reported events extracted from the Global Database of Event, Language and Tone (GDELT), which is a massive, near-real time data set of global events, analyzed using print, broadcast, and web news media in over 100 languages across every country in the world, and updated on a daily basis.[2] Combining such event data with the conflict-cooperation scale by Goldstein (1992), the $DA$ index numerically represents the proportion of aggressive interactions initiated by one country's government towards another. To the best of our knowledge, this is the first globally consistent indicator of both the *frequency* and the *nature* of inter-government interactions between country dyads, at such fine temporal granularity. This dyadic aggression index serves as our main dependent variable. To derive the key explanatory variable, we combine data on country-level agricultural, mineral and fuel export quantities, with their world prices, at the monthly level. Following Asher and Novosad (2023) this index identifies the variation in a country's natural resource wealth based on the changes in world prices in the past three months. We then combine these with a comprehensive set of dyad and year×month fixed effects, which account for a range of time-invariant and time-variant unobservables, to identify whether and how dyadic aggression changes in response to domestic economic conditions.

[2]https://www.gdeltproject.org/about.html. Section 2.1 provides further details on the data extraction process, quantification of dyadic aggression and validation against alternative indices.

At the baseline, we find that strong domestic economic conditions, proxied by positive natural resource price shocks, lead to a significant increase in dyadic aggression. Governments behave more aggressively toward other states when experiencing commodity booms, and these effects are robust to a battery of robustness tests and alternative definitions. In order to identify the underlying mechanism for this resource-induced aggression, we rely on evidence on the nature, targets, and timing of the aggression to disentangle between alternative explanations. While one possibility is that states leverage favorable economic conditions to extract concessions through coercive diplomacy for strategic bargaining, we find little evidence of a bargaining logic at play. Instead, the aggression we observe is primarily rhetorical and non-material: countries issue threats, express disapproval, and reject policies, rather than engaging in costly military or economic conflict which would more closely align with a bargaining hypothesis. We also rule out a diversionary logic, which would predict heightened aggression during periods of domestic instability. Instead, we show that international aggression rises as domestic public discontent falls, suggesting that governments act from a position of confidence rather than crisis.

Further evidence comes from the selection of targets. Governments strategically avoid aggression toward major trade partners and key sources of foreign investment—countries that could impose meaningful economic costs but where bargaining may lead to larger concessions. Instead, they disproportionately target distant, ideologically neutral, or historically adversarial states—particularly those that have imposed sanctions or with whom domestic audiences may lack affinity. These patterns are strongest among middle- and low-income democracies and anocracies, suggesting that symbolic foreign policy serves a domestic political function in competitive or hybrid regimes where electoral accountability matters. Collectively, these findings allow us to exclude diversionary tactics and bargaining as potential motivators for resource-induced aggression. Instead, we find strong evidence in support of a status-seeking logic: governments use verbal aggression to project international strength while minimizing the risks of economic or military escalation.

Finally, we examine whether leader characteristics condition the relationship between resource shocks and international aggression. Even within similar institutional and economic contexts, individual leaders can exert significant influence on foreign policy, particularly when empowered by favorable domestic conditions (Gallagher and Allen, 2014). Building on prior work showing systematic variation in leaders' risk preferences and ideological dispositions (Horowitz *et al.*, 2018; Kertzer, 2017; Saunders, 2011), we find that aggression following resource booms is more likely under male leaders, those with military backgrounds, and older leaders. These patterns underscore the role of individual agency in shaping international behavior and suggest that the impulse to assert national status may be amplified by leaders with greater willingness to take symbolic or reputational risks on the global stage.

Our findings carry important implications for the international system. By demonstrating that positive economic shocks can trigger symbolic international aggression, our study highlights the need for policymakers to recognize the domestic drivers of foreign policy behavior. Governments should be attentive to how resource booms in other states may translate into increased rhetorical assertiveness or diplomatic tension. From a welfare perspective, early identification and appropriate institutional responses to symbolic aggression may help mitigate the risk of escalation into more costly or destabilizing forms of conflict.

This paper contributes to a growing literature on strategic government behavior in international relations and the domestic foundations of foreign policy. The determinants of international aggression have been a longstanding topic across the social sciences. Spolaore and Wacziarg (2016) show that aggression is more likely among countries with closer genetic and cultural proximity, while a related strand highlights how international interactions stem from strategic responses to domestic turmoil (Liou, 2024; Amarasinghe, 2022; Djourelova and Durante, 2022; Lewandowsky *et al.*, 2020; Durante and Zhuravskaya, 2018; Eisensee and Strömberg, 2007). Within this broad literature, we provide a novel test of status-seeking behavior as a foreign policy strategy, building on theories that emphasize citizens' preferences for national prestige and the psychic utility of symbolic assertion (Shayo, 2009; Sambanis and

Shayo, 2013). Our findings suggest that positive domestic economic conditions create political space for governments to pursue symbolic aggression abroad, offering a sharp contrast to diversionary conflict models, which posit that aggression is most likely under conditions of domestic stress. We also contribute to leader-level theories of international behavior, demonstrating that individual characteristics—such as gender, military background, and age—shape the extent to which leaders capitalize on favorable economic conditions to assert national status (Horowitz *et al.*, 2018; Kertzer, 2017; Saunders, 2011; Gallagher and Allen, 2014).

On the economic determinants of strategic interactions, the relationship between economic power and international relations was first systematically explored by Hirschman (1945, 1958). These seminal works demonstrated how international trade patterns and economic linkages shape power relationships between nations. Building on these insights, the recent literature on geoeconomics focuses on the economic causes of strategic interactions (Clayton *et al.*, 2024a,b, 2025; Scholvin and Wigell, 2018; Blackwill and Harris, 2016; Farrell and Newman, 2023)[3]. Specifically, Clayton *et al.* (2024a) develop a formal model on how hegemons use their economic strength from financial and trade relationships to achieve geopolitical goals, particularly through coordinated threats across different economic relationships. While they focus on how hegemons extract concessions through economic coercion, we examine a different dimension: how a state's economic conditions affect incentives to engage in status-seeking. This connection between economic conditions and international behavior is further highlighted by Hendrix (2015), who demonstrates how fluctuations in oil prices fuel international conflict.

Contributing to this literature, our paper examines how domestic developments affect international interactions. While much of the existing work uses indices of violent conflict, such as the Militarized Interstate Disputes (MID) data employed by Hendrix (2015), these datasets capture only extreme interactions, i.e. military conflicts, which occur sporadically and are off the equilibrium path in most game-theoretic models of conflict [4]. Our work introduces a novel index that quantifies the frequency and nature of inter-government interactions, transcending

[3]For a recent review of the Geoeconomics literature we refer the reader to Mohr and Trebesch (2024)

[4]As a strand of work in political science has proposed, "war is in the error term" (Gartzke, 1999)

traditional data limitations to measureaggression and cooperation, both verbal and material, between states in a consistent, continuous manner. This index, based on high-frequency, media-reported event data, is standardized and comparable across time and space,allowing a more nuanced examination of international interactions.

Finally, we also contribute to the broader literature on the consequences of natural resource shocks (Sachs and Warner, 2001; Ross, 2001). Particularly in resource-dependent countries, natural resource price shocks can have significant effects on the likelihood of conflict and public sentiment. While many argue that commodity price booms increase the risk of civil conflict by incentivizing state capture (Dube and Vargas, 2013; Besley and Persson, 2008), some find that conflict increases as commodity prices of exported goods fall (Brueckner and Ciccone, 2010; Savun and Tirone, 2012). Interestingly, Bazzi and Blattman (2014) find that price booms shorten existing conflicts and reduce their intensity, likely because rising revenues strengthen state capacity for counterinsurgency and lower individuals' incentives to continue fighting. Conversely, Bellemare (2014) finds that food price shocks can exacerbate social unrest, as higher food prices strain household budgets and fuel public dissatisfaction. While much of this literature has focused on the domestic impacts of natural resource shocks, our paper takes a significant departure by examining how natural resources drive internationally aggressive behaviors. Adopting a novel, temporally granular approach, we demonstrate that the effects of natural resource price shocks extend beyond national borders, in turn offering crucial insights for shaping global policy agendas.

The remainder of this paper is organized as follows. Section 2 describes the various data sources and our methodology of generating quantified indices of inter-government interactions and natural resource price shocks. Section 3 discusses the empirical strategy and presents the baseline estimates and robustness checks. We discuss potential underlying mechanisms in Section 4. Section 6 concludes.

# 2 Data

To evaluate our hypothesis, we construct a novel high-frequency measure of international status-seeking and leverage plausibly exogenous shocks to countries' natural resource wealth. The unit of analysis is a dyad, composed of two countries $i$ and $j$. The final data set consists of *monthly* observations for 18,330 such dyads, over the years 2001-2019, equivalent to 4,179,240 dyad $\times$ year $\times$ month observations.

## 2.1 Data on dyadic aggression

Our measure of dyadic aggression is derived from high-frequency, media reported event data obtained from GDELT (Leetaru and Schrodt, 2013). GDELT consists of millions of events extracted from print, broadcast, and web news media sources across the world, in over 100 languages. Using NLP algorithms, it extracts over 300 categories of physical activities based on Conflict and Mediation Event Observations (CAMEO) event codes (Gerner *et al.*, 2008). For each event, GDELT provides information on approximately 60 attributes such as, what kind of event it was (ranging from 'make a public statement' to 'appeal', 'threaten', and 'engage in unconventional mass violence'), the types of actors involved, the location and how many media articles reported the event. The globally-relevant, high-frequency nature of GDELT enables us to quantify international aggression at fine levels of temporal granularity, thereby taking a microscopic view of dyadic interactions, which is largely understudied in the literature thus far[5] .

In recent work applying the GDELT data set, Amarasinghe (2022, 2023) quantify public discontent towards governments, and show that this indicator is strongly correlated with other traditional, albeit imperfect, indicators of such discontent.[6] Our paper builds on, and extends,

[5]GDELT is subject to well-known limitations, including media coverage biases and classification errors from automated event coding. We address these concerns by normalizing for total event volume, including dyad and time fixed effects, and validating our results using alternative data sources (see Section 3 on Empirical Framework and Appendix). While imperfect, GDELT remains the most comprehensive global dataset for high-frequency international interactions.

[6]Other related work using media reported data for similar quantifications include Caldara and Iacoviello

such previous work, by quantifying the nature and frequency of interactions *between countries*, as opposed to within-country interactions. We approach this quantification using the following step-by-step procedure.

First, we identify the set of all 'foreign' events which occurred within the sample period. Specifically, events where the source (i.e. initiator) and the target were located in different countries are labeled 'foreign'. There are approximately 19 million foreign events occurring over the sample period. As a measure of precaution against nonsensical event entries, we only retain the set of events which were recorded in at least 3 media reports.[7] Since our objective is to quantify *government-involved* international interactions, we then retain the subset of foreign events which are specifically between governments, based on reported actor types.

In the next step, we identify the sentiments associated with each of these events using the reported score on the Goldstein scale (Goldstein, 1992), which captures the theoretical potential impact posed by each event type on the stability of a country. On the Goldstein scale, each event type is assigned a score on a range of –10 (extreme conflict) to 10 (extreme cooperation), based on its inherent intensity of conflict and/or cooperation. A summary list of CAMEO event types and associated Goldstein scores are available in Table 1.

Since the primary objective here is to quantify dyadic *aggression*, our focus is specifically on events that receive a *negative* score on the Goldstein scale. We estimate the index of *Dyadic Aggression* ($DA$) using Equation 1,

$$DA_{ijymG<0} = \frac{Foreign_{ijymG<0}}{Foreign_{ijym-10\leq G\leq 10}} \tag{1}$$

where $Foreign_{ijymG\leq 0}$ refers to the number of dyadic events initiated by the government of country $i$, targeting the government of country $j$, and recording a Goldstein value of less than 0, i.e., lying on the negative spectrum of the scale. The denominator $Foreign_{ijym-10\leq G\leq 10}$

(2022), Shapiro *et al.* (2022) Mueller and C. (2018) and Baker *et al.* (2016). For an overview, see Gentzkow *et al.* (2019).

[7]For transparency, in Table B.2 we provide estimates for alternative cutoffs on the number of media reports reporting each event.

Table 1: CAMEO Events, Goldstein Scores, and Quad Class Classification

| Goldstein Scale | CAMEO Event Description | Quad Class |
|---|---|---|
| 7.0 | Provide Aid | Material Cooperation |
| 6.0 | Engage in Material Cooperation | Material Cooperation |
| 5.0 | Yield | Material Cooperation |
| 4.0 | Express Intent to Cooperate | Verbal Cooperation |
| 3.5 | Engage in Diplomatic Cooperation | Verbal Cooperation |
| 3.0 | Appeal | Verbal Cooperation |
| 1.0 | Consult | Verbal Cooperation |
| 0.0 | Make Public Statement | Verbal Cooperation |
| -2.0 | Investigate | Verbal Conflict |
| -2.0 | Disapprove | Verbal Conflict |
| -4.0 | Reduce Relations | Verbal Conflict |
| -4.0 | Reject | Verbal Conflict |
| -5.0 | Demand | Verbal Conflict |
| -6.0 | Threaten | Verbal Conflict |
| -6.5 | Protest | Material Conflict |
| -7.0 | Coerce | Material Conflict |
| -7.2 | Exhibit Force Posture | Material Conflict |
| -9.0 | Assault | Material Conflict |
| -10.0 | Fight | Material Conflict |
| -10.0 | Engage in Unconventional Mass Violence | Material Conflict |

*Source:* The Computational Event Data System

refers to the *total* number of dyadic events initiated by the government of country $i$ and targeting the government of country $j$, on the full spectrum of the Goldstein scale (-10 $\leq$ G $\leq$ 10). $DA_{ijymG<0}$ is then a standardized indicator of *Dyadic Aggression*, which expresses the proportion of negative dyadic events initiated by the government of country $i$, relative to all dyadic events initiated by the government of country $i$, targeting the government of country $j$.

While GDELT offers unmatched temporal and geographic coverage of international interactions, it is not without limitations. As a media-based dataset, it may suffer from reporting biases stemming from cross-country variation in press freedom, media infrastructure, censorship, or attention to global events. In addition, GDELT's automated event coding can introduce classification errors and the potential for duplicated entries. These concerns motivate our decision to express dyadic aggression as a proportion of total interactions—rather than raw event counts—as specified in Eq. 1. This approach mitigates duplication bias and helps normalize differences in reporting intensity across countries and time. [8] We further address these issues by including dyad and year-month fixed effects, which absorb a wide array of time-invariant and time-variant unobservables, including changes in media accessibility, internet penetration, or political constraints on reporting. Finally, to ensure our outcome variable captures meaningful variation in international behavior rather than noise in reporting, we validate our results across a range of Goldstein score thresholds and event categories, as discussed in Section 4.

To better understand the intuition underlying this $DA$ index, in Section A we examine a number of descriptive statistics. Figure A.1 shows the overtime trends in the total number of dyadic events, as well as the number of aggressive and cooperative events between countries, in GDELT. We observe that, as technology expands, the number of events reported by GDELT has increased overtime. This trend underlies our preferred functional form of the $DA$ index, which we define as the share of dyadic aggressive events over the total number of dyadic events,

[8] Table B.4 confirms that our results remain robust when using count variables.

as opposed to a simple count variable. Within our empirical strategy, we also incorporate a granular set of time fixed effects, specifically, year×month fixed effects, to absorb such time-varying unobservables. We further note that the number of aggressive events is always below the number of cooperative events, there by alleviating any concerns on aggressive events potentially being overreported in GDELT.

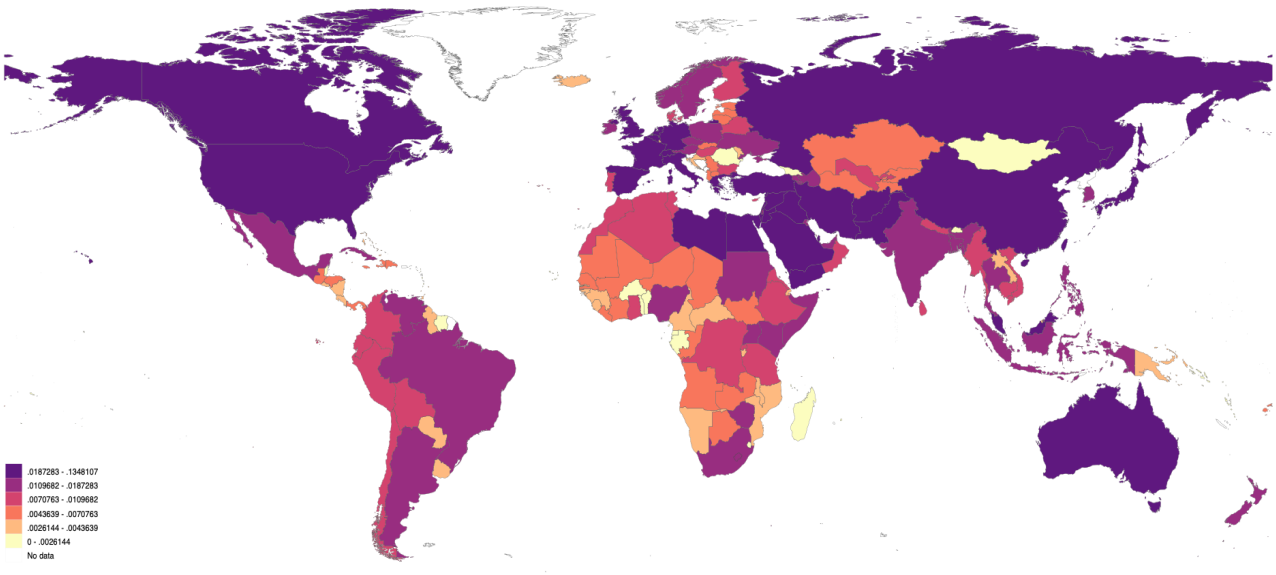
Second, we examine the event composition of the $DA$ index. As demonstrated in Table 1, a range of event types receive negative scores on the Goldstein scale, starting from "verbally aggressive" actions such as "investigate", "disapprove" and "demand" to more materially aggressive events such as "coercion" and "fight", all of which are captured in the numerator of the $DA$ index. As such, the $DA$ index is not limited to one particular 'type' of interaction, but instead captures a broad set of event types underlying interactions between countries. Figure A.2 presents the event composition within the $DA$ index. Here, we have the average shares of event categories within the $DA$ index for each country $i$ in the sample, over the sample period. Each bar represents a country, and the colors denote the relative average weight received by each event category, within a country's $DA$ index. We observe that most countries follow a similar composition pattern and that event categories "disapprove" and "coerce" are the most prominent event types in dyadic aggression.

We examine country level $DA$ in Figure 1, and observe that there is substantial variation between countries. Unsurprisingly, the most intense levels of dyadic aggression originate from politically "powerful" countries. Within the sample period, the highest level of aggression originated from the USA, followed by the United Kingdom, France, Russia and China.[9] Complementing these observations is Figure A.4, which provides the overtime variation in $DA$ initiated by a selected set of countries. Again, we observe that countries such as the USA, and the United Kingdom are at the forefront in terms of both the level and variation in $DA$ over the sample period.

Next we move on to dyad-level interactions, which is the unit of observation in our study.

[9]Figure A.3 shows the event counts underlying $DA$, which underscores the substantial global representation of events in our sample.

Figure 1: Global distribution of $DA_{ij}$




*Note:* Figure shows the average level of $DA$ initiated by country $i$, towards all other countries $j$, over the sample period. $DA$ is calculated as per Equation 1.

Recall that the data set contains information on 18,330 country dyads, which makes it a massive and detailed data set of international relations. This allows us to observe granular patterns in inter-government relations, which have largely been unexplored in the literature so far due to the absence of detailed data. One such example, which is particularly relevant to our quantification exercise, is presented in Figure A.5. Here we provide a graphical illustration of the flow of aggressive interactions between governments, recording a Goldstein score $< 0$ (i.e., the numerator in Eq. 1), between the top 20 most active dyads over the sample period.[10] Intuitively, one would expect that the bulk of negative international interactions originate from economically and politically powerful countries, and this prior is confirmed in the data. The largest number of aggressive interactions over the sample period originate from the US towards Russia, closely followed by aggressive interactions originating from USA towards Iran.[11]

[10]We present only the top 20 dyads here due to practical complications when illustrating the full set of 18,330 dyads.

[11]One potential concern could be that these "powerful" countries are overrepresented in the data set due to relatively high news media focus. In our empirical strategy, we address this concern using a granular set of fixed effects, which can account for both dyad-specific and time-specific variations in media focus.

### 2.1.1 Validation of $DA$ Index with Alternative Indicators

Since the $DA$ index is a novel quantification, it is important to examine how it correlates with existing, albeit imperfect, alternative indicators on international relations. We now examine a series of such correlations. First, in Figure A.6 we examine how the $DA$ index correlates with the Geopolitical Risk (GPR) index by Caldara and Iacoviello (2022). The GPR index is a compilation of threats to "global" geopolitics and is therefore calculated at the spatially aggregate global level, but is available at the temporally granular year×month level. To compare with this index, we aggregate our $DA$ index at the global level too. Figure A.6 shows that the $DA$ index, when aggregated at the global level, is strongly positively correlated with the GPR index.

In Table A.1 we examine further correlations based on dyadic relationships. Because these alternative data sets are only available at the year level, all such correlations are conducted at this more aggregate temporal unit, and we present estimates both with and without fixed effects. In Columns (1)-(3) we consider sanctions imposed by country $i$ on country $j$, data on which is sourced from the Global Sanctions Database. Columns (4)-(6) use data on UN voting distance from Voeten *et al.* (2009), while Columns (7)-(9) use data on militarized interstate disputes from the Correlates of War Project. Across these three sets of estimates, we observe that these standard indices of dyadic aggression are strongly positively correlated with our $DA$ index. Moreover in Columns (10)-(12), when using data on dyadic development assistance, which is a proxy for cooperative interactions within a dyad, we observe a strong negative correlation, confirming that our $DA$ index is able to accurately capture the underlying direction of these dyadic interactions.

What such descriptive information and strong correlations suggest is that the $DA$ index is a reliable, granular indicator of dyadic interactions, providing a consistent, globally representative quantification of between-country sentiments. Additionally, by virtue of it being a standardized index, as opposed to a simple count variable, it is comparable across time and space. Combined with the fine level of temporal granularity, and its ability to quantify both

verbal and material aggression, this index is, to the best of our knowledge, the first of its kind to provide microscopic insights on how countries engage within the international system.

## 2.2 Defining natural resource price shocks

Natural resource rents serve as our proxy for domestic economic conditions. For each country-month, we rely on global price changes to identify exogenous shocks to country level resource rents. We define a rent shock as the change in rents driven by global prices alone, without considering changes in production or exports. Since countries generally produce and export more than one commodity, we weight the natural resource price shocks with the country's average level of exports of each commodity. Following Asher and Novosad (2023), the price shock for country $i$ in month $m$, is defined as

$$PriceShock_{iym} = \frac{\sum_{c \in C} q_{i,c} * \frac{price_{c,m-1}}{price_{c,m-3}}}{\sum_{c \in C} q_{i,c}} \tag{2}$$

where $C$ is the set of commodities exported by country $i$, $q_{i,c}$ is the average export value of commodity $c$ in country $i$ over the sample period, and $price_{c,m}$ is the global price of commodity $c$ in month $m$.

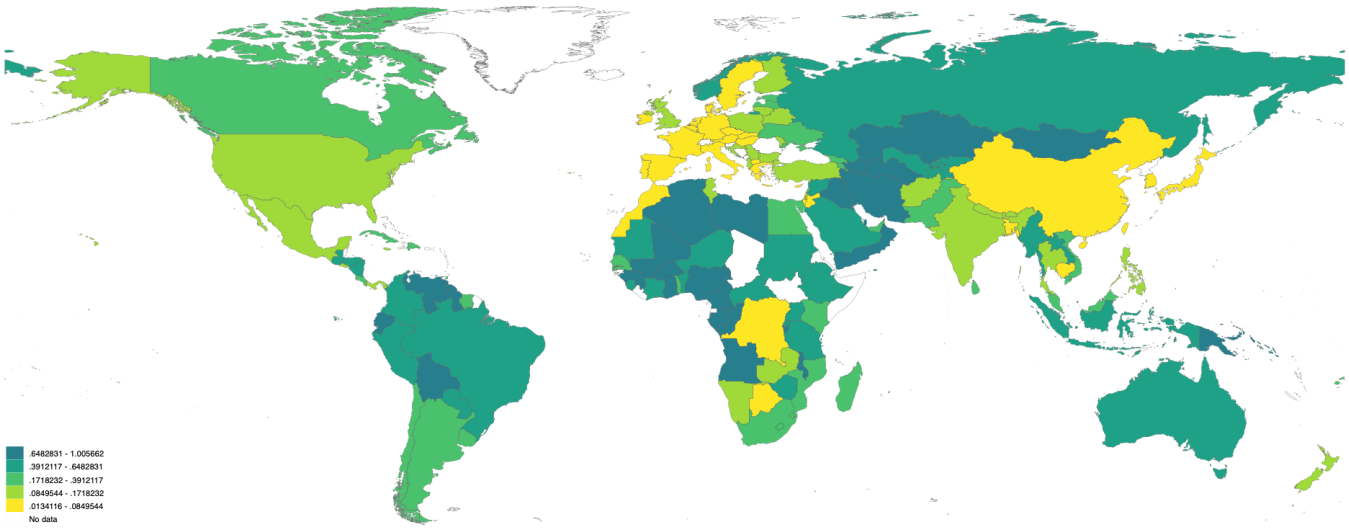
The *PriceShock* index thus captures an export weighted index of the changes in prices for commodities exported by country $i$ in the three months prior to $m$[12]. Our decision to fix the export structure based on the average over the sample period is an attempt to avoid endogenous adjustments in export quantities as a response to price variations.[13] This strategy closely follows Asher and Novosad (2023). However, while they rely on yearly price data, we narrow in on the monthly variance in global prices, thus capturing the effects of shorter term price shocks, which further ensures the exogeneity of our measures. Additionally, we focus

[12]We measure the shock using a general price index based on exports to all countries, rather than a dyadic price index that considers bilateral trade exposure. This choice reflects our focus on how resource price fluctuations affect overall domestic economic conditions, rather than bilateral terms of trade or other country-pair specific measures.

[13]As presented in Table B.6, our estimates are robust to using the export structure of the initial year of the sample period.

on agricultural, mineral and fuel resources, while Asher and Novosad (2023) focus only on mineral rents. Figure 2 illustrates the intensity of the distribution of the *PriceShock* index over the sample period. We note that the index accurately captures resource rich countries in across the world, with special prominence to Africa, South America and Central Asia. Figure A.7 presents the overtime variation in the *PriceShock* index for a selected set of countries.

Figure 2: Global distribution of $Price\ Shock_i$




*Note:* Figure shows the average level of exposure to global *Price Shock*, over the sample period, for all countries in the sample, calculated as per Equation 2.

## 2.3 Other Data

We use a number of other datasets to examine the heterogeneity and mechanisms underlying our estimates. Specifically, we use data from Spolaore and Wacziarg (2016) to identify the genetic and geographic distance between countries. Polity V database provides us with data on each country's political regime, enabling us to classify them as democracies, autocracies or anocracies. Data on foreign aid flows between countries is sourced from the Aiddata database, while data on sanctions between countries is sourced from the Global Sanctions Database (Felbermayr *et al.*, 2020). Data on dyadic trade is sourced from the United Nations Conference on Trade and Development (UNCTAD), where we get a complete picture of dyadic

export/import structures for the entire sample period. We source data on dyadic foreign direct investments from the Global Indicators for Dyadic Engagement (GIDE) database. Data on bilateral investments in securities are sourced from Coppola *et al.* (2021), and data on country income levels from the World Bank.

# 3 Empirical framework

To examine the effect of domestic economic conditions on dyadic aggression, we use Eq. 3.

$$DA_{ijym} = \beta PriceShock_{iym} + \mathbf{FE_{ij}} + \mathbf{FE_{ym}} + \epsilon_{ijym} \tag{3}$$

Note that the unit of observation is a dyad, composed of countries $i$ and $j$, with country $i$ being the "source" country that experiences the natural resource price shock. The outcome variable $DA_{ijym}$ is the index of aggressive interactions initiated by the government of country $i$ towards the government of country $j$, in month $m$ of year $y$, calculated as per Eq.1 above. $PriceShock_{iym}$ is, as per Eq.2, a quantified index which represents the global commodity price shock in the past three months, weighted by country $i$'s export structure. $\mathbf{FE_{ij}}$ is a vector of dyad fixed effects, which accounts for any time-invariant unobservables specific to the dyad $(i, j)$, such as geographic proximity or historical colonial affiliation. It also accounts for time-invariant unobservables relating to the countries making up the dyad, such as population or area in countries $i$ and $j$. $\mathbf{FE_{ym}}$ is a vector of year×month fixed effects, which accounts for time-varying unobservables, such as global economic conditions or changes in political landscapes as well as seasonal unobservables.[14]

The coefficient of interest, $\beta$, captures the effect of domestic economic conditions, as proxied by a natural resource price shock in country $i$, on aggression initiated by country $i$ towards country $j$. Since $DA_{ijym}$ is a quantification of dyadic *aggression*, a positive value for $\beta$ would indicate that country $i$ becomes *more* aggressive towards country $j$ when country $i$ experi-

[14]In Table B.3, we show that our estimates are also robust to alternative sets of fixed effects.

ences positive domestic economic conditions, and vice versa. To the extent that global natural resource price shocks are exogeneously determined, and accounting for time-variant and time-invariant unobservables, the coefficient $\beta$ can be interpreted causally. We discuss potential threats to identification in Section 3.1 below.

Table 2: Baseline estimates

| | (1) $DA_{ijym}$ | (2) $DA_{ijym}$ | (3) $DA_{ijym}$ |
|---|---|---|---|
| $PriceShock_{iym}$ | -0.0113*** | 0.0093*** | 0.0062*** |
| | (0.0011) | (0.0015) | (0.0017) |
| Observations | 4,179,240 | 4,179,240 | 4,179,240 |
| Dyad FE | No | Yes | Yes |
| Year FE | No | Yes | No |
| YearMonth FE | No | No | Yes |
| Mean $DA_{ijym}$ | 0.0185 | 0.0185 | 0.0185 |

The unit of measurement is a dyad-yearmonth. The dependent variable $DA_{ijym}$ is a standardized indicator of aggressive actions initiated by the government of country $i$, targeting the government of country $j$, in month $m$ of year $y$, as per Eq. 1). $PriceShock_{iym}$ is a quantified index which represents the global commodity price shock (past three months) weighted by country $i$'s export structure. Standard errors, clustered at the dyad level, are in parentheses. ***, **, * indicate significance at the 1, 5 and 10% level, respectively.

Table 2 presents the baseline estimates. In Column (1), we present estimates with no fixed effects. The coefficient here is negative, but no inference can be drawn from this coefficient because a range of time-invariant and time-variant unobservables could threaten it's causal interpretability. To address this concern, we gradually add sets of fixed effects in the next two columns. In Column (2) we first incorporate dyad and year fixed effects. In Column (3), where we present our preferred estimates, we include dyad, year and month fixed effects. The incorporation of these comprehensive sets of fixed effects considerably improves the precision and causal interpretability of our estimates. In summary, we find that a positive natural

resource price shock increases aggression from country $i$ towards country $j$. In terms of magnitude, the coefficient of in Column (3) suggests that a 1 standard deviation increase in $PriceShock_{iym}$ increases $DA_{ijym}$ by approximately 0.0017 percentage points, which is a sizable 9% increase over the sample mean of $DA_{ijym}$. As such, strong domestic economic conditions, proxied by increases in the value of domestic natural resources, increase aggressive interactions initiated by the source country towards other countries.

## 3.1 Threats to identification

A large literature in economics and political science exploits global commodity prices as "exogenous" shocks to identify causal relationships. (See for example, Brueckner and Ciccone (2010); Brueckner *et al.* (2012); Berman *et al.* (2017).) Within the context of our paper too, the exogenous nature of global commodity prices renders the coefficient $\beta$ causally interpretable. In this section, we discuss potential threats to this identifying assumption and how we address these within our setting.

A key threat to the identifying assumption arises from the potential for reverse causality. That is, just as we expect $PriceShock$ to affect $DA$ in Equation 3, could $DA$ affect $PriceShock$ as well? We address this concern in two ways. First, following Asher and Novosad (2023) the treatment variable $PriceShock_{iym}$ is calculated considering the cumulative change in prices in the three to one month *prior* to the contemporary month, while $DA$ is measured in the contemporary month. By definition therefore, the outcome variable cannot cause the treatment variable.

Second, the primary variation we exploit via $PriceShock_{iym}$ is derived from *global* fluctuations in natural resource prices. As with previous work in this literature, the underlying assumption here is that a single player/country cannot solely determine the level and variation in global prices. However, one may argue that certain countries are such large contributors to international trade that they can single-handedly affect the direction of global prices, which would render our estimates biased. A standard robustness check in this literature is to re-

estimate the baseline specification while excluding top producers of a given resource. (See for example, Berman *et al.* (2017).) In Table B.1 we conduct this test and show that the baseline estimates remain robust when excluding countries identified as top 5 producers of a given resource.

Another potential threat to the identifying assumption is related to simultaneity, i.e. that *DA* and *Price Shock* can be simultaneously determined by unobservable factors. Considering the retrospective nature of the $PriceShock_{iym}$ variable and the finely granular temporal unit of analysis (i.e. month) this seems a minute concern. Moreover, our baseline empirical strategy incorporates an extensive set of dyad and year × month fixed effects, which account for time-invariant dyad-specific unobservables, time-variant (annual) unobservables as well as any seasonal unobservables. Additionally, in Table B.3, we present estimates based on three alternative sets of fixed effects, which accounts for unobservables at different combinations of spatial and temporal dimensions. Despite these stringent sets of fixed effects too, the estimates remain quantitatively and qualitatively similar to the baseline estimates.

## 3.2 Robustness tests

The first set of robustness tests examine the sensitivity of the outcome variable to alternative decision rules. To start, recall that in the baseline estimates, we only considered events reported in at least 3 media articles. In Table B.2 we additionally present estimates based on events reported in at least 1 or 5 media articles, and they remain qualitatively and quantitatively similar to baseline estimates. Next, Table B.3 presents estimates with alternative sets of fixed effects. Column (1) incorporates dyad×year fixed effects along with month fixed effects. Column (2) is based on dyad fixed effects along with year×month fixed effects, while Column (3) includes dyad×month fixed effects and year fixed effects. Across the specifications, the estimates remain robust. In Table B.4, we use the number of aggressive dyadic events (i.e. the numerator of Eq. 1) as the outcome variable, instead of relative shares. Panel A presents estimates using the log transformed count variables, while Panel B presents estimates using

the inverse hyperbolic sine (IHS) transformed count variables. Reassuringly, the pattern observed in baseline estimates persists when using these alternative outcome variables as well. In Table B.5, we address any concerns relating the to the effects of pre-existing aggression between countries, by controlling for dyadic aggression in the previous period, i.e. $DA_{ijym-1}$. While acknowledging that the inclusion of an autoregressive term in the presence of unit fixed effects, as in this robustness test in Table B.5, gives rise to 'Nickell Bias", we find that the estimates remain robust to this inclusion as well.

The second set of robustness tests focus on the treatment variable. Recall that in Eq. 2, the time invariant component of the $PriceShock$ was based on the average export structure of country $i$ over the sample period. In Table B.6, we test the robustness of baseline estimates when basing the time invariant component to the export structure of country $i$ in the initial year of the sample period. Reassuringly, we observe that the estimates remain qualitatively and quantitatively similar to baseline estimates. Table B.7 restricts the treatment to large price shocks only, where "large" is defined as at least a 5% price shock, either positive or negative. The results remain similar to the baseline estimates, although the coefficient is slightly smaller, potentially due to the exclusion of a large portion of the variation in the treatment variable. In Table B.8 we observe that the effect holds when examining agricultural commodities and minerals/fuels separately. This suggests that the effect of the shock likely goes through an overall improvement of domestic economic conditions as the commodities exported by country $i$ become more valuable, ruling out the more complex channels through which point source resource shocks such as oil shocks work, for example by directly affecting government coffers and indirectly affecting local populations through government spending.

In Table B.9 we explore alternative definitions of the treatment variable. Column (1) provides the baseline estimates, based on the price shock up to 3 months prior to the contemporary month. Columns (2) and (3) expand the time horizon up to 6 and 12 months prior, and the effect remains statistically significant. This pattern is also observed when using log converted prices, in Columns (4), (5) and (6). We go one step further in Table B.10 by

aggregating the data set at the dyad×year level to examine the effect of yearly price shocks. As with the baseline estimates, in Column (1) we observe a negative effect when unit and time fixed effects are not incorporated. However in Column 2, when time-variant and time-invariant unobservables are accounted for via dyad and year fixed effects, we observe that natural resource price shocks have a positive effect on $DA$, at this unit of observation as well.

Taken together, the results in this section provide robust evidence that positive natural resource price shocks lead to an increase in aggressive international behavior by the affected country. The effect is statistically and economically significant, holds across a range of model specifications, and is not driven by a small set of countries, commodities, or definitional choices. Having established the baseline effect and addressed key threats to identification, we now turn to a deeper examination of the nature and strategic logic of this international aggression.

# 4 Mechanisms and Interpretation

What drives the surge in international aggression following positive natural resource shocks? While the preceding section demonstrates a robust relationship between economic windfalls and assertive foreign behavior, the motivations behind this pattern remain unclear. Governments may use their strengthened position to extract concessions through coercive diplomacy, consistent with a bargaining logic. Alternatively, they may escalate external conflicts to distract from domestic discontent, following the diversionary conflict hypothesis. A third possibility is that states engage in symbolic posturing aimed at enhancing their international standing—a form of status-seeking behavior. In this section, we examine the nature, targets, and strategic logic of these interactions. Across multiple empirical tests, we find little support for the bargaining or diversionary explanations, and show instead that the evidence aligns most closely with a status-seeking motive.

## 4.1 Nature of dyadic aggression

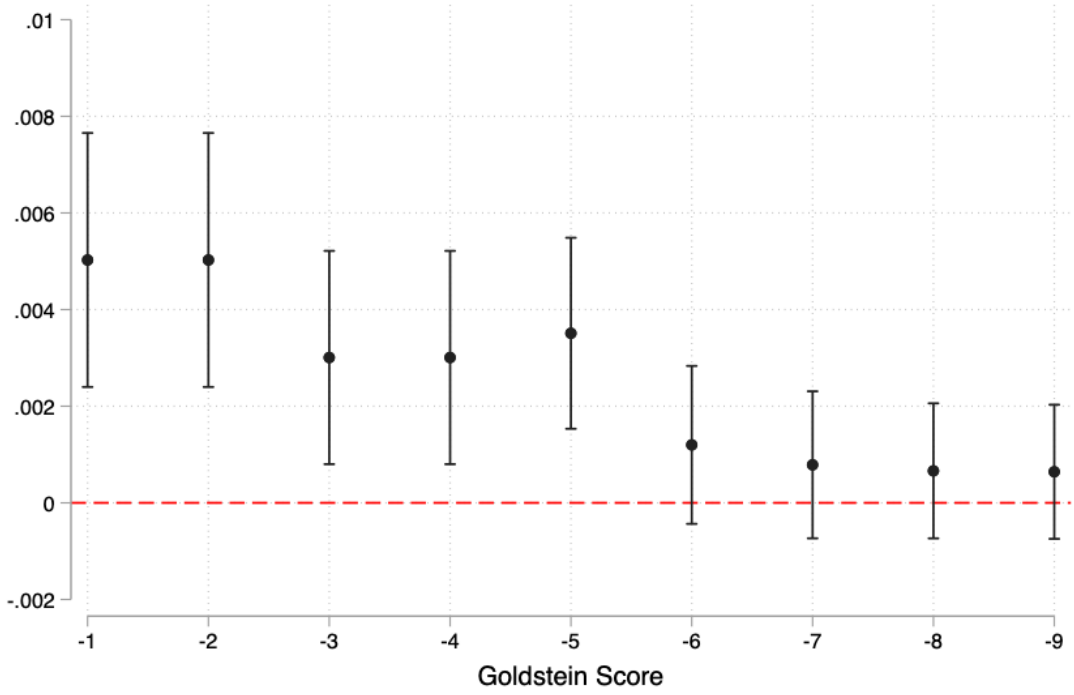
To understand the motivations behind increased international aggression following resource booms, we begin by examining the nature of the aggressive behavior itself. Is it costly and coercive, as we might expect from a bargaining strategy? Or is it symbolic and rhetorical, consistent with status signaling or low-risk domestic diversionary strategies?

Recall that in Eq.1, our $DA$ incorporates all aggressive events with Goldstein scores between 0 and -10 in the numerator. To disentangle the specific types of aggression driving our results, Figure 3 presents estimates using alternative Goldstein score thresholds ranging from -1 to -9, with more negative values representing increasingly material forms of aggression. Notably, the estimates remain robust and statistically significant for thresholds down to -6, but become statistically insignificant (though still positive) for more extreme negative values. When considered alongside the event categories and their associated Goldstein scores in Table 1, this pattern reveals that the effect on $DA$ stems primarily from *verbally aggressive* actions such as "reject", "disapprove", "demand" or "threaten". We don't observe an effect on *materially aggressive* events, such as "exhibit force", "fight" or "engage in unconventional mass violence". These patterns, combined with the short-term nature of the response, indicate that the aggression induced by commodity booms is primarily verbal and low-cost rather than material or escalatory.

To further investigate the character of this aggression, we consider several additional dimensions of dyadic interaction. First, we test whether the response to resource shocks reflects a general increase in international activity or is specific to aggression. If the former were true, we might also observe increases in cooperative behavior. Using the Dyadic Cooperation index ($DC_{ijym}$), defined analogously to $DA_{ijym}$ but restricted to positive Goldstein scores, we find no such pattern (Table B.11). This asymmetry supports the interpretation that the response is targeted and conflictual rather than broadly diplomatic.

Second, we examine whether the aggression is narrowly directed at foreign governments or whether it reflects a more generalized hostility toward actors within the target country.

Figure 3: Alternative cutoffs of Goldstein score




*Note:* The unit of measurement is a dyad-yearmonth. Figure shows the effect of $PriceShock_{iym}$ on $DA_{ijym}$. The dependent variable $DA_{ijym}$ is a standardized indicator of negative sentiments targeted at the government of country $i$, initiating from country $j$, as per Eq. 1), based on cutoffs of the Goldstein score, ranging from –1 to –9. $PriceShock_{iym}$ is a quantified index which represents the global mineral and fuel price shock (past three months) weighted by country $i$'s export structure. Each dot represents a separate regression estimate. Vertical bars depict 90% confidence intervals, clustered at the dyad level.

Table B.12 disaggregates aggression by target type. With the partial exception of businesses, we find no evidence of increased aggression toward civilians, elites, or political opposition. The response is thus concentrated on official state targets, not broader populations or interest groups.

Third, we ask whether this behavior is reactive—prompted by the actions or conditions of the target country—or unilateral. In Table B.13 we examine whether the aggression initiated by country $i$ depends on developments in country $j$. Specifically, in Column (1) we present estimates controlling for natural resource price shocks in country $j$. We observe that the coefficient remains identical to our preferred baseline estimates, suggesting that country $j$'s natural resource price shocks has a negligible impact on country $i$'s aggression towards country $j$. In Column (2), we control for aggression initiated by country $j$ towards country $i$ and again the coefficient remains quantitatively and qualitatively similar, suggesting that the baseline effect holds conditional on this control as well. In Column (3) we include both these controls together. These estimates confirm that the aggression initiated by country $i$ towards country $j$ is independent of the actions of country $j$. In other words, the aggression caused by the price shocks does not seem to be retaliatory in nature, but rather an attempt by country $i$ to appear in the world stage through posturing and aggressive rhetoric.

Together, these findings point to a form of strategic, symbolic aggression that is verbal, non-retaliatory, and targeted specifically at other states. This pattern is difficult to reconcile with a bargaining logic, which typically involves costly signals or material threats aimed at extracting concessions. However, the nature of the aggression remains consistent with both status-seeking and diversionary explanations, each of which may rely on low-cost, symbolic gestures to achieve different ends—international recognition in one case, domestic distraction in the other. Distinguishing between these two motivations requires further evidence on domestic political dynamics, which we turn to next.

## 4.2 Domestic Political Conditions

A central question in the study of international aggression is whether leaders lash out externally as a response to domestic vulnerability or as a projection of strength. Natural resource price booms provide a useful setting to evaluate this question. On one hand, positive resource shocks generate windfall revenues that can enhance state capacity and improve public goods provision, leading to reduced public discontent and increased approval of incumbent governments. In such contexts, leaders may use their enhanced domestic mandate to pursue assertive foreign policy goals, including symbolic displays of power aimed at boosting national prestige—what some scholars interpret as status-seeking behavior (Shayo, 2009).

On the other hand, resource booms can also exacerbate inequality, elite capture, and perceptions of corruption, particularly in weak institutional environments. This dynamic may produce domestic unrest, especially when the distribution of gains is seen as unjust. In such situations, governments may turn to international aggression not to signal strength, but to deflect attention from internal crises. This logic underpins the diversionary conflict hypothesis, which posits that external conflict can serve as a rallying tool for embattled leaders seeking to shore up domestic legitimacy by activating nationalist sentiment and focusing public attention on foreign adversaries (Amarasinghe, 2022; Morgan and Anderson, 1999; Leeds and Davis, 1997). If diversion is the dominant mechanism, we should observe increased aggression when public discontent is high. If, instead, status-seeking behavior drives the results, we would expect aggression to follow improvements in domestic sentiment. We now turn to empirical evidence to evaluate which logic best explains the patterns in our data.

To test which of these effects dominates, we generate an indicator of domestic Public Discontent, $PD$, following Amarasinghe (2022, 2023), which is based on the same logic as Eq.1, but limited to *domestic* interactions *targeting the government*. The index $PD_{iym}$ therefore expresses all domestic events targeting the government of country $i$ with a negative score on the Goldstein scale, as a share of total domestic events targeting the government. We then examine the effect of $PriceShock_{iym}$ on $PD_{iym}$ within a country×year-level panel data set.

Table 3: Effects on domestic public discontent

| | (1) $PD_{iym}$ | (2) $PD_{iym}$ |
|---|---|---|
| $PriceShock_{iym}$ | 0.0066 | -0.0852** |
| | (0.0087) | (0.0395) |
| Observations | 35,568 | 35,568 |
| Country FE | No | Yes |
| YearMonth FE | No | Yes |
| Mean $PD_{ijym}$ | 0.3006 | 0.3006 |

The unit of measurement is a country-yearmonth. The dependent variable $PD_{iym}$ is a standardized indicator of domestic aggressive actions, targeted at the government of country $i$, in month $m$ of year $y$. $PriceShock_{iym}$ is a quantified index which represents the global commodity price shock (past three months) weighted by country $i$'s export structure. Standard errors, clustered at the country×year level, are in parentheses. ***, **, * indicate significance at the 1, 5 and 10% level, respectively.

Table 3 provides these estimates. Estimates in Column (1) contains no fixed effects, while those in Column (2) incorporates country and year×month fixed effects to account for time-invariant and time-variant unobservables. Table 3 shows that positive price shocks significantly reduce domestic public discontent. This finding directly contradicts the diversionary conflict hypothesis, which predicts that leaders escalate international aggression when domestic dissatisfaction is *high*. Instead, we find that aggression increases following improvements in domestic approval, consistent with the view that resource windfalls create political space for symbolic assertion abroad.This is consistent with the view that international aggression functions as a status good in the sense of Shayo (2009): symbolic posture generates psychic utility for citizens, who experience increased national pride and identification.

## 4.3 Strategic Targeting: Economic and Institutional Determinants of Aggression

Next, we explore whether the strategic logic of resource-induced aggression depends on economic and institutional characteristics of the initiating state or the dyad. If governments are using aggression to extract concessions, we would expect them to target economically important partners or states with greater institutional capacity to respond. If, instead, aggression is symbolic and status-oriented, we would expect them to avoid high-stakes economic relationships and follow patterns consistent with low-cost signaling.

For this purpose, we use a generalized form of the econometric specification depicted in Eq. 4.

$$\begin{aligned} DA_{ijym} = \beta_1 PriceShock_{iym} \times \mathbf{X} + \beta_2 PriceShock_{iym} + \beta_3 \mathbf{X} \\ + \mathbf{FE_{ij}} + \mathbf{FE_{ym}} + \epsilon_{ijym} \end{aligned} \tag{4}$$

Here, $\mathbf{X}$ is a time-invariant, country-specific or dyad-specific indicator variable that groups

countries/dyads sharing the particular characteristic. As with baseline estimates, we include granular sets of fixed effects to capture a range of time-variant and time-invariant unobservables. The coefficient of interest, $\beta_1$, then captures the effect of $PriceShock_{iym}$ on countries/dyads sharing this characteristic.

### 4.3.1 Dyadic economic relationships

We start with economic relationships within dyads. On the one hand, it could be that country $i$ is mindful of the importance of country $j$ for its own economic survival, such that aggression is used in a manner that does not jeopardize such economic benefits. If this is the case, we would observe the majority of dyadic aggression being directed at countries less important in terms of economic relationships, a behavioral form which would be consistent with status-seeking, rather than bargaining. On the other hand, it could be that country $i$ uses its boosted economic condition due to the natural resource shock to pressurize economic partners in a manner that brings it further rewards. If this is country $i$'s agenda, we expect to observe the bulk of the aggression being directed at important economic partner countries.

We use three proxies to represent the strength of the economic relationship within a dyad. First, we examine the strength of the trade relationship between countries $i$ and $j$ using data on dyadic trade from UNCTAD. For each dyad, this dataset provides the value of natural resource exports and imports between country $i$ to country $j$ in a given year. It also provides the value of the total exports/imports from a given country to the rest of the world for each year of the sample. This allows us to identify the share of natural resources *exported* by country $i$ to country $j$, compared to country $i$'s total global exports. We also calculate the share of natural resources *imported* to country $i$ from country $j$, compared to country $i$'s total global imports. In addition to these indicators of export and import intensity, we generate a variable on the strength of the overall trade relationship by summing up these relative shares for each dyad. To avoid endogeneity concerns, we convert these to time-invariant indicators based on average values for the sample period.

Second, we complement this trade data using data on dyadic foreign direct investments (FDI), sourced from the GIDE database. Similar to the trade indicators, we obtain the values of the stock of inward and outward FDI within a dyad, and calculate their average values for the sample period, as an alternative proxy to gauge the economic importance of dyads. Third, we gauge the importance of capital flows within dyads using data on restated bilateral investment positions from Coppola *et al.* (2021). This data set provides information on a country's investments in securities issued by another country. Here too, we generate a time-invariant average value of securities investments between countries to signify the strength of the dyadic economic relationship.

Table 4: Dyadic economic relationships

| | (1) $DA_{ijym}$ | (2) $DA_{ijym}$ | (3) $DA_{ijym}$ | (4) $DA_{ijym}$ | (5) $DA_{ijym}$ | (6) $DA_{ijym}$ | (7) $DA_{ijym}$ |
|---|---|---|---|---|---|---|---|
| $PriceShock_{iym}$ | 0.0088*** | 0.0075*** | 0.0095*** | 0.0074*** | 0.0063*** | 0.0072 | 0.0005 |
| | (0.0016) | (0.0016) | (0.0016) | (0.0016) | (0.0017) | (0.0056) | (0.0066) |
| $PriceShock_{iym} \times AvgTrade_{ij}$ | -0.1619*** | | | | | | |
| | (0.0447) | | | | | | |
| $PriceShock_{iym} \times AvgExports_{ij}$ | | -0.1588*** | | | | | |
| | | (0.0604) | | | | | |
| $PriceShock_{iym} \times AvgImports_{ij}$ | | | -0.4182*** | | | | |
| | | | (0.0960) | | | | |
| $PriceShock_{iym} \times AvgFDI\ Inward\ Stock_{ij}$ | | | | -0.1478*** | | | |
| | | | | (0.0560) | | | |
| $PriceShock_{iym} \times AvgFDI\ Outward\ Stock_{ij}$ | | | | | -0.0065 | | |
| | | | | | (0.0125) | | |
| $PriceShock_{iym} \times Inward\ Investments_{ij}$ | | | | | | -0.0028*** | |
| | | | | | | (0.0010) | |
| $PriceShock_{iym} \times Outward\ Investments_{ij}$ | | | | | | | -0.0030*** |
| | | | | | | | (0.0007) |
| Observations | 4,179,240 | 4,179,240 | 4,179,240 | 4,179,240 | 4,179,240 | 862,068 | 862,068 |
| Dyad FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| YearMonth FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

The unit of measurement is a dyad-yearmonth. The dependent variable $DA_{ijym}$ is a standardized indicator of aggressive actions initiated by the government of country $i$, targeting the government of country $j$, in month $m$ of year $y$, as per Eq. 1). $PriceShock_{iym}$ is a quantified index which represents the global commodity price shock (past three months) weighted by country $i$'s export structure. $AvgExports_{ij}$ presents exports from country $i$ to country $j$, as a share of country $i$'s total exports, averaged over the sample period. $AvgImports_{ij}$ presents imports to country $i$ from country $j$, as a share of country $i$'s total imports, averaged over the sample period. $AvgTrade_{ij}$ represents the magnitude of the total trade relationship between countries $i$ and $j$, and is the sum of $AvgExports_{ij}$ and $AvgImports_{ij}$. $AvgFDI\ Inward\ Stock_{ij}$ and $AvgFDI\ Outward\ Stock_{ij}$ are the shares of the stock of foreign direct investments from country $i$ to country $j$ and from country $j$ to country $i$, respectively, averaged over the sample period. Standard errors, clustered at the dyad level, are in parentheses. ***, **, * indicate significance at the 1, 5 and 10% level, respectively.

Table 4 presents the estimates examining the importance of these economic relationships. Column (1) identifies trade partners at the aggregate level (i.e. exports and imports both), and we observe that dyadic aggression induced by natural resource price shocks is primarily targeted at countries who are *not* country $i$'s trade partners. In fact, we observe a statistically

and quantitatively strong reduction in dyadic aggression towards trade partner countries. In Columns (2) and (3), we observe that this effect persists for both export partners as well as import partners. In Column (4) we observe a statistically significant reduction in aggression towards countries who hold a high share of FDI in country $i$. Column (5) shows that there is a reduction in aggression towards countries in whom country $i$ maintains a high share of FDI, although this effect is imprecisely estimated. Finally, in Columns (6) and (7) we find, for the limited sub-sample of dyads for which such data is available, that countries important in terms of securities investments are less likely to be targeted by aggression.

Again, these patterns are inconsistent with a bargaining strategy, which would predict aggression directed at economically important partners to extract concessions. Instead, governments appear to selectively target peripheral or adversarial states, consistent with the pursuit of symbolic status gains that do not jeopardize core economic relationships.

#### 4.3.2 Income categories and political regimes

Next, we examine how dynamics in income and political regime differences within countries affect international relations.

Column (1) of Table 5 shows how the baseline effect differs based on country $i$'s income levels. We classify countries in to high, middle or low income countries based on the World Bank country income classification. We observe that middle and low income countries are more likely to engage in dyadic aggression following a price shock. Interestingly, we observe that dyadic aggression emanating from high income countries reduces following a resource price shock. What this reiterates is that, consequent to natural resource price shocks, dyadic aggression is primarily aimed at elevating status within the global hierarchy—a pursuit that may be unnecessary, or even risky, for large, high income countries, but which may be considered necessary for low and middle income countries.

Next, in Column (2) of Table 5, we examine the heterogeneity of baseline effects based on political regimes. We classify countries in to democracies, anocracies or autocracies based on

Table 5: Heterogeneity by income and political regime

| | (1) $DA_{ijym}$ | (2) $DA_{ijym}$ |
|---|---|---|
| $PriceShock_{iym} \times High\ Income_i$ | -0.0159*** | |
| | (0.0055) | |
| $PriceShock_{iym} \times Middle\ Income_i$ | 0.0054** | |
| | (0.0024) | |
| $PriceShock_{iym} \times Low\ Income_i$ | 0.0120*** | |
| | (0.0021) | |
| $PriceShock_{iym} \times Democracy_i$ | | 0.0077** |
| | | (0.0036) |
| $PriceShock_{iym} \times Anocracy_i$ | | 0.0112*** |
| | | (0.0022) |
| $PriceShock_{iym} \times Autocracy_i$ | | -0.0020 |
| | | (0.0030) |
| Observations | 4,135,464 | 3,754,800 |
| Dyad FE | Yes | Yes |
| YearMonth FE | Yes | Yes |

The unit of measurement is a dyad-yearmonth. The dependent variable $DA_{ijym}$ is a standardized indicator of aggressive actions initiated by the government of country $i$, targeting the government of country $j$, in month $m$ of year $y$, as per Eq. 1). $PriceShock_{iym}$ is a quantified index which represents the global commodity price shock (past three months) weighted by country $i$'s export structure. Standard errors, clustered at the dyad level, are in parentheses. ***, **, * indicate significance at the 1, 5 and 10% level, respectively.

their average polity scores over the sample period. Countries with polity scores above 5 are classified as democracies, while those with polity scores less than –5 are classified as autocracies. Countries with polity scores between 5 and –5 are classified as anocracies. Anocracies are political systems that blend democratic and autocratic features, often characterized by weak institutions and unstable governance. They usually hold elections, though these are often not fully free or fair. Interestingly, we find that democracies and anocracies are more likely to engage in dyadic aggression following a price shock. We do not find any such effects for autocracies. These estimates suggest that status-seeking behavior is predominant in contexts where electoral survival is relevant, even if the electoral process is not fully free and fair.

### 4.3.3 Symbolic Targeting and Salient Outgroups

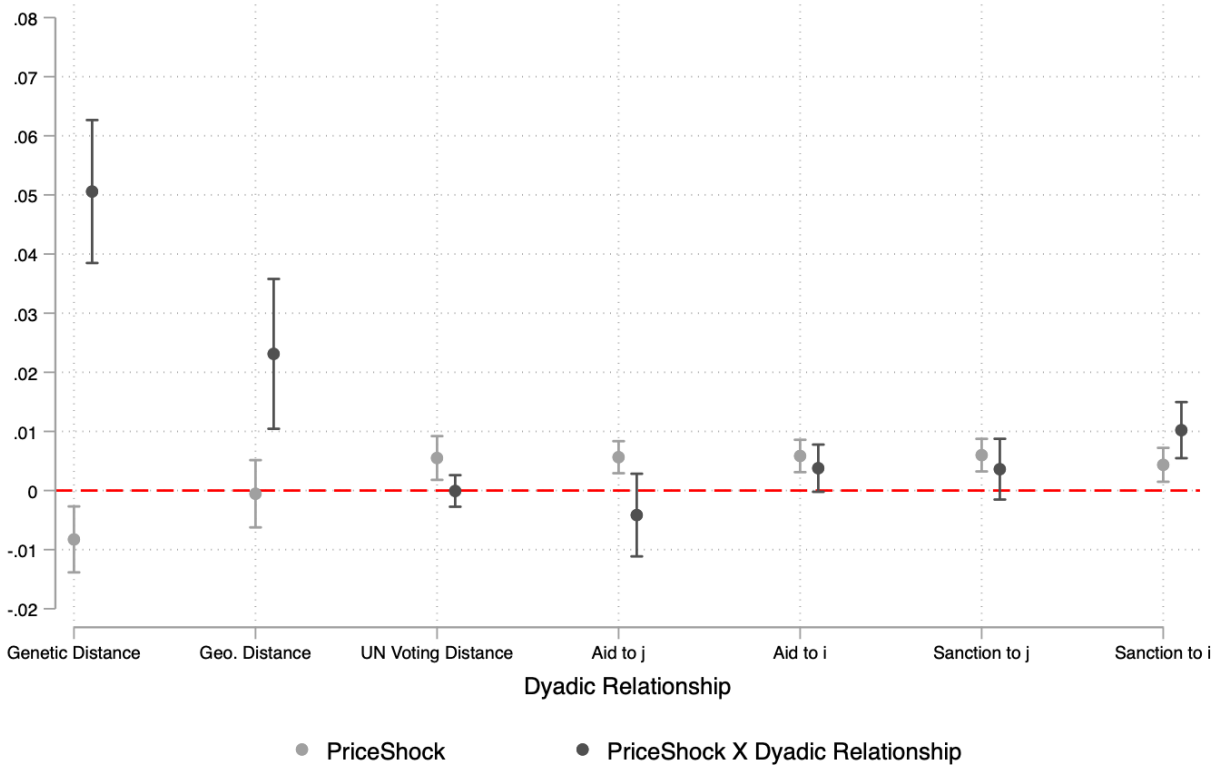
Beyond material and institutional determinants, we explore whether symbolic or identity-based factors shape the selection of targets in resource-induced aggression. Figure 4 summarizes the heterogeneity in dyadic responses along dimensions such as cultural distance, ideological alignment, aid relationships, and historical conflict markers. These relationships shed light on whether states strategically select foreign targets that resonate with domestic audiences, either as culturally distant outgroups or as historically adversarial actors.

Using data from Spolaore and Wacziarg (2016) we first consider connectivity between countries based on genetic and geographic distance. Interestingly, we find that price shocks increase dyadic aggression when countries are more distant genetically and geographically, suggesting that hostilities are targeted at perceived *outgroups*. This finding resonates with the idea of status-seeking behavior being mostly low-cost, whereby local governments do not want to engage in aggressive behavior against countries with which domestic audiences might have a sense of kinship or connection.

Turning to ideology, we use measures of ideological similarity between countries, based on data on UN voting distance (Voeten *et al.*, 2009). We do not find any statistically significant evidence that alignment on political viewpoints is incorporated in the decision to initiate

dyadic aggression. Likewise, we do not find differential effects based on countries which have awarded/received foreign aid. Interestingly, when using data on sanctions, we find evidence to suggest that aggression is more likely to be targeted at countries who have imposed sanctions on country $i$. This supports the notion that status-seeking aggression may also serve domestic political ends by posturing against historically adversarial states, thereby reinforcing national identity and unity.

Figure 4: Heterogeneity based on dyadic relationships




*Note:* The unit of measurement is a dyad-yearmonth. Each relationship category represents a separate regression estimate. All specifications include dyad fixed effects and yearmonth fixed effects. Vertical lines depict 90% confidence intervals, clustered at the dyad level.

### 4.3.4 Interpretation of Mechanisms

What explains the consistent pattern of aggression following resource windfalls? The evidence presented across this section points to a coherent mechanism: governments use commodity booms as opportunities to engage in symbolic, status-enhancing international behavior.

First, we find that the aggression induced by price shocks is overwhelmingly verbal rather than material. This suggests governments are not seeking to coerce or extract concessions—core elements of a bargaining strategy—but are instead engaging in low-cost, rhetorical displays that enhance visibility without provoking escalation. Such behavior is better understood as symbolic posturing rather than strategic bargaining.

Second, natural resource booms are associated with reductions in domestic public discontent. This stands in direct contrast to diversionary conflict theories, which predict that international aggression arises from internal instability or dissatisfaction. Instead, we find that governments are more assertive externally when they enjoy greater domestic approval, consistent with a logic in which strong political mandates create space for symbolic assertion abroad. These findings support the idea that aggression functions as a status good, generating national pride and reinforcing identity at home (Shayo, 2009).

Third, the strategic logic of this behavior is evident in governments' selective targeting. Countries avoid directing aggression toward their major trade partners and key sources of investment, suggesting that symbolic posturing is calibrated to avoid jeopardizing important economic ties. This pattern undermines the notion that aggression is being used as an instrument to renegotiate economic relationships—as bargaining theories would suggest—and instead reveals a calculated effort to elevate status while preserving material interests.

Fourth, we find that this behavior is concentrated among middle- and low-income countries, as well as in democracies and anocracies where public opinion imposes political constraints. These are precisely the contexts where external recognition may be most valuable—and where symbolic gestures can yield the greatest domestic return. High-income countries and autocracies, by contrast, show no such response, suggesting less incentive or political need to engage

in status-enhancing aggression.

Taken together, these findings systematically rule out the main alternative explanations. The aggression is not materially coercive (bargaining), not a response to domestic instability (diversion), and not directed at economically important partners (strategic leverage). Instead, it reflects a pattern of symbolic assertion that is low-cost, domestically resonant, and strategically targeted—all consistent with a status-seeking motive.

# 5 Leader characteristics

## 5.1 Leader Characteristics

Table 6: Heterogeneity based on leader characteristics

| | (1) $DA_{ijym}$ | (2) $DA_{ijym}$ | (3) $DA_{ijym}$ |
|---|---|---|---|
| $PriceShock_{iym}$ | -0.0001 | 0.0068*** | 0.0022 |
| | (0.0036) | (0.0017) | (0.0019) |
| $PriceShock_{iym} \times Male\ Leader_{iym}$ | 0.0069** | | |
| | (0.0032) | | |
| $PriceShock_{iym} \times Young\ Leader_{iym}$ | | 0.0009 | |
| | | (0.0011) | |
| $PriceShock_{iym} \times Military\ Leader_{iy}$ | | | 0.0090*** |
| | | | (0.0018) |
| Observations | 3,925,653 | 3,923,820 | 3,869,856 |
| Dyad FE | Yes | Yes | Yes |
| YearMonth FE | Yes | Yes | Yes |

The unit of measurement is a dyad-yearmonth. The dependent variable $DA_{ijym}$ is a standardized indicator of aggressive actions initiated by the government of country $i$, targeting the specific entities of country $j$, in month $m$ of year $y$. $PriceShock_{iym}$ is a quantified index which represents the global commodity price shock (past three months) weighted by country $i$'s export structure. $Male\ Leader_{iym}$ is a binary indicator =1 if the country's leader was a male. $Young\ Leader_{iym}$ is a binary indicator =1 if the age of the country's leader was less than 50 years. $Military\ Leader_{iy}$ is a binary indicator =1 if the leader had a military background. Standard errors, clustered at the dyad level, are in parentheses. ***, **, * indicate significance at the 1, 5 and 10% level, respectively.

Having established the role of economic and institutional context in shaping these be-

haviors, we next turn to the role of individual leaders. Do personal characteristics—such as ideology, risk tolerance, or electoral incentives—further condition whether governments respond to resource booms with international posturing? Leaders differ in their sensitivity to status incentives, willingness to assert themselves internationally, and strategic preferences. Recent work in political science suggests that traits like gender, military background, and age affect leaders' foreign policy decisions (Horowitz *et al.*, 2018; Kertzer, 2017; Saunders, 2011). These effects may be especially pronounced during periods of economic windfall, when discretionary policy space expands (Gallagher and Allen, 2014).

To investigate whether leader characteristics condition the relationship between natural resource shocks and international aggression, we interact commodity price shocks with leader-specific traits. Table 6 presents the results. In Columns (1) and (2), we use data from the Political Leaders' Affiliation Database (Bomprezzi *et al.*, 2025), which provides detailed information on the gender and age of political leaders. Column (1) includes an indicator for whether country $i$ was led by a male leader in month $m$ of year $y$. We find that natural resource shocks induce significantly more dyadic aggression under male leadership. In Column (2), we include an indicator for "young" leaders (defined as those under age 50), but do not find a statistically significant effect, suggesting that the status-seeking behavior observed in our baseline results is more characteristic of seasoned leaders.

Column (3) introduces an indicator for whether the leader has a military background, using data from the Database of Political Institutions (Scartascini *et al.*, 2018). Although this variable is available only at the yearly level, the results indicate that aggression following resource shocks is more pronounced when leaders have military experience. This finding is consistent with the idea that leaders with military backgrounds are more willing to engage in symbolic posturing or risk-prone international behavior.

These results highlight the importance of individual-level political characteristics in shaping how governments respond to economic windfalls. Even when structural incentives are similar, the propensity for status-driven international aggression is amplified under leaders

who are male, older, or have military experience.

# 6 Conclusion

This paper sheds new light on the domestic drivers of international aggression by examining how positive economic shocks—particularly natural resource price booms—affect states' behavior on the global stage. While much of the existing literature has emphasized material forms of international aggression, such as military conflicts or sanctions, we show that rhetorical and symbolic actions also play a central role. Leveraging a novel measure of dyadic verbal aggression and exploiting exogenous variation in global commodity prices, we find that resource-rich countries respond to economic windfalls by increasing aggressive international interactions. Crucially, this aggression is predominantly verbal rather than material, short-lived rather than escalatory, and targeted primarily at other governments—features inconsistent with coercive bargaining or diversionary conflict strategies.

Instead, our findings align most closely with a status-seeking logic. We show that international aggression increases when domestic public discontent falls, ruling out the diversionary hypothesis and suggesting that governments act from a position of strength rather than desperation. Further, countries avoid targeting major trade or investment partners and instead direct their aggression toward more distant or adversarial states, consistent with the strategic use of symbolic posturing that preserves core economic relationships. The fact that this behavior is concentrated in middle- and low-income democracies and anocracies—regimes where public opinion shapes elite incentives—suggests that leaders use international assertiveness as a means of projecting strength and reinforcing national identity when they have more degrees of freedom in the policy arena.

These patterns have important implications for international relations and global stability. As commodity prices fluctuate, particularly in resource-dependent economies, governments may increasingly turn to symbolic displays of aggression as a means of enhancing their global

profile. While such behavior may appear benign due to its verbal and non-material nature, it can contribute to heightened diplomatic tensions, especially when multiple rising powers engage in parallel posturing. Policymakers and international institutions should recognize the strategic logic underlying these actions—not as signs of imminent conflict, but as reflections of domestic strength and global ambition. Accounting for the political economy of status-seeking is thus critical to understanding the evolving dynamics of international cooperation and competition.

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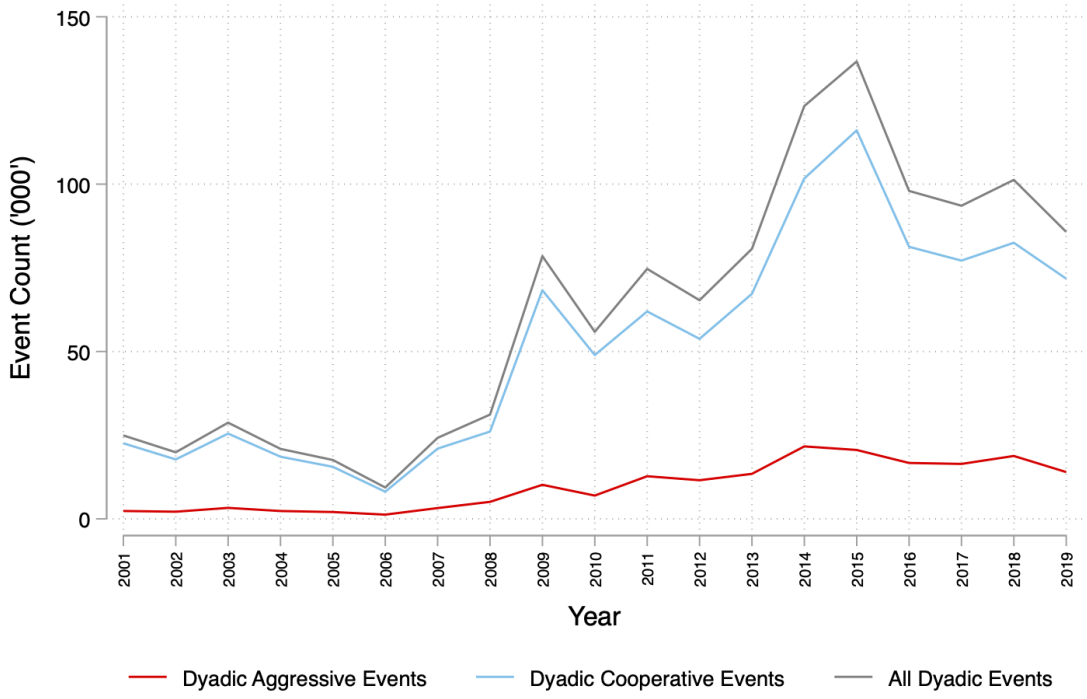
# Online Appendix

# Getting Along or Getting Ahead? The Domestic Roots of Status-Seeking in International Relations

Ashani Amarasinghe[1] and Kathryn Baragwanath[2]

## A Additional data description

Figure A.1: GDELT dyadic event distribution over time




*Note:* Figure shows the distribution of the total number of dyadic events, as well as of cooperative and aggressive events, over time, for the full sample period.

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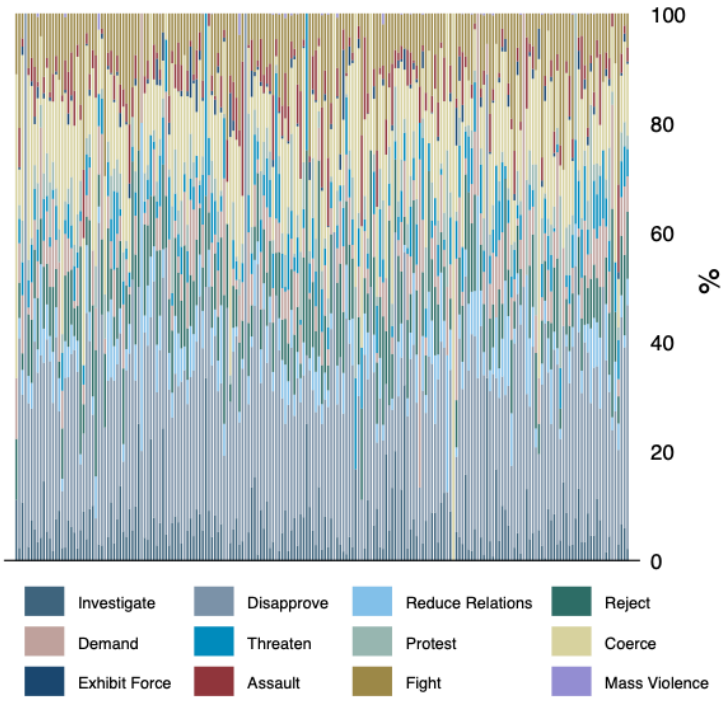
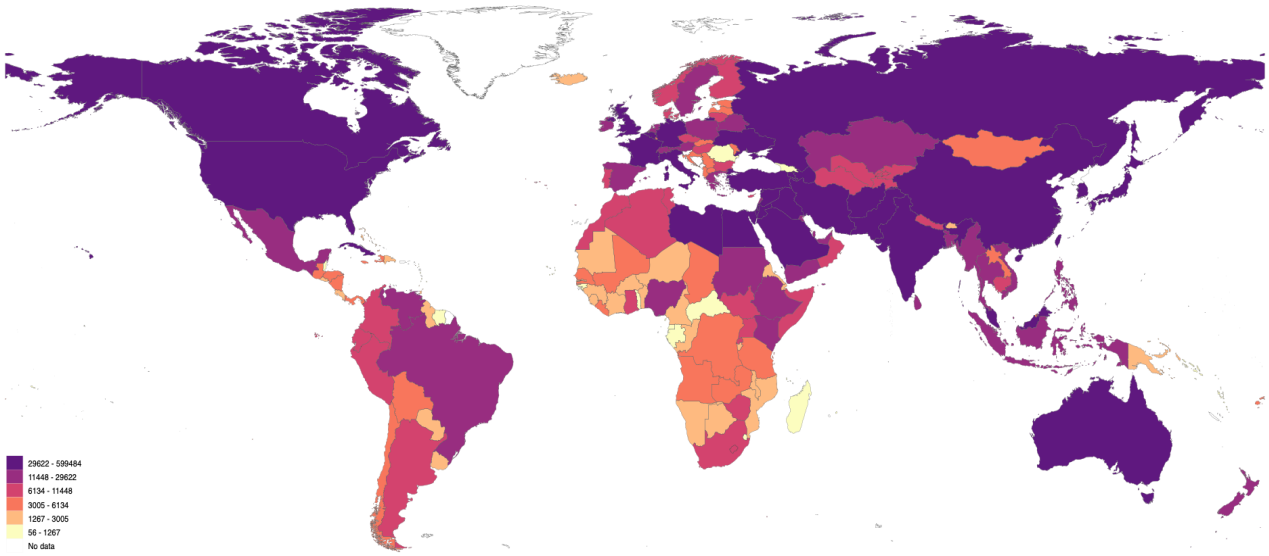
Figure A.2: Composition of $DA$



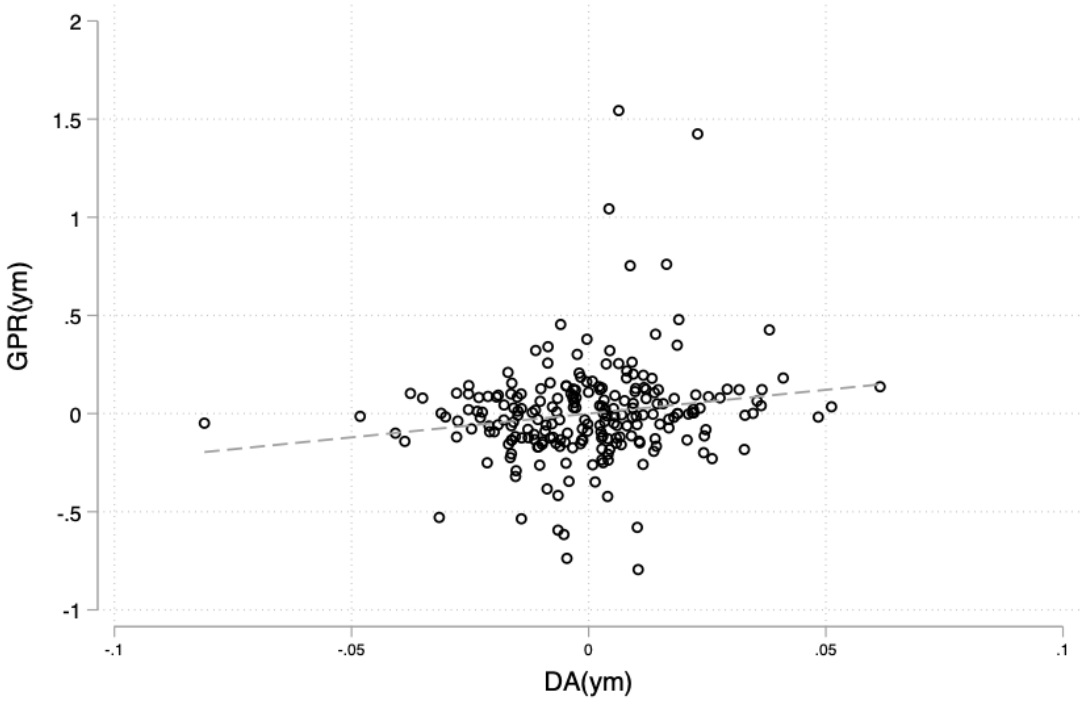

*Note:* Figure shows event categories included in the $DA$ index, for each country in the sample, for the full sample period. Each bar represents a country. The coloured components show the percentage share of the different event categories within the $DA$ index for the relevant country. $DA$ is calculated as per Equation 1.

Figure A.3: Country level variation in GDELT event counts



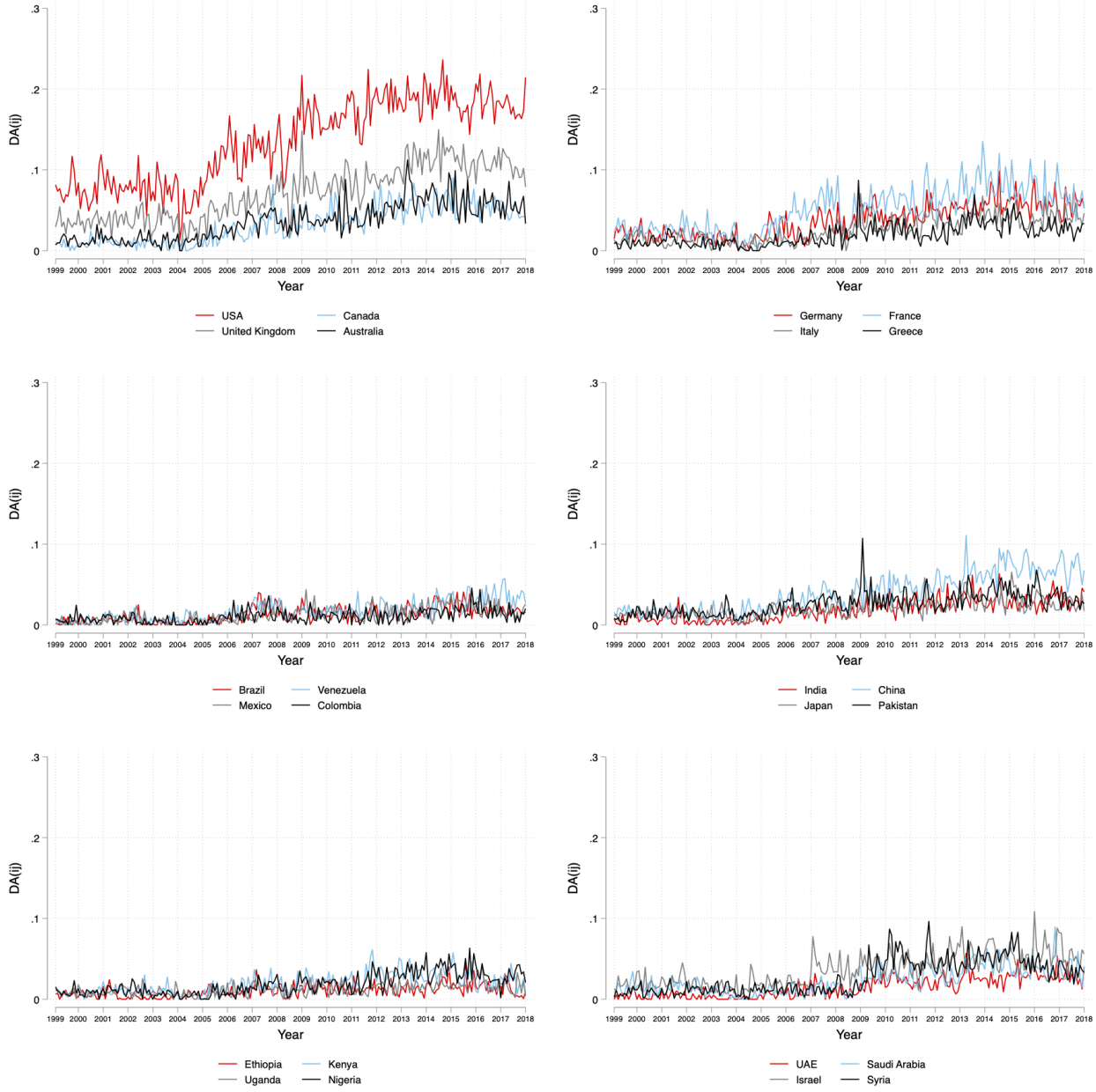

*Note:* Figure shows the total number of events initiated by country $i$, towards all other countries $j$, over the sample period.

Figure A.6: Correlation between $DA_{ym}$ and Geopolitical Risk Index as per Caldara and Iacoviello (2022)



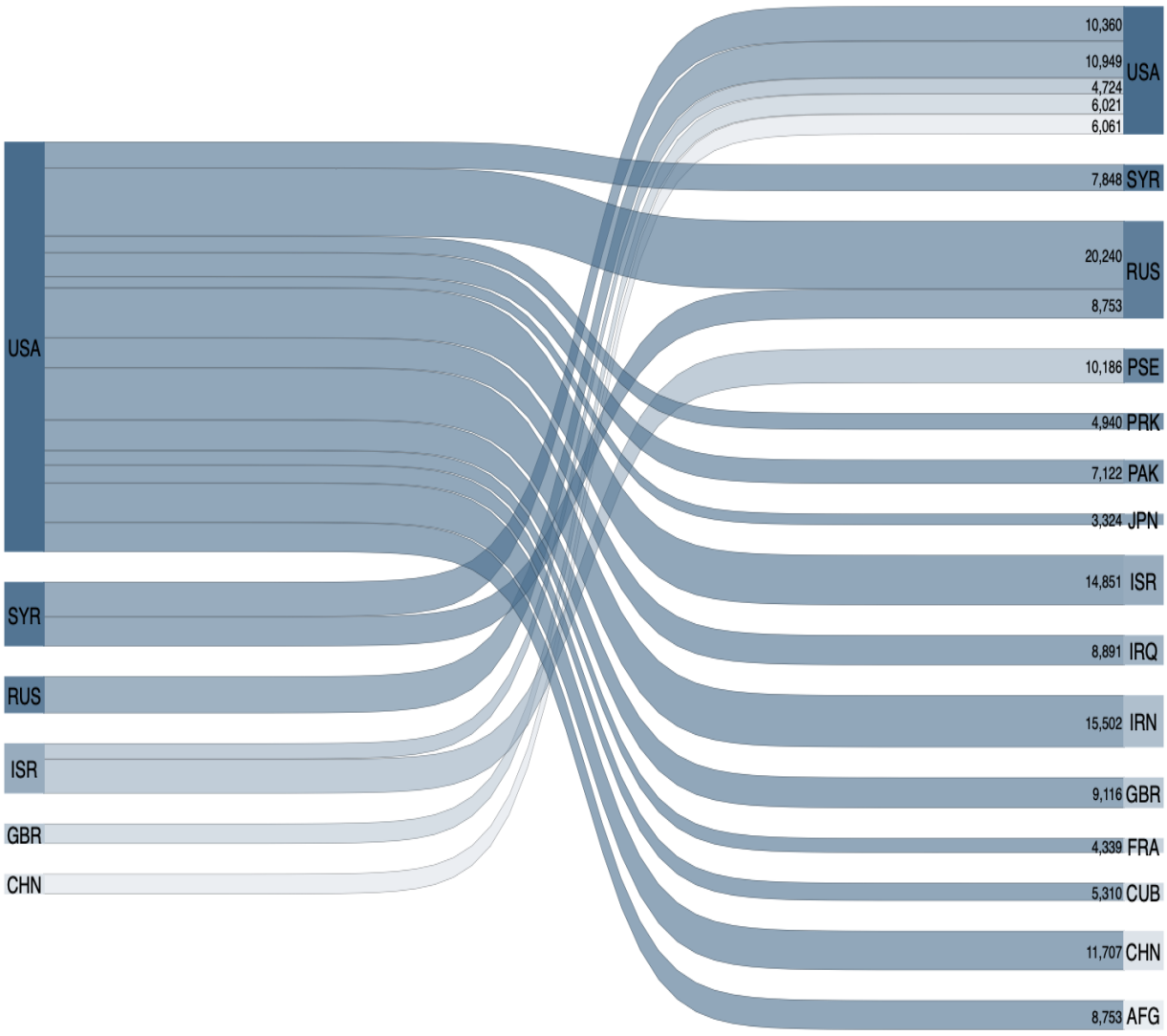

*Note:* Figure shows the correlation between $DA_{ym}$ and the Geo Political Risk index $GPR_{ym}$ as per Caldara and Iacoviello (2022). The unit of observation is a year×month. The $\beta$ coefficient, accounting for year and month fixed effects is 2.42 (p=0.016). Number of observations is 228.

Figure A.4: Over time variation in $DA$ for selected countries



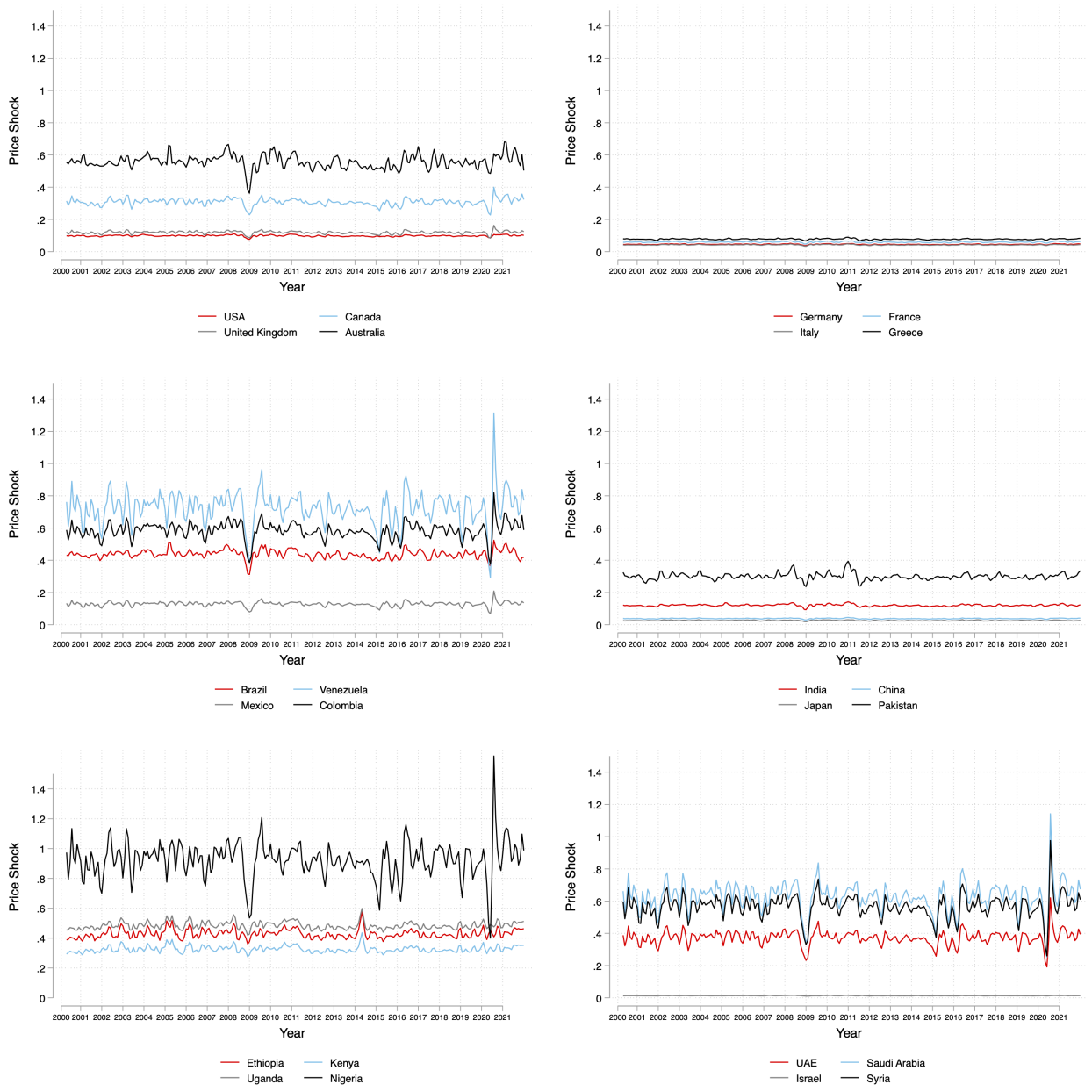

*Note:* Each line represents the overtime variation in $DA$ initiated by the relevant country $i$, towards all other countries $j$, over the sample period. $DA$ is calculated as per Equation 1.

Figure A.5: Dyadic interactions initiated by governments, recording a Goldstein score $< 0$, for the top 20 active dyads




*Note:* Figure shows number of interactions recording a Goldstein score $< -5$, between the top 20 most active dyads over the sample period. Dyadic interactions originate from the countries listed on the left of the figure, and are targeted at countries on the right of the figure.

Figure A.7: Over time variation in *Price Shock* for selected countries




*Note:* Each line represents the overtime variation in $DA$ initiated by the relevant country $i$, towards all other countries $j$, over the sample period. $DA$ is calculated as per Equation 1.

Table A.1: Correlation between $DA_{iym}$ and other indicators of dyadic relationships

| VARIABLES | (1) $DA_{ijy}$ | (2) $DA_{ijy}$ | (3) $DA_{ijy}$ | (4) $DA_{ijy}$ | (5) $DA_{ijy}$ | (6) $DA_{ijy}$ | (7) $DA_{ijy}$ | (8) $DA_{ijy}$ | (9) $DA_{ijy}$ | (10) $DA_{ijy}$ | (11) $DA_{ijy}$ | (12) $DA_{ijy}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $Sanctions_{ijy}$ | 0.0435*** | 0.0330*** | 0.0248*** | | | | | | | | | |
| | (0.0022) | (0.0022) | (0.0021) | | | | | | | | | |
| $UN\ Voting\ Distance_{ijy}$ | | | | 0.0216*** | 0.0068*** | 0.0059*** | | | | | | |
| | | | | (0.0010) | (0.0015) | (0.0014) | | | | | | |
| $Militarized\ Dispute_{ijy}$ | | | | | | | 0.2347*** | 0.0860*** | 0.0832*** | | | |
| | | | | | | | (0.0132) | (0.0117) | (0.0116) | | | |
| $Aid_{ijy}$ | | | | | | | | | | 0.0318*** | -0.0320*** | -0.0106*** |
| | | | | | | | | | | (0.0022) | (0.0022) | (0.0022) |
| Observations | 348,270 | 348,270 | 348,270 | 334,494 | 334,494 | 334,494 | 256,620 | 256,620 | 256,620 | 348,270 | 348,270 | 348,270 |
| R-squared | 0.0055 | 0.2024 | 0.2150 | 0.0086 | 0.2015 | 0.2152 | 0.0036 | 0.2163 | 0.2276 | 0.0020 | 0.2023 | 0.2145 |
| Dyad FE | No | Yes | Yes | No | Yes | Yes | No | Yes | Yes | No | Yes | Yes |
| Year FE | No | No | Yes | No | No | Yes | No | No | Yes | No | No | Yes |

The unit of measurement is a dyad-year. The dependent variable $DA_{ijym}$ is a standardized indicator of aggressive actions initiated by the government of country $i$, targeting the government of country $j$, in month $m$ of year $y$, as per Eq. 1). $Sanctions_{ijy}$ and $Aid_{ijy}$ is a binary indicator taking a value of 1 if country $i$ initiated sanctions or development assistance towards country $j$ in year $y$, and 0 otherwise, respectively. $UN\ Voting\ Distance_{ijy}$ is the distance in countries $i$ and $j$'s voting positions on UN resolutions. Standard errors, clustered at the dyad level, are in parentheses. ***, **, * indicate significance at the 1, 5 and 10% level, respectively.

Table A.2: Descriptive statistics

| | (1) *Observations* | (2) *Mean* | (3) *Standard Deviation* | (4) *Minimum* | (5) *Maximum* |
|---|---|---|---|---|---|
| $DA_{ijym}$ | 4,179,240 | 0.0185 | 0.117 | 0 | 1 |
| $DC_{ijym}$ | 4,179,240 | 0.0683 | 0.243 | 0 | 1 |
| $PriceShock_{iym}$ | 4,179,240 | 0.332 | 0.276 | 0.003 | 1.353 |

$DA_{ijym}$ is a standardized indicator of aggressive actions (i.e. Goldstein score $< 0$) initiated by the government of country $i$, targeting the government of country $j$, in month $m$ of year $y$, as per Eq. 1). $DC_{ijym}$ is a standardized indicator of cooperative actions (i.e. Goldstein score $> 0$) initiated by the government of country $i$, targeting the government of country $j$, in month $m$ of year $y$. $PriceShock_{iym}$ is a quantified index which represents the global commodity price shock (past three months) weighted by country $i$'s export structure.

# B Robustness tests

Table B.1: Excluding top producing countries for all commodities

| | (1) $DA_{ijym}$ | (2) $DA_{ijym}$ | (3) $DA_{ijym}$ |
|---|---|---|---|
| $PriceShock_{iym}$ | 0.0096*** | 0.0081*** | 0.0060** |
| | (0.0015) | (0.0027) | (0.0029) |
| Observations | 747,708 | 747,708 | 747,708 |
| Dyad FE | No | Yes | Yes |
| Year FE | No | Yes | No |
| YearMonth FE | No | No | Yes |
| Exclude | Top5 | Top5 | Top5 |
| Mean $DA_{ijym}$ | 0.0110 | 0.0110 | 0.0110 |

The unit of measurement is a dyad-yearmonth. The dependent variable $DA_{ijym}$ is a standardized indicator of aggressive actions initiated by the government of country $i$, targeting the government of country $j$, in month $m$ of year $y$, as per Eq. 1). $PriceShock_{iym}$ is a quantified index which represents the global commodity price shock (past three months) weighted by country $i$'s export structure. Standard errors, clustered at the dyad level, are in parentheses. ***, **, * indicate significance at the 1, 5 and 10% level, respectively.

Table B.2: $DA$ based on alternative number of reports on events

| | (1) $DA_{ijym}$ | (2) $DA_{ijym}$ | (3) $DA_{ijym}$ |
|---|---|---|---|
| $PriceShock_{iym}$ | 0.0062*** | 0.0062*** | 0.0031** |
| | (0.0017) | (0.0017) | (0.0016) |
| Observations | 4,179,240 | 4,179,240 | 4,179,240 |
| Dyad FE | No | Yes | Yes |
| Year FE | No | Yes | No |
| YearMonth FE | No | No | Yes |
| No. of articles reporting an event | 1 | 3 | 5 |
| Mean $DA_{ijym}$ | 0.0185 | 0.0185 | 0.0185 |

The unit of measurement is a dyad-yearmonth. TThe dependent variable $DA_{ijym}$ is a standardized indicator of aggressive actions initiated by the government of country $i$, targeting the government of country $j$, in month $m$ of year $y$, as per Eq. 1). $PriceShock_{iym}$ is a quantified index which represents the global commodity price shock (past three months) weighted by country $i$'s export structure. Standard errors, clustered at the dyad level, are in parentheses. ***, **, * indicate significance at the 1, 5 and 10% level, respectively.

Table B.3: Alternative sets of fixed effects

| | (1) $DA_{ijym}$ | (2) $DA_{ijym}$ | (3) $DA_{ijym}$ |
|---|---|---|---|
| $PriceShock_{iym}$ | 0.0097*** | 0.0074*** | 0.0108*** |
| | (0.0015) | (0.0015) | (0.0015) |
| Observations | 4,179,240 | 4,179,240 | 4,179,240 |
| Dyad FE | Yes | No | No |
| Year FE | Yes | No | Yes |
| Month FE | Yes | Yes | No |
| DyadYear FE | No | Yes | No |
| DyadMonth FE | No | No | Yes |
| Mean $DA_{ijym}$ | 0.0185 | 0.0185 | 0.0185 |

The unit of measurement is a dyad-yearmonth. The dependent variable $DA_{ijym}$ is a standardized indicator of aggressive actions initiated by the government of country $i$, targeting the government of country $j$, in month $m$ of year $y$, as per Eq. 1). $PriceShock_{iym}$ is a quantified index which represents the global commodity price shock (past three months) weighted by country $i$'s export structure. Standard errors, clustered at the dyad level, are in parentheses. ***, **, * indicate significance at the 1, 5 and 10% level, respectively.

Table B.4: $DA$ based on Log and IHS-transformed event counts

| | (1) $DA_{ijym}$ | (2) $DA_{ijym}$ | (3) $DA_{ijym}$ |
|---|---|---|---|
| **Panel A - Outcome: Log transformed event counts** | | | |
| $PriceShock_{iym}$ | -0.0330*** | 0.0177*** | 0.0108*** |
| | (0.0045) | (0.0030) | (0.0035) |
| Mean $DA_{ijym}$ | 0.0422 | 0.0422 | 0.0422 |
| **Panel B - Outcome: IHS transformed event counts** | | | |
| $PriceShock_{iym}$ | -0.0416*** | 0.0227*** | 0.0141*** |
| | (0.0056) | (0.0037) | (0.0043) |
| Mean $DA_{ijym}$ | 0.0535 | 0.0535 | 0.0535 |
| Observations | 4,179,240 | 4,179,240 | 4,179,240 |
| Dyad FE | Yes | Yes | Yes |
| YearMonth FE | Yes | Yes | Yes |

The unit of measurement is a dyad-yearmonth. The dependent variable in Panel A is the long transformed number of events with a negative Goldstein score, initiated by the government of country $i$, targeting the government of country $j$, in month $m$ of year $y$. The dependent variable in Panel A is the Inverse Hyperbolic Sine (IHS)transformed number of events with a negative Goldstein score, initiated by the government of country $i$, targeting the government of country $j$, in month $m$ of year $y$. $PriceShock_{iym}$ is a quantified index which represents the global commodity price shock (past three months) weighted by country $i$'s export structure. Standard errors, clustered at the dyad level, are in parentheses. ***, **, * indicate significance at the 1, 5 and 10% level, respectively.

Table B.5: Controlling for $DA_{ijym-1}$

| | (1) $DA_{ijym}$ | (2) $DA_{ijym}$ | (3) $DA_{ijym}$ |
|---|---|---|---|
| $PriceShock_{iym}$ | -0.0090*** | 0.0085*** | 0.0057*** |
| | (0.0009) | (0.0014) | (0.0016) |
| Observations | 4,179,240 | 4,179,240 | 4,179,240 |
| Dyad FE | No | Yes | Yes |
| Year FE | No | Yes | No |
| YearMonth FE | No | No | Yes |
| $DA_{ijym-1}$ | No | No | Yes |
| Mean $DA_{ijym}$ | 0.0185 | 0.0185 | 0.0185 |

The unit of measurement is a dyad-yearmonth. The dependent variable $DA_{ijym}$ is a standardized indicator of aggressive actions initiated by the government of country $i$, targeting the government of country $j$, in month $m$ of year $y$, as per Eq. 1). $PriceShock_{iym}$ is a quantified index which represents the global commodity price shock (past three months) weighted by country $i$'s export structure. Standard errors, clustered at the dyad level, are in parentheses. ***, **, * indicate significance at the 1, 5 and 10% level, respectively.

Table B.6: Using export structure of the initial year of the sample period

| | (1) $DA_{ijym}$ | (2) $DA_{ijym}$ | (3) $DA_{ijym}$ |
|---|---|---|---|
| $PriceShock_{iym}$ | -0.0098*** | 0.0073*** | 0.0044*** |
| | (0.0011) | (0.0013) | (0.0015) |
| Observations | 4,179,240 | 4,179,240 | 4,179,240 |
| Dyad FE | No | Yes | Yes |
| Year FE | No | Yes | No |
| YearMonth FE | No | No | Yes |
| Mean $DA_{ijym}$ | 0.0185 | 0.0185 | 0.0185 |

The unit of measurement is a dyad-yearmonth. The dependent variable $DA_{ijym}$ is a standardized indicator of aggressive actions initiated by the government of country $i$, targeting the government of country $j$, in month $m$ of year $y$, as per Eq. 1). $PriceShock_{iym}$ is a quantified index which represents the global commodity price shock (past three months) weighted by country $i$'s export structure in the initial year of the sample period. Standard errors, clustered at the dyad level, are in parentheses. ***, **, * indicate significance at the 1, 5 and 10% level, respectively.

Table B.7: Effects of "large" price shocks

| | (1) $DA_{ijym}$ | (2) $DA_{ijym}$ | (3) $DA_{ijym}$ |
|---|---|---|---|
| $PriceShock_{iym}$ | -0.0065*** | 0.0020*** | 0.0021*** |
| | (0.0010) | (0.0003) | (0.0004) |
| Observations | 4,179,240 | 4,179,240 | 4,179,240 |
| Dyad FE | No | Yes | Yes |
| Year FE | No | Yes | No |
| YearMonth FE | No | No | Yes |
| Mean $DA_{ijym}$ | 0.0185 | 0.0185 | 0.0185 |

The unit of measurement is a dyad-yearmonth. The dependent variable $DA_{ijym}$ is a standardized indicator of aggressive actions initiated by the government of country $i$, targeting the government of country $j$, in month $m$ of year $y$, as per Eq. 1). $PriceShock_{iym}$ is a quantified index which represents the global commodity price shock (past three months) weighted by country $i$'s export structure, where the shock is at least a 5% increase/decrease. Standard errors, clustered at the dyad level, are in parentheses. ***, **, * indicate significance at the 1, 5 and 10% level, respectively.

Table B.8: Price shocks by commodity type

| | (1) $DA_{ijym}$ | (2) $DA_{ijym}$ |
|---|---|---|
| $Agri\ PriceShock_{iym}$ | 0.0235*** | |
| | (0.0039) | |
| $Minerals/Fuels\ PriceShock_{iym}$ | | 0.0041** |
| | | (0.0017) |
| Observations | 4,179,240 | 4,179,240 |
| Dyad FE | Yes | Yes |
| YearMonth FE | Yes | Yes |
| Mean $DA_{ijym}$ | 0.0185 | 0.0185 |

The unit of measurement is a dyad-yearmonth. The dependent variable $DA_{ijym}$ is a standardized indicator of aggressive actions initiated by the government of country $i$, targeting the government of country $j$, in month $m$ of year $y$, as per Eq. 1). $PriceShock_{iym}$ is a quantified index which represents the global commodity price shock (past three months), for the relevant commodity type, weighted by country $i$'s export structure. Standard errors, clustered at the dyad level, are in parentheses. ***, **, * indicate significance at the 1, 5 and 10% level, respectively.

Table B.9: Alternative definitions of *Price Shock*

| | (1) $DA_{ijym}$ | (2) $DA_{ijym}$ | (3) $DA_{ijym}$ | (4) $DA_{ijym}$ | (5) $DA_{ijym}$ | (6) $DA_{ijym}$ |
|---|---|---|---|---|---|---|
| $PriceShock_{iy,m-3,m-1}$ (Baseline) | 0.0062*** | | | | | |
| | (0.0017) | | | | | |
| $PriceShock_{iy,m-6,m-1}$ | | 0.0044*** | | | | |
| | | (0.0011) | | | | |
| $PriceShock_{iy,m-12,m-1}$ | | | 0.0030*** | | | |
| | | | (0.0009) | | | |
| $Log\ PriceShock_{iy,m-3,m-1}$ | | | | 0.0056*** | | |
| | | | | (0.0016) | | |
| $Log\ PriceShock_{iy,m-6,m-1}$ | | | | | 0.0041*** | |
| | | | | | (0.0010) | |
| $Log\ PriceShock_{iy,m-12,m-1}$ | | | | | | 0.0028*** |
| | | | | | | (0.0009) |
| Observations | 4,179,240 | 4,179,240 | 4,179,240 | 4,179,240 | 4,179,240 | 4,179,240 |
| Dyad FE | Yes | Yes | Yes | Yes | Yes | Yes |
| YearMonth FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Mean $DA_{ijym}$ | 0.0185 | 0.0185 | 0.0185 | 0.0185 | 0.0185 | 0.0185 |

The unit of measurement is a dyad-yearmonth. The dependent variable $DA_{ijym}$ is a standardized indicator of aggressive actions initiated by the government of country $i$, targeting the government of country $j$, in month $m$ of year $y$, as per Eq. 1). $PriceShock_{iy,m-3,m-1}$, $PriceShock_{iy,m-6,m-1}$ and $PriceShock_{iy,m-12,m-1}$ are quantified indices which represents the global commodity price shocks in the past three, six and twelve months, respectively, weighted by country $i$'s export structure. $Log\ PriceShock_{iy,m-3,m-1}$, $Log\ PriceShock_{iy,m-12,m-1}$ and $Log\ PriceShock_{iy,m-12,m-1}$ use log converted prices. Standard errors, clustered at the dyad level, are in parentheses. ***, **, * indicate significance at the 1, 5 and 10% level, respectively.

Table B.10: Annual price shocks

| | (1) $DA_{ijy}$ | (2) $DA_{ijy}$ |
|---|---|---|
| $PriceShock_{iy}$ | -0.0260*** | 0.0104** |
| | (0.0020) | (0.0050) |
| Observations | 348,270 | 348,270 |
| Dyad FE | No | Yes |
| Year FE | No | Yes |

The unit of measurement is a dyad-year. The dependent variable $DA_{ijym}$ is a standardized indicator of aggressive actions initiated by the government of country $i$, targeting the government of country $j$, in year $y$. $PriceShock_{iy}$ is a quantified index which represents the global commodity price shock of the past year weighted by country $i$'s export structure. Standard errors, clustered at the dyad level, are in parentheses. ***, **, * indicate significance at the 1, 5 and 10% level, respectively.

Table B.11: Effect on dyadic cooperation

| | (1) $DC_{ijym}$ | (2) $DC_{ijym}$ |
|---|---|---|
| $PriceShock_{iym}$ | -0.0365*** | 0.0016 |
| | (0.0031) | (0.0033) |
| Observations | 4,179,240 | 4,179,240 |
| Dyad FE | No | Yes |
| YearMonth FE | No | Yes |
| Mean $DC_{ijym}$ | 0.0683 | 0.0683 |

The unit of measurement is a dyad-yearmonth. The dependent variable $DC_{ijym}$ is a standardized indicator of cooperative actions initiated by the government of country $i$, targeting the government of country $j$, in month $m$ of year $y$. $PriceShock_{iym}$ is a quantified index which represents the global commodity price shock (past three months) weighted by country $i$'s export structure. Standard errors, clustered at the dyad level, are in parentheses. ***, **, * indicate significance at the 1, 5 and 10% level, respectively.

Table B.12: Effect on $DA$ targeted at alternative entities

| | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|
| | $DA_{ijym}$ | $DA_{ijym}$ | $DA_{ijym}$ | $DA_{ijym}$ | $DA_{ijym}$ |
| Target | Business | Opposition | Elites | Medical | Civilians |
| $PriceShock_{iym}$ | 0.0006* | 0.0002 | 0.0003 | -0.0003 | -0.0002 |
| | (0.0003) | (0.0003) | (0.0004) | (0.0006) | (0.0005) |
| Observations | 4,179,240 | 4,179,240 | 4,179,240 | 4,179,240 | 4,179,240 |
| Dyad FE | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes |
| Month FE | Yes | Yes | Yes | Yes | Yes |
| Mean $DA_{ijym}$ | 0.0006 | 0.0003 | 0.0007 | 0.0021 | 0.0011 |

The unit of measurement is a dyad-yearmonth. The dependent variable $DA_{ijym}$ is a standardized indicator of aggressive actions initiated by the government of country $i$, targeting the specific entities of country $j$, in month $m$ of year $y$. $PriceShock_{iym}$ is a quantified index which represents the global commodity price shock (past three months) weighted by country $i$'s export structure. Standard errors, clustered at the dyad level, are in parentheses. ***, **, * indicate significance at the 1, 5 and 10% level, respectively.

Table B.13: Controlling for $PriceShock_{jym}$ and $DA_{jiym}$

| | (1) $DA_{ijym}$ | (2) $DA_{ijym}$ | (3) $DA_{ijym}$ |
|---|---|---|---|
| $PriceShock_{iym}$ | 0.0062*** | 0.0059*** | 0.0059*** |
| | (0.0017) | (0.0016) | (0.0016) |
| Observations | 4,179,240 | 4,179,240 | 4,179,240 |
| Dyad FE | Yes | Yes | Yes |
| YearMonth FE | Yes | Yes | Yes |
| $PriceShock_{jym}$ | Yes | No | Yes |
| $DA_{jiym}$ | No | Yes | Yes |
| Mean $DA_{ijym}$ | 0.0185 | 0.0185 | 0.0185 |

The unit of measurement is a dyad-yearmonth. The dependent variable $DA_{ijym}$ is a standardized indicator of aggressive actions initiated by the government of country $i$, targeting the government of country $j$, in month $m$ of year $y$, as per Eq. 1). $PriceShock_{iym}$ is a quantified index which represents the global commodity price shock (past three months) weighted by country $i$'s export structure. Standard errors, clustered at the dyad level, are in parentheses. ***, **, * indicate significance at the 1, 5 and 10% level, respectively.