Hegemonic Competition with Carrots and Sticks*

Timothy Meyer† Nicolas Wesseler ‡

Job Market Paper

October 28, 2025

Link to Latest Version Here

Abstract

Hegemonic powers use economic tools to influence the geopolitical alignment of third countries. We develop a bargaining model in which two competing hegemons use direct payments (*carrots*) and economic threats (*sticks*) to influence third countries. Guided by the model, we measure carrots and sticks using historical data from the Cold War. We use our measures to empirically estimate the effects of carrots and sticks on geopolitical alignment. These tools create political alignment, but are expensive. We combine the model with the empirical estimates to compute the geopolitical return on foreign aid and evaluate the consequences of the USAID shutdown for the modern U.S.–China competition.

Keywords: Geoeconomics, Hegemonic Competition, Economic Statecraft, Cold War
JEL-Codes: F02, F12, F35, F51, N10

*Timothy Meyer thanks Moritz Schularick, Farzad Saidi, Jón Steinsson and Christoph Trebesch for their invaluable guidance and support. We thank Jan David Bakker, Matilde Bombardini, Alicia Chen, Antonio Coppola, Arnaud Costinot, Ernesto Dal Bó, Fabian Eckert, Jonathan Federle, Andreas Fuchs, Michela Giorchelli, Yuriy Gorodnichenko, Keith Head, Sebastian Horn, Réka Juhász, Ken Kikkawa, Ethan Kapstein, Benny Kleinmann, Ohyun Kwon, Ernest Liu, Matteo Maggiori, Michaela Mattes, Cathrin Mohr, Emi Nakamura, Nathan Nunn, Emanuel Ornelas, Scott Orr, Michael Porcellacchia, Constantinos Syropoulos, Chenzi Xu and participants at various conferences and seminars for very helpful comments. We further thank George Breslauer and Christian Methfessel for advice on the historical context and Jonathan Federle and Yoto Yotov for sharing data.

†University of Bonn and Kiel Institute. E-mail: timothy.meyer@uni-bonn.de
‡UBC Sauder School of Business. E-mail: nicolas.wesseler@sauder.ubc.ca

1 Introduction

Hegemonic competition between the U.S. and China has reemerged on the global landscape. A key aspect of this competition is the use of economic tools to induce third countries to take actions in line with a hegemon. In recent months for instance, the United States has threatened tariffs to deter countries from developing alternative payment systems that could undermine the dollar. Meanwhile, China has emerged as the world's largest non-democratic aid donor and has used its influence to ask members of the Belt and Road Initiative to curtail relations with Taiwan.[1]

The use of economic tools to achieve geopolitical goals has a long history. Broadly speaking, the international relations literature has categorized these tools into *carrots* – incentives offered to countries – and *sticks* – threats to punish unwanted behavior (Baldwin, 1985). In this classification, foreign aid and infrastructure investments act as carrots, while threats of sanctions or tariffs act as sticks. While these tools have been used for centuries, we know little about their effectiveness and how they interact when wielded by competing hegemons.

This paper studies the effectiveness and interaction of economic carrots and sticks using a defining episode of hegemonic competition: the Cold War. Guided by a model in which the U.S. and Soviet Union use both carrots and sticks to shift the geopolitical alignment of neutral countries, we measure the size of these tools using newly constructed historical data. We estimate the effects of carrots and sticks on geopolitical alignment using a shift-share instrument for foreign aid and exogenous variation in trade dependence. We find that carrots and sticks work, but obtaining alignment using economic tools is expensive for hegemons.

Our findings not only have relevance for the past, but also for the present. We combine the model with the empirical estimates to study the consequences of the USAID shutdown for the modern U.S.-China competition. Our counterfactual exercise indicates that China responds by decreasing its aid. While the USAID shutdown creates an opportunity for China to step in, the absence of competition ultimately allows China to buy alignment at a lower cost. The world shifts away from the U.S., with countries initially more aligned with the U.S. potentially moving the most.

We begin by developing a bargaining model of hegemonic competition that incorporates both carrots (payments) and sticks (economic threats) to formalize these concepts and guide our empirical analysis. The model features two hegemons competing for the alignment of a collection of countries. The hegemons and target countries each have preferences over consumption and geopolitical alignment.[2] Hegemons use two

[1] See Reuters (U.S.) and the Atlantic Council (China); recent events provide many other examples.

[2] Alignment is broadly defined to encompass various dimensions, such as the form of government,

tools to affect alignment in third countries. First, hegemons can use *carrots*, i.e., direct payments to countries. Second, hegemons can use trade as a *stick* and make threats of sanctions, in line with the recent literature in geoeconomics (Clayton et al., 2025b,c). To capture these threats, we embed the bargaining game in a model of international trade. The hegemons differ in their capacities for punishments and rewards, as well as in the strategic value they assign to countries. Countries choose their alignment given the schedule of punishments and payments announced by both hegemons. We study the Nash equilibrium of this game, the optimal schedule of carrots and sticks.

The key model parameters are the effects of carrots and sticks on geopolitical alignment. Given these parameters, we can invert the model to recover revealed preference estimates of geopolitical importance, the value hegemons assign to the alignment of each country. Together, this allows us to characterize the hegemons' strategic responses and conduct counterfactuals. Further, the model predicts that the optimal schedule of carrots relative to sticks is hump-shaped. That is, payments to aid recipients are maximized when both hegemons are roughly equal in strength and the return to payments is highest. When one hegemon dominates, payments are prohibitively expensive and there is no competition in carrots.

We quantify the model parameters using historical data from the Cold War, which provides an ideal setting for several reasons. First, for over 30 years, the rivalry between two highly strategic hegemons dominated global affairs, making the measurement of third-country alignment clear and systematic. Second, the Cold War era offers a wealth of declassified data that provides detailed documentation of the actions taken by both hegemons. Third, trade and aid were the primary tools of geoeconomics during the Cold War, mirroring the mechanisms in our model. We measure the key components of our model – carrots, sticks and alignment – in turn.

We adopt a broad notion of *carrots*, which we measure as foreign loans and grants provided by the U.S. and the Soviet Union (USSR). For the USSR, we digitize declassified CIA reports on 'Communist Activities in the Third World', which meticulously tracked Soviet activities including economic aid, military assistance, technical aid, and educational support. For the U.S., commitments are sourced from the so-called Greenbook. We show that aid flows were large, more than 2% of GDP for the average recipient, and that many non-aligned countries received payments from both hegemons. *Sticks* are trade threats that hegemons make against countries. While these threats are not enacted in equilibrium, we can measure the size of the stick as the welfare losses a country would experience if a hegemon punishes it with tariffs in a model of international trade. In terms of both carrots and sticks, Africa, the Middle

positions on international relations, access to military resources, or support for a hegemon in a war.

East and South Asia emerge as particularly contested regions.

Finally, we measure geopolitical alignment using voting in the U.N. General Assembly (Bailey et al., 2017). During the Cold War, U.N. voting was strongly polarized: The U.S. and NATO fell on one side, the Soviet Union and the Warsaw Pact on the other, with the non-aligned choosing positions in between. We validate this measure narratively against detailed accounts by Cold War historians (David, 1991) and quantitatively against other proxies such as Olympic boycotts and recognition of the People's Republic of China.

We use these measures to estimate the effects of carrots and sticks on geopolitical alignment. The principal threat to identification is changes in geopolitical preferences in recipient countries. In our model, geoeconomic tools react to these preferences, which constitutes an omitted variable bias. We therefore employ an instrumental-variables strategy for both the U.S. and the USSR.

To instrument the effects of carrots on geopolitical alignment, we use regional fluctuations in loans and grants in a difference-in-differences approach. We leverage the fact that recipient countries are differentially exposed to these fluctuations, as in Nunn and Qian (2014) or Nakamura and Steinsson (2014). The instrument takes on a shift-share structure, where we argue that the shifts in loans and grants to a region (excluding to the country itself) are influenced by changes in the funding structure and political preferences within the U.S. and USSR. We show empirically that the variation we use is not predicted by political developments in foreign countries and provide narrative evidence that the shifts are driven by changes in priorities of hegemon decision makers. For sticks, we leverage changes in the cost of air transport relative to sea transport, building on Feyrer (2019). This technological change affected trade costs with hegemons differentially across countries and over time.

We find that while these tools work, buying alignment is expensive. We estimate that doubling aid increases alignment by about 2.5% of a standard deviation for both the U.S. and the USSR. For the U.S., this corresponds to around 1% of the geopolitical distance between a neutral country and the average NATO member. Achieving the same effects with sticks requires raising a country's trade dependence by an amount equal to 5% of Mexico's current dependence on the U.S.. These effects persist after controlling for alternative tools of geopolitics (e.g., CIA and KGB interventions) and in an event study on budget cuts under Jimmy Carter. We provide additional evidence on different types of aid and the dynamic effects of geoeconomic tools on alignment.

Next, we study the interaction between carrots and sticks. Consistent with our model, we document a hump-shaped relationship between carrots and sticks. Coun-

tries where hegemonic power through sticks is more balanced can extract the biggest payments. Payments to countries where one hegemon is dominant are generally small. For instance, neither the U.S. nor the USSR is a large donor to Latin America, where the U.S. dominates in terms of economic power. This is consistent with the optimal strategy of hegemons using carrots and sticks simultaneously.

We apply our findings to compute the *geopolitical return* on foreign aid, which is given by the ratio of geopolitical benefits to costs. To compute geopolitical benefits, we multiply the change in alignment induced by aid with the valuation a hegemon places on alignment. While the change in alignment from foreign aid is tightly linked to our empirical estimates, little is known about how much (or why) hegemons value alignment, an important parameter in models of geoeconomics (Becko et al., 2025). Using our empirical results, we can recover revealed preference estimates of geopolitical valuations from the model.

We find that the geopolitical return to foreign aid is high, around 500% for the U.S. on average and only slightly lower for the USSR. Returns are high, because through the lens of our model, hegemons have high valuations for geopolitical alignment. These valuations are empirically linked to exposure to geopolitical events (e.g., distance to war), but also to resource access (e.g., oil production).

The final part of the paper applies our findings to the present-day geopolitical competition between the U.S. and China. Our counterfactual exercise is a shutdown of USAID, a drastic reduction of U.S. carrots. We combine the model with updated measures of carrots, sticks and the parameters estimated in the historical data. The model yields a Chinese reaction function which we trace out to recover the implied Chinese response and the subsequent realignment across countries.

Our counterfactuals indicate that China responds by decreasing its aid in most countries. The model features two competing channels: Shutting down USAID allows China to compete more effectively, but it also decreases the costs of buying alignment. The second channel dominates in most countries, especially in Africa and Asia. These countries are already more aligned with China before the USAID shutdown, so that the absence of competition allows China to scale down its commitments, consistent with preliminary observations by Sun (2025). However, in some countries (e.g., in Eastern Europe or Latin America), Chinese aid is forecast to increase, because China can move these countries out of the U.S. sphere of influence. The average aid recipient shifts only modestly towards China, by around 15% of the geopolitical distance between France and Turkey. However, an indiscriminate shutdown of USAID shifts initial allies of the U.S. the most.

Literature. First, we contribute to work on geoeconomics. Beginning with Hirschman

(1945), researchers in international political economy have analyzed the use of economic tools for geopolitical goals (Waltz, 1979; Baldwin, 1985; Drezner, 1999). This literature highlights the need of focusing on multiple tools simultaneously, rather than in isolation, especially when different tools may be substitutes (Most and Starr, 1984). These themes have been adopted by a rapidly growing literature on geoeconomics, which has so far primarily focused on how a single hegemon can leverage economic power (sticks) to extract concessions from other countries (Kleinman et al., 2024; Thoenig, 2024; Becko and O'Connor, 2025; Becko et al., 2025; Bernstein et al., 2025; Camboni and Porcellacchia, 2025; Clayton et al., 2025a,b,c,d; Liu and Yang, 2025). Comparing single and multiple hegemons, work on 'hegemonic stability theory' has emphasized the positive externalities of single hegemons (Kindleberger, 1986; Broner et al., 2025b). Our contribution to this literature is twofold. First, we provide measures and empirical evidence on the effectiveness of geoeconomic tools, which disciplines key parameters in models of geoeconomics. Second, we consider a model with two hegemons and introduce foreign loans and grants (carrots) as another key tool of geoeconomics. This gives rise to a new channel through which hegemonic competition can benefit small countries as they can extract carrots, for which we provide empirical evidence.

Second, we connect the geoeconomics literature to extensive work on foreign aid and official (government-to-government) capital flows more generally. Since Morgenthau (1962), it is well recognized that political considerations are central in the allocation of foreign aid (McKinlay and Little, 1977; Meernik et al., 1998; Alesina and Dollar, 2000; Kuziemko and Werker, 2006; Faye and Niehaus, 2012). More generally, official capital flows are often the main source of external finance for emerging and developing economies and have been a core part of the global economy for the past 200 years (Alfaro et al., 2014; Horn et al., 2020; Avdjiev et al., 2022). In recent years, China has emerged as the world's largest official creditor, prompting a wave of research and policy discussions on the effects of Chinese foreign lending (Dreher et al., 2021; Horn et al., 2021; Mueller, 2024). Our contribution to this literature is to introduce methods previously used to study lobbying and conflict (Dal Bó et al., 2006; Bombardini and Trebbi, 2011; Kang, 2016; König et al., 2017; Mohr, 2023; Bonadio et al., 2024) to study the political effects of aid and strategic interaction between aid donors quantitatively. This allows us to speak to the current U.S.–China competition by drawing on a historical case of a great power competition.

Finally, we relate to work on the (geo–)economics of the Cold War. Gopinath et al. (2025) and Campos et al. (2024) show that the rise and fall of the Iron Curtain led to a realignment of global trade flows. More closely related, Berger et al. (2013) show

that CIA support for governments promoted U.S. exports to foreign countries, but foreign countries did not export more to the U.S. in turn. While they interpret this as promoting U.S. business interests, it is also consistent with increasing U.S. economic power over countries through the lens of our model.

The rest of the paper is structured as follows. First, we describe our model of hegemonic competition in Section 2. We then explain the historical setting of the Cold War and the measures we construct in Section 3. Section 4 describes our methodology and empirical results. Section 5 develops the two applications on the geopolitical returns on foreign aid and the U.S.–China competition, Section 6 concludes.

2 A Model of International Economics and Geopolitics

We build a model in which two hegemons compete over the alignment of a group of ex ante neutral countries. The model is tractable and allows us to define measures of carrots, sticks and alignment, that we construct in the data.

2.1 Geopolitical Game

We consider a geopolitical game with two types of players: Two hegemons (U.S. and USSR) and a set of small countries that the hegemons target. All variables related to the USSR are denoted using stars (*). The game has two stages: (1) Hegemons move simultaneously and decide on carrots and sticks, (2) Given carrots and sticks, countries choose their geopolitical alignment. We start by outlining the players and the actions available to them, these are illustrated in Figure 1.

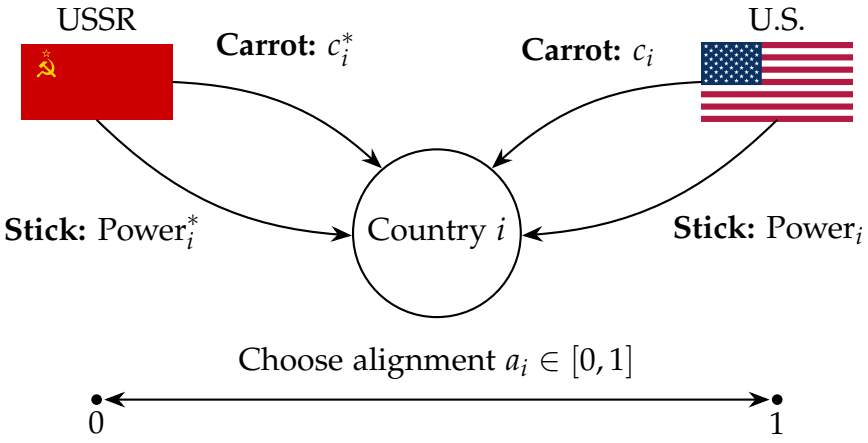
2.1.1 Small Countries

We consider a collection of small countries indexed by i. Each country takes a single action, which is to choose its geopolitical alignment $a_i \in [0, 1]$ on the unit line. Choosing $a_i = 0$ reflects full geopolitical alignment with the USSR, while $a_i = 1$ represents full alignment with the U.S.. We interpret geopolitical alignment broadly to encompass for instance the form of government, territory for military bases, or support for a hegemon in a war.[3]

The utility function of the small countries weighs utility from geopolitical alignment against consumption C. Each country has a bliss point π_i, which describes the

[3]In particular, we show in Appendix A.4 that alignment can be interpreted as the probability that a country takes an action in favor of a hegemon in a model where each country faces a series of binary choices between supporting one of the two hegemons.

Figure 1: Illustration of the Model



Notes: This figure illustrates the model. Each country chooses its alignment a_i on the unit line, with the U.S. and USSR at either end. Hegemons choose carrots (c) and make threats, where Power refers to the size of the stick (punishment) a hegemon can inflict on a country. Starred variables refer to the USSR.

alignment the country would like to choose absent any foreign influence.[4] We model geopolitical preferences in reduced form as a function $\varphi(a_i, \pi_i)$ which describes the welfare losses when choosing an alignment that deviates from π_i. Utility then is[5]

$$U_i(a_i, c_i, c_i^*, \tau_i, \tau_i^*) = \varphi(a_i, \pi_i) + C(c_i, c_i^*, \tau_i, \tau_i^*). \tag{1}$$

Both the carrots c_i (resp. c_i^*) and the threats τ_i (resp. τ_i^*) that depend on the action a_i chosen by the country enter consumption. We denote threats by τ to indicate that these are tariff threats against the country, with the precise structure specified below.

We now specify the assumptions we make on the geopolitical costs as well as a particular functional form that we employ in bringing the model to the data. For our results, it is sufficient that geopolitical utility is equal to 0 at the bliss point π_i, strictly concave and approaches negative infinity as alignment approaches 0 or 1 (such that countries never prefer fully aligning with a hegemon on all decisions).[6] For our empirical analysis, we specify that costs from deviation from the bliss point are given

[4]We think of this as the intrinsic ideology of the people or government of the country.

[5]This mirrors other recent work on geoeconomics (Becko and O'Connor, 2025; Becko et al., 2025; Broner et al., 2025b; Clayton et al., 2025d).

[6]This is consistent with the fact that while many countries lean more towards the U.S. or the USSR in the Cold War, they generally do not give up their complete political autonomy, e.g., by sending their troops to fight in wars with a hegemon. In U.N. voting, there are no countries that agree with the U.S. or the USSR on every vote in any year except for Warsaw Pact states, which did not have political autonomy. Our empirical analysis focuses on non-aligned countries, who are not part of a bloc by definition. Technically, this assumption assures interior solutions, so that we do not have to treat cases where alignment hits the boundary separately.

by the distance in logit space, i.e.,

$$\varphi(a_i, \pi_i) = -\left| \log\left(\frac{a_i}{1-a_i}\right) - \log\left(\frac{\pi_i}{1-\pi_i}\right) \right|. \tag{2}$$

A key object that determines the optimal sanction strategy is the *Power* of a hegemon, the maximal economic loss a hegemon can inflict on a target through sanctions. Below, we will measure power using a model of international trade.[7]

Definition 1 (Power)**.** *The Power of a hegemon over country i is defined as the welfare loss under bilateral trade sanctions by the hegemon. Denoting this sanction as a tariff $\overline{\tau}_i$, we define*

$$\text{Power}_i = C_i - C_i(\overline{\tau}_i),$$
$$\text{Power}_i^* = C_i - C_i(\overline{\tau}_i^*),$$

where $C_i(\overline{\tau})$ (resp. $C_i(\overline{\tau}^*)$) is consumption under U.S. (resp. Soviet) sanctions.

We further allow both hegemons to use payments, which represent costly expenditures to shift country preferences as in Antràs and Miquel (2011, 2025). We model these payments as a contest, such that hegemons can directly buy alignment from countries at a cost. This formulation follows the literature on lobbying and conflict, in which these functions serve as a shorthand for a deeper underlying competition process (e.g., Kang (2016), König et al. (2017), and Bonadio et al. (2024)) to facilitate empirical analysis. Concretely, we assume that for a country with an bliss point π_i that receives payments c_i and c_i^*, the bliss point after payments is shifted towards

$$\frac{\exp(\widetilde{\pi}_i + \beta \log c_i)}{\exp(\widetilde{\pi}_i + \beta \log c_i) + \exp\left(\beta^* \log c_i^*\right)}, \quad \text{where } \widetilde{\pi}_i = \log\left(\frac{\pi_i}{1-\pi_i}\right). \tag{3}$$

The parameters β, β^* capture the effectiveness of U.S. and Soviet carrots in shifting geopolitical preferences. This formulation can be interpreted as supporting different factions within the country, we also micro-found it explicitly in Appendix A.4 as the average choice of a country which makes multiple binary choices.

2.1.2 Hegemons

Similar to the small country, the hegemons value alignment and consumption, however hegemons consider all countries in their optimization problem. We denote vectors that contain variables about all countries in bold, e.g. $\mathbf{c} = (c_i)_{i \in \mathcal{I}}$. The strategic

[7] Our notion of power as economic dependence mirrors the concept in international relations (Hirschman, 1945; Baldwin, 1985), and recently re-introduced into economics literature by Clayton et al. (2025c) or Liu and Yang (2025).

value each hegemon assigns to the alignment of a country is denoted by v_i (resp. v_i^*), so that the utility of the hegemons becomes

$$U(\mathbf{a}, \mathbf{c}, \boldsymbol{\tau}) = \sum_i (v_i a_i - c_i) + C(\boldsymbol{\tau}), \tag{4}$$

$$U^*(\mathbf{a}, \mathbf{c}, \boldsymbol{\tau}^*) = \sum_i (v_i^*(1 - a_i) - c_i^*) + C^*(\boldsymbol{\tau}^*). \tag{5}$$

Each hegemon gains utility from alignment. However, the tools of geoeconomics are costly. Sending payments abroad represents foregone domestic consumption, while imposing sanctions constrains the gains from trade for domestic consumers.

Strategies. In the first stage of the game, hegemons decide on a vector of payments $\mathbf{c}$ as well as a vector of threats $\boldsymbol{\tau}$. We follow Broner et al. (2025b) and Clayton et al. (2025b) and focus on cutoff strategies that are allowed to vary by country. Each cutoff strategy $\tau_i, \tau_i^* : [0,1] \to \{0, \overline{\tau}\}$ is characterized by a cutoff point $\widehat{a}_i, \widehat{a}_i^*$ such that countries moving too far away from a hegemon are sanctioned. The size of this threat is denoted by Power_i, as in Definition 1. Explicitly, threats are given by

$$\tau(a_i) = \left\{ \begin{array}{ll} 0, & \text{if } a_i \geq \widehat{a}_i, \\ \overline{\tau}_i, & \text{if } a_i < \widehat{a}_i. \end{array} \right\}, \quad \text{and } \tau^*(a_i) = \left\{ \begin{array}{ll} 0, & \text{if } a_i \leq \widehat{a}_i^*, \\ \overline{\tau}_i^*, & \text{if } a_i > \widehat{a}_i^*, \end{array} \right\}.$$

2.2 Equilibrium

We focus on subgame perfect Nash Equilibria in pure strategies.

Definition 2 (Equilibrium). *Given vectors* $\mathbf{Power}, \mathbf{Power}^*$ *and valuations* $\boldsymbol{v}, \boldsymbol{v}^*$ *of each hegemon and the parameters* $\beta, \beta^*, \boldsymbol{\pi}$*, an equilibrium is a tuple of alignment choices, threats and carrots* $(\mathbf{a}, \boldsymbol{\tau}, \boldsymbol{\tau}^*, \mathbf{c}, \mathbf{c}^*)$ *such that*

- *Each country chooses an alignment* a_i *to maximize its utility* (1) *given* $(\boldsymbol{\tau}, \boldsymbol{\tau}^*, \mathbf{c}, \mathbf{c}^*)$.
- *Hegemons choose threats* $\boldsymbol{\tau}, \boldsymbol{\tau}^*$ *and payments* $\boldsymbol{c}, \boldsymbol{c}^*$ *that maximize their utility* (4).

In equilibrium, hegemons make threats and payments. Appendix Lemma 1 begins by solving for the optimal threats in the model with sticks only. In the model, hegemons seek to extort other countries using economic threats. The presence of a second hegemon constrains extortionary power, because there is an outside option. The usefulness of this outside option is given by the *power difference* between the two hegemons, i.e. how much a country depends on trade with the U.S. relative to the Soviet Union. If one hegemon can punish a country more than the other hegemon (i.e., has more power), that hegemon can still extract concessions from small countries because it can make threats that the weaker hegemon is not able to offset. If

both hegemons are have equal power, extortion is not possible (this case is studied in Appendix B.2 of Clayton et al. (2025b)).

In addition, hegemons can use carrots. Both are economic tools that allow a hegemon to gain political alignment. However, these tools have important differences in terms of their costs and flexibility as has been emphasized in the international relations literature, most prominently in the seminal work of David Baldwin (Baldwin, 1971, 1985). The fundamental difference is that a stick is costly for small countries, but not for the hegemons. Sticks allow hegemons to extort other countries to deviate from their preferences. Thus the stick strictly lowers utility for these countries compared to a world 'without geoeconomics'. The opposite holds for carrots, which transfer consumption from the hegemon abroad.

The rationale for using carrots also lies in their flexibility. Economic power is fundamentally limited by geography, substitutability, and the presence of rivals. Payments are flexible and can influence countries where economic ties are otherwise small, this is the reason why hegemons use carrots in the model. Our model assumes that hegemons do not control the size of their trade dependence, which we think of as an approximation to the short run.

Mathematically, hegemonic power tilts the contest (3) in favor of a hegemon, which affects the choices of carrots. Proposition 1 shows the full equilibrium with both carrots and sticks.

Proposition 1 (Hegemonic Competition with Carrots and Sticks)**.** *Assume that utility over geopolitics is given by* (2) *and that* $\beta, \beta^* \in (0, 1]$*. Then there exists a unique equilibrium in which the cutoff points of the hegemons and the country alignment are given by*

$$a_i = \frac{\exp\left(\widetilde{\pi}_i + \text{Power}_i + \beta \log c_i\right)}{\exp\left(\text{Power}_i^* + \beta^* \log c_i^*\right) + \exp\left(\widetilde{\pi}_i + \text{Power}_i + \beta \log c_i\right)}, \tag{6}$$

where π_i *is the bliss point of the country. Equivalently,*

$$\log\left(\frac{a_i}{1 - a_i}\right) = \widetilde{\pi}_i + \beta \log c_i - \beta^* \log c_i^* + \text{Power}_i - \text{Power}_i^*. \tag{7}$$

Moreover, the payments by each hegemon are characterized by

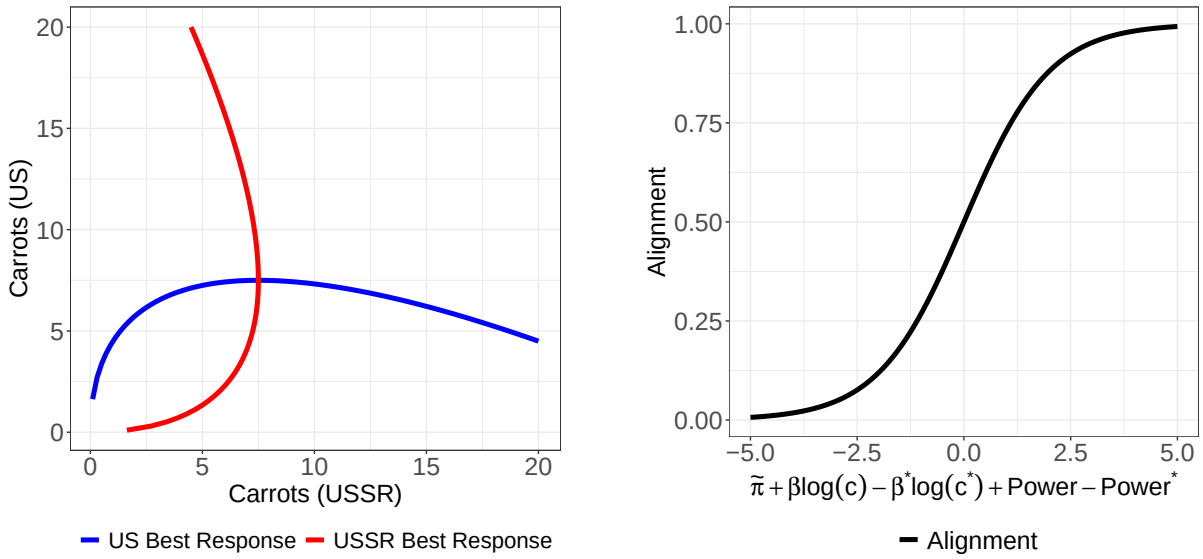
$$\begin{aligned} \frac{\exp\left(\widetilde{\pi}_i + \text{Power}_i^* + \beta^* \log c_i^* + \text{Power}_i + \beta \log\ c_i\right)}{\left(\exp(\text{Power}_i^* + \beta^*\ \log c_i^*) + \exp(\widetilde{\pi}_i + \text{Power}_i + \beta \log c_i)\right)^2} &= \frac{c_i}{\beta v_i} \\ \frac{\exp\left(\widetilde{\pi}_i + \text{Power}_i^* + \beta^* \log c_i^* + \text{Power}_i + \beta \log c_i\right)}{\left(\exp(\text{Power}_i^* + \beta^*\ \log c_i^*) + \exp(\widetilde{\pi}_i + \text{Power}_i + \beta \log c_i)\right)^2} &= \frac{c_i^*}{\beta^* v_i^*}. \end{aligned} \tag{8}$$

where v_i and v_i^* are the valuations hegemons have for different countries.

All proofs are given in Appendix A.2. The condition that the parameters β and β^* are less than or equal to one implies that carrots cannot have increasing returns to scale. Empirically, we find values for both parameters of about 0.02-0.05.

Taking Stock. The equilibrium that we characterize in Proposition 1 can be be readily estimated in the data, which we illustrate graphically. The equilibrium is characterized by the intersection of the best response curves of each hegemon (Figure 2, Panel (a)), as well as the response of the small country in Panel (b).

Figure 2: Equilibrium Illustration



(a) Response Functions

(b) Alignment

Notes: This Figure illustrates the equilibrium of the game in Proposition 1. Panel (a) shows the best response functions of both hegemons to payments by the other side. The intersection of both curves is the equilibrium. Panel (b) illustrates how the alignment of the country changes as a function of the bliss point, as well as the payments and power of both hegemons. We use an illustrative calibration with $\beta = \beta^* = 1, \pi = 0.5, v = v^* = 30$ and equal power.

Each curve of Panel (a) shows the best response of a hegemon to a given payment by the other hegemon. The equilibrium is the (unique) intersection where both play best responses. Both curves are hump–shaped. When the other player is spending very little, the best response is also not to spend much on payments. As spending by the other player rises, so does the own best response. However, at some point, the best response to more spending by the opponent is to *decrease* own spending. At this point, increasing payments is not worth the cost, so that the hegemon starts to give up. Panel (b) illustrates how the alignment of small countries responds to the strategies played by both hegemons, with an alignment of 1 reflecting full alignment

with the U.S.. Alignment is increasing in both the payments and the power of a given hegemon. The convexity of the geopolitical cost function implies that it is very hard to move non-aligned countries close to either hegemon. This is consistent with observed geopolitical alignment, where only countries part of a bloc align fully with a hegemon (see Figure 6). Our empirical analysis focuses on non-aligned countries, which are not firmly part of a bloc by definition.

The steps in our empirical work can also be understood through Figure 2. We begin by estimating the response functions of non-aligned countries to carrots and sticks from Panel (b). In a second step, we use the response functions from Panel (a) to compute counterfactuals.

Implications. We collect a number of implications to which we return empirically.

Proposition 2 (Implications)**.** *In the equilibrium, we have the following.*

- *There is a hump shape of carrots in sticks for given parameters* $\boldsymbol{\pi}, \mathbf{v}, \mathbf{v}^*, \beta, \beta^*$*. That is, for small values of the difference in hegemonic power, total payments are increasing in the power difference, but beyond a threshold value, they fall.*
- *The valuations* v_i *and* v_i^* *for a country* i *can be recovered using the observed alignment* a_i *and the effectiveness* β*,* β^* *of carrots for both hegemons,*

$$\begin{aligned} v_i &= \frac{1}{a_i(1-a_i)\,\beta} c_i \\ v_i^* &= \frac{1}{a_i(1-a_i)\,\beta^*} c_i^* \end{aligned} \tag{9}$$

The hump shape means that payments are highest in countries where hegemons are evenly matched and the return to additional payments is large. In contrast, in countries where one hegemon is clearly dominant, payments move countries relatively little. As a result, the weaker hegemon does not find it lucrative to spend resources there and the stronger hegemon has fewer incentives to give many resources without competition. Most closely related to this is Bombardini and Trebbi (2011), who show a similar result for studying corporate lobbying in the U.S.. Dixit and Londregan (1996) derive a similar prediction in a model of pork-barrel politics: Political spending is maximized in swing states, rather than in places where one party is clearly dominant.

We can recover the valuations using (9) due to the first order conditions of the hegemons. The valuations correspond to the monetary value of moving a country from full alignment with the opponent to full alignment with a hegemon. In the optimum, the marginal benefit of payments to foreign governments is equal to the

marginal value of consumption at home. Therefore, we can use the effectiveness β, β^* of carrots combined with the current position of the country to recover the valuations. The comparative statics implied by (9) are intuitive. If carrots are ineffective tools (low β), but a hegemon nevertheless spends lots of funds, then the hegemon assigns considerable importance to that country. Similarly, if the alignment a_i of a country is close to 0 or 1, the valuation is higher because carrots can shift geopolitical alignment less if countries are already firmly in a bloc.

Discussion. We build on an important literature in geoeconomics, to which we discuss the relation more in detail in Appendix A.3. We view the main advantage of our model as tractably modeling two hegemons with multiple tools of economic competition. One important ingredient is that alignment is continuous and hegemons bargain individually with different countries. In the two-hegemon model of Broner et al. (2025b) where this is not the case, competition can lead to a world of 'fragmentation', in which every country aligns with one bloc and only trades with that side. In our model, countries never fully align with one side and continue relationships with both hegemons, consistent with the data for non-aligned countries in the Cold War.

Our model identifies aid and trade with carrot and stick. Becko et al. (2025) show that trade can also be used as a carrot by offering reduced tariff rates in trade agreements. During the Cold War, aid was the primary tool for making positive transfers to countries. U.S. trade policy did not use bilateral trade agreements, but rather extended MFN status to countries inside the GATT and levied higher tariffs on the remainder (with exceptions for sanctions for national security reasons per GATT article 21).[8] We verify below that our results remain robust when controlling for GATT membership.

2.3 International Trade and Power

We have defined *power* as the economic damage a hegemon can inflict on countries. We specify a model of international trade to put structure on the trade power each hegemon has over third countries. Due to the limited granularity of historical data, we employ a standard single-sector trade model (Armington, 1969; Costinot and Rodríguez-Clare, 2014), but consider richer models in extensions. This allows us to compute welfare losses under sanctions by a hegemon.

Environment. Each country i (including the hegemons) produces a differentiated good Q_i and consumers have constant elasticity of substitution (CES) preferences

[8]During the Cold War, the U.S. was generally focused on multilateral trade agreements (USITC, 2009). A trend toward bilateral agreements started with Israel (1985) and Canada (1989).

over aggregated consumption from all countries,

$$C_i = \left(\sum_j (\psi_{i,j} C_{i,j})^{(1-\sigma)/\sigma} \right)^{\sigma/(\sigma-1)}, \tag{10}$$

where $C_{i,j}$ is consumption of the good from j in i, $\psi_{i,j}$ are exogenous preference parameters and $\sigma > 0$ is the elasticity of substitution between different countries. Trade in varieties is subject to an iceberg trade cost $t_{ij} \geq 1$ such that sending one unit from i to j costs $t_{ij} \geq 1$. In addition, countries can levy an ad-valorem tariff $\tau_{i,j}$ on imports or exports from country i to j.

Welfare and Sanctions Counterfactuals. For an arbitrary shock (e.g. sanctions that raise τ_{ij}), let $\widehat{v} = v'/v$ denote proportional changes. As in Costinot and Rodríguez-Clare (2014), for a country targeted by sanctions the change in real consumption is

$$\widehat{C}_i = \widehat{\lambda}_{ii}^{-1/(\sigma-1)}, \tag{11}$$

where λ_{ii} is the expenditure share on domestic goods.

2.4 Extensions and Discussion

Our model is designed for tractability and can be extended to other aspects of hegemonic competition. We describe two extensions below, details are in Appendix A.

Microfoundation. We provide two microfoundations for the contest assumptions (2) and (3) in Appendix A.4. Concretely, we consider a model in which countries make binary choices, such as whether to support a resolution in the U.N. or support one or the other hegemon in a conflict. The country holds an all-pay auction to sell its votes, but receives a logit taste shock on each decision. The hegemons make bids on the alignment decisions of the country. These assumptions emerge as the average (or expected choice) across many repeated binary decisions. Alternatively, we also show that they emerge from a model in which the U.S. and Soviet Union exert costly effort to influence the country, but there is noise in the effectiveness of that effort.

Carrots as Conditional Policy Instruments. The baseline model considers carrots as a contest in which the efforts of both sides are sunk, which follows the empirical literature on lobbying and conflict. An alternative view is that lobbies make conditional offers that can be rescinded based on the action of the country. In standard models with these features, only one side makes payments in equilibrium (Groseclose and Snyder, 1996; Bueno de Mesquita and Smith, 2016). This is inconsistent with the data we present in Section 3.2.

We construct a richer model in which payments are conditional, yet both sides pay in Section A.4. We leverage the microfoundation above and allow countries to make repeated binary choices in favor of one hegemon or the other. In the end, hegemons pay the country for different choices, so that taken together, both hegemons pay. While the two models do not collapse to one another, we show that when carrots are relatively ineffective (small β, as we find empirically), they yield quantitatively nearly identical results (Figure A.3). The reaction function (7) and the implications from Proposition 2 continue to hold with appropriate modifications.[9] Interpreting our instruments as shifting the offers, the interpretation of our reduced-form results is unchanged. This makes it hard to tell the models apart in practice, so we prefer the simpler and more standard model for our baseline analysis.[10]

3 Historical Background and Data

We now describe the historical setting and measures of carrots, sticks and alignment.

3.1 Historical Background

The Cold War between the U.S. and the Soviet Union was the global geopolitical rivalry between the U.S. and the USSR and their allies (NATO and the Warsaw Pact). **The Global Cold War.** A key aspect of the Cold War was the *Global Cold War* (Westad, 2005), in which both hegemons sought to secure influence in the Third World or non-aligned countries (a term used during the Cold War to describe nations not aligned with either bloc). We focus on precisely these non-aligned countries in our analysis, as classified by the CIA (shown in Figure C.11), which were choosing sides in the Cold War.[11] Effectively, this includes all countries in Africa, Asia (except communist states, like China or North Korea) and Latin America, plus a few countries in Europe. The historical literature dates the Global Cold War to range from around 1955-1985 (Westad, 2005), we adopt this range for our empirical analysis.[12]

[9] To be precise, the model now includes a distinction between offered and accepted payments. Proposition A.4 shows that there is hump shape with respect to accepted payments and offers a new formula to recover valuations from accepted payments (only these are ever observed in the data).

[10] Previous work also highlights that donors could not credibly condition their aid in the Cold War given the outside option of the other hegemon (Dunning, 2004; Bearce and Tirone, 2010).

[11] The CIA classifies Cambodia, Laos and Vietnam as 'communist' from 1975 on. We adopt this classification and further drop Afghanistan (post 1978), Grenada (post 1983), Vietnam (entire sample, though not UN members) because they were at war with a hegemon.

[12] The USSR started its *'rediscovery of the Third World* (Westad, 2005, p.66) after the death of Stalin. Gorbachev effectively withdraws from superpower competition over the non-aligned under his reorganization of Soviet policy.

The goals of the geopolitical competition were manifold. Ultimately, there was a fear on both sides that a country that turned to the other side could become an existential threat down the road. Beyond, hegemons valued alignment for instance to obtain political support for their policies, to gain access to military bases or strategic raw materials (National Intelligence Council, 1984). The competition forced hegemons to be ideologically flexible: The USSR supported Saddam Hussein who persecuted the communist party in Iraq and the U.S. supported the communist leadership in Mozambique under Reagan.

Tools of Geoeconomics. Foreign aid (loans and grants) and trade were the main tools of geoeconomics for the U.S. and USSR. This is reflected both in statements by strategists and the contemporaneous work in international relations. On the practitioner side, the CIA (1964) notes in a briefing on Soviet international economic policy that *'The USSR continues to use foreign aid and trade to expand its influence'*. In international relations, seminal work by Baldwin (1985) singles out foreign aid and trade as the tools of economic statecraft.

The first major tool of geoeconomics was foreign aid. Initiatives like the Alliance for Progress in Latin America were designed by the U.S. to counter the threat of communist ideology. In contrast, the Soviet Union offered an alternative model of development based on central planning and state control, which appealed to many leaders in newly independent countries seeking to break free from colonial economic structures. Moscow provided military aid, economic assistance and heavy industry equipment which was highly sought after (Giorcelli and Li, 2025).

Second, trade was key to the economy of non-aligned countries. On the import side, trade was vital to overcome domestic underproduction of food (Mellor et al., 1987) and to access frontier technologies, such as cars, heavy machinery and weapons (Caselli and Wilson, 2004). On the export side, many countries relied on commodity exports to support their economy and earn hard currency. This allowed hegemons to use trade as leverage for geopolitics. Consider the case of Peru. In 1968, a left-wing coup brought Juan Velasco Alvarado into office, who distanced himself from the U.S. and sought to expropriate the U.S. owned International Petroleum Company (IPC). In fear of an 'Andean Cuba', the U.S. threatened to suspend trade in sugar resulting in a compromise over the IPC (Maurer, 2011).[13]

The Non-Aligned Movement. Third World leaders sought to leverage superpower

[13]In the model, sanctions are off-equilibrium threats that are never observed on path. Although common in models of geoeconomics, this is a simplification and would be different in models with bargaining failures (Mayer et al., 2025). In the data, sanctions are rare and observed in around 2% of dyads-years involving hegemons, they are listed in Table B.1 (We include data on aid sanctions, which was kindly shared by Yoto Yotov. Aid sanctions are about as frequent as trade sanctions).

competition for their own goals, with the hope of pursuing ambitious modernization efforts or to consolidate domestic political power (Miskovic et al., 2014; Kalinovsky, 2017). Institutionally, this is reflected in the establishment on the Non-Aligned Movement in 1956. Knowing that over-reliance on one superpower could lead to political instability or economic dependency, several countries positioned themselves as strategically important or ideologically malleable to attract foreign aid and resources from both great powers.

> I want all those nations who are present today—whether from West or from East—to understand our aim. We want to befriend all, and we want aid from everyone.
>
> - Kenyan Prime Minister Jomo Kenyatta, 1963

In Egypt, Nasser secured funding for the Aswan Dam by alternating between Soviet and Western support (Dougherty, 1959). The USSR ended up financing the dam, which produced more than 50% of Egypt's electricity (Atallah, 1981). In turn, the U.S. did not retreat. Rather, it sought to increase its influence by providing additional aid, most famously by providing funds for moving the temples at Abu Simbel (that were threatened by the Aswan Dam reservoir!) (Luke and Meskell, 2023).

Other Tools of Geopolitics. Of course, during the Cold War, not only economic tools of influence were used. In general, we use our model to think through these tools as alternative sticks or carrots, and verify that our results are robust to controlling for these tools.

Most salient perhaps are the wars waged by the U.S. in Vietnam and by the USSR in Afghanistan.[14] However, we want to highlight that the international relations literature does *not* think of the Cold War as a time in which military intervention was particularly prevalent, and often even describes it as a peaceful time in terms of interstate conflict.[15] Empirically, the frequency of U.S. military interventions *increased* after the Cold War (Mearsheimer, 2001; Kushi and Toft, 2023). Additionally, CIA or KGB 'orchestrated' coups form important examples in popular Cold War narratives. Here, recent scholarly work highlights the local autonomy of the actors involved in these coups (Brands, 2012). As a case in point, the 1973 Chilean military coup is often seen as the epitome of a CIA-orchestrated coup. Even here, the CIA only found out about the coup shortly before planned date and then pledged support to the orchestrators

[14]Together with the U.S. invasion of Grenada, these are the only wars by hegemons against non-aligned countries in our sample period (1955-85). We drop these countries from our estimations.

[15]Waltz (1979) argues that, more generally, systems with two competing hegemons are more peaceful than systems with one or more than two competitors.

(Harmer, 2011). In contrast, recent accounts highlights how massive U.S. economic pressure led to acute shortages and rampant inflation that turned opinion away from the Allende government (Edwards, 2023).[16]

3.2 Data: Carrots

Our definition of carrots is deliberately broad to capture the variety of payments used by hegemons. We construct data on carrots using data on official (government-to-government) capital flows, which includes, but is not limited to, foreign economic aid, as defined by the OECD (we use the terms aid, official capital flows and foreign assistance interchangeably).[17]

During the Cold War, the CIA meticulously tracked economic and military aid from communist countries in a series of now-declassified reports titled 'Communist Activities to Non-Communist Less-Developed Countries' (CIA, 1955-86). These reports provide data on around 4000 aid projects, covering both economic and military aid.[18] The economic aid refers to individual projects, such as the construction of the Aswan Dam. The military aid refers to deliveries of weapons and other military support, we take the values of this military equipment as provided by the CIA.[19] While the data contains flows from all 'Communist Countries' (including China and the Warsaw Pact), we focus on data for the USSR in the main specifications, which accounts for 75% of all 'Communist Aid'.

For the U.S., our primary data source is the 'U.S. Overseas Loans and Grants', database informally known as the 'Greenbook'. The Greenbook records annual commitments of foreign loans and grants by the U.S since 1945 at the instrument level, and covers U.S. official capital flows across different institutions, such as USAID, the Department of State and the Department of Agriculture. It also includes military assistance, which is defined as 'foreign aid primarily for the benefit of armed forces of recipient governments, or aid which subsidizes or substantially enhances military capability'. To this, we add loans from the U.S. Exim-Bank from Berger et al. (2013).

We aggregate flows at the recipient year-level and convert to 2011 dollars (Soviet flows are reported in current USD by the CIA) using the CPI. Both data sets cover commitments rather than disbursements. Whereas U.S. aid commitments are

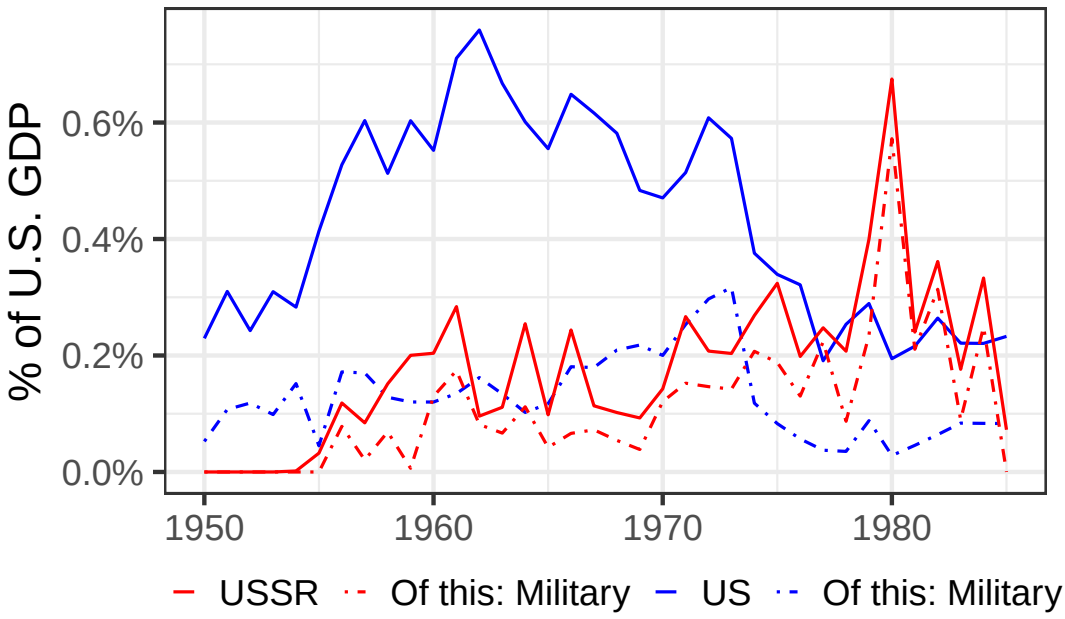
[16]The U.S. institutes an embargo on Chile in 1970, so that *'not a nut or bolt will be allowed to reach a Chile under Allende'*. By the time of the 1973 coup, Chilean inflation is running at around 1600%, real wages have collapsed and around 30% of buses cannot operate due to lack of parts (Edwards, 2023).

[17]The OECD defines aid as loans with a development purpose and a grant element of at least 25%.

[18]Parts of this data has been used in Rai (1980), Asmus et al. (2018) and Horn et al. (2020).

[19]In terms of valuation, the CIA valued military and economic aid in U.S. dollars, using price lists for military equipment, making adjustments for old equipment where appropriate (CIA, 1955-86).

Figure 3: U.S. and USSR Loans and Grants to non-aligned countries (% of U.S. GDP)



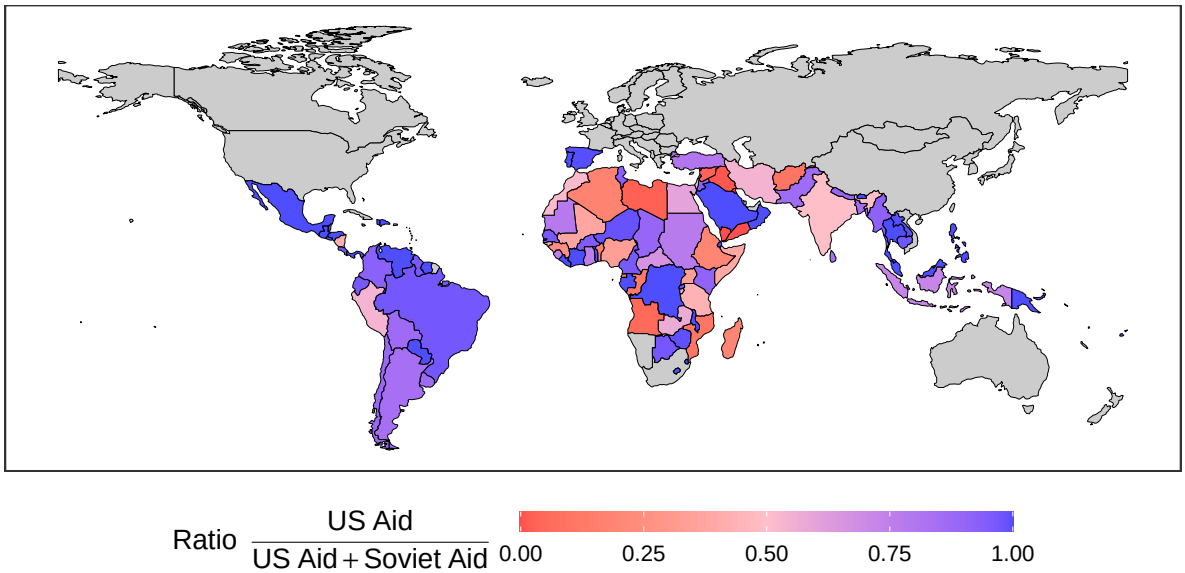
Notes: This figure displays annual flows of loans and grants to non-aligned countries from the U.S. and the USSR between 1950 and 1985. Data is as a percentage of U.S. GDP.

recorded year-by-year, Soviet commitments refer to multi-year deals. For our analysis, we assume that Soviet aid is evenly spread over five years, the most common horizon in the data when information is available (as also in Horn et al. (2021) for modern Chinese data), and check robustness below.

Descriptive Statistics. We illustrate U.S. and Soviet loans and grants across time and space. Figure 3 shows the time-series of U.S. and Soviet aid, both relative to U.S. GDP. U.S. and Soviet aid flows are generally on the same order of magnitude. While the U.S. is leading in the initial years, the Soviets significantly increase military aid towards the end of Cold War. Between 1955 and 1985, the United States committed a total of 426 billion USD in aid to non-aligned countries, compared to 337 billion USD by the USSR. Second, the U.S. prioritized economic aid, while the Soviet Union prioritized military aid from 1973 onward.

Figure B.4 in the appendix offers further details on U.S. and Soviet flows, also as a percentage of donor GDP. Panel (a) shows total U.S. aid to all recipients over time (not just non-aligned). Throughout the Cold War, the U.S. decreases its aid, which amounts to less than 0.2% of U.S. GDP by 1990. Panel (b) shows U.S. assistance broken down by military, economic and export-import bank flows. The next two panels focus on the Soviets. Panel (c) shows the composition of Soviet flows, while panel (d) shows that flows from all communist donors tend to follow the same trends

Figure 4: Aid Competition across Countries



Notes: This figure displays relative size of U.S. and Soviet aid flows from 1955-85, averaged over the Cold War. For each country the shading reflects the intensity of U.S. aid relative to total aid received from the U.S. and the USSR. Figure B.4 shows aid as percentage of recipient GDP.

as Soviet aid, because the USSR accounts for the bulk of Communist outflows.

We show the hotspots of global aid competition in Figure 4. For each country, we show U.S. aid as a percentage of the total aid provided by both superpowers (averaged over the full Cold War). Countries in blue received relatively more from the U.S., countries in red are dominated by Soviet aid. There is lots of heterogeneity across countries and regions. The USSR tends to focus on a smaller set of countries, foregoing much of Latin America for instance. The competition between both hegemons is most intense in Africa, the Middle East and South Asia. Many countries receive substantial support from both hegemons. Of the 113 countries in our sample that receive any aid from the U.S. or the USSR, 72 receive aid from both sides over the course of the Cold War.[20]

From the recipient perspective these inflows are sizable, as we show in Table B.2, which shows average annual flows as a percentage of recipient GDP. The average recipient receives aid on the order of 1.5% of GDP from the U.S. and 1% of GDP from the USSR annually, which amounts to more than 10% of the government budget.[21] The distribution of funds is highly skewed, so that the median recipient receives around half the average, while the largest recipients receive more than 7% of GDP annually. For the hegemons these are small, but not insubstantial expenditures (see

[20]This number increases to 87 when also including aid from other communist donors.
[21]We use GDP in constant dollars from the Global Macro Database to make these comparisons.

Figure B.4). For the U.S., expenditure on carrots amount to around 0.2-0.5% of GDP (around 1-3% of government expenditure), for the Soviet Union it is around 1-3% of GDP (2-4% of government expenditure).[22] Consistent with our theory, total aid flows are largest to countries in the Middle East and South Asia (Figure B.4, Panel (g)), where hegemonic power is more balanced, we show this more formally later.

3.3 Data: Sticks

The stick in this paper is the economic power a hegemon has over countries through threatening them with sanctions. We now explain the data used to compute power using the trade model in Section 2.3.

Data and Calibration. We employ trade data from TradHist (Fouquin and Hugot, 2016), which measures bilateral trade at historical borders. We supplement this with additional data constructed by Campos et al. (2024) on Soviet trade. This allows us to construct trade flows across all country pairs in our data.[23] For the single-sector model, we use a standard trade elasticity of $\sigma = 5$. In recent years, our calibrated model matches the gains from trade in standard models (Costinot and Rodríguez-Clare, 2014) nearly exactly (Figure B.5a).

We compute power as the welfare losses for target countries from export and import sanctions. Concretely, we compute the change in real consumption $\widehat{C}_{i,t}$ when the hegemon increases export and import tariffs on a country by a factor of 1000, i.e. $\widehat{\tau}_{i,j} = \widehat{\tau}_{j,i} = 1000$ as in e.g., Baqaee et al. (2024).[24] Computing this counterfactual for every year, we define power as $\text{Power}_{i,t} = \left(1 - \widehat{C}_{i,t}\right)$, the utility loss for the target from trade sanctions.

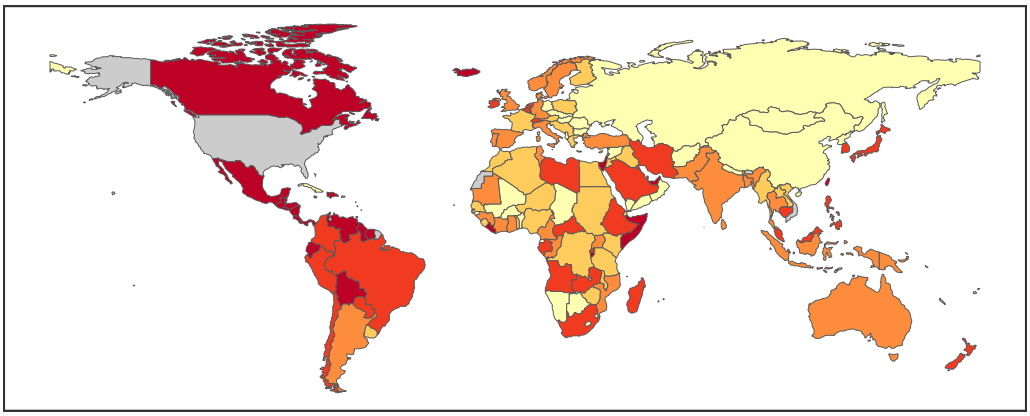
Descriptive Statistics. Figure 5, Panels (a) and (b) plot U.S. and Soviet power across countries in 1970. Two observations stand out immediately: First, there is strong gravity in the power of both hegemons. Power is largest in countries that are nearby: Canada and Latin America in the case of the U.S., and Eastern Europe and Central Asia in the case of Russia. This reflects the role of distance in international trade, which was particularly strong historically. Second, there is an important asymmetry

[22] Neither GDP nor government expenditure is straightforward to define for the USSR, which is why we prefer showing figures as a share of U.S. GDP. Both figures are taken from the Global Macro Database, which in turn are sourced from Mitchell's international historical statistics. The CIA itself estimated that Soviet GDP was around 45-55% of U.S. GDP over most the Cold War (CIA, 1984).

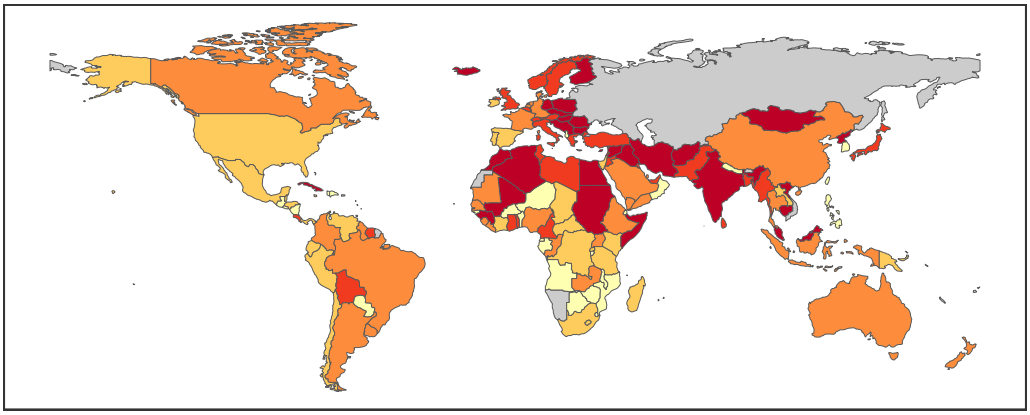
[23] We compute expenditure on domestic goods as in Kleinman et al. (2024), see Appendix B.3. In computing trade flows, we rescale the bilateral composition of trade from TradHist to match aggregate exports and imports from the Global Macro Database (we do this because the GMB includes the latest and most standardized vintage of historical national accounts, GDP data in TradHist is spottier).

[24] There is practically no trade between the two countries at this point so that tariff revenues are irrelevant, though they are included when we simulate milder sanctions. Since hegemons levy the tariffs and collect the revenues, tariff revenues do not matter directly for the welfare of targeted countries.

Figure 5: Power of the Two Hegemons, 1970



(a) Power of the U.S., 1970



(b) Power of the Soviet Union, 1970

Notes: This figure plots the power of both hegemons in 1970, dividing countries into quintiles. Power refers to the welfare loss (in %) each country experiences upon trade sanctions from a hegemon, for details see text.

that emerges between the two hegemons, which grows stronger towards the end of the Cold War: The U.S. has far more power from trade than the Soviet Union. This is because the U.S. economy is not only larger than that of the Soviet Union but also more open in terms of trade. In Figure B.7, we show power in 1960, 1980 and the difference in power of the two hegemons across all countries.

Discussion. The measure of power considers a full shutdown of trade between the hegemon and a target. This is grounded in the notion that sovereign states ultimately

control their own borders, and thereby trade with other countries (Hirschman, 1945). These trade sanctions are the economic nuclear option available to any country (and this option was triggered, for instance by the U.S. against Cuba). However, it may seem unrealistic that full sanctions are always on the table. Reassuringly, when comparing our measure to a milder sanction that increases export and import tariffs by 25%, the resulting power is highly correlated with our baseline measure (correlation of 93%, see Figure B.6). While the historical data limits us to using a single-sector trade model, we can use modern data to assess how this compares to more complex models with multiple sectors and an input-output structure. Figure B.5b shows that the welfare losses in the single-sector model are highly correlated with more complex models (correlation $> 95\%$).

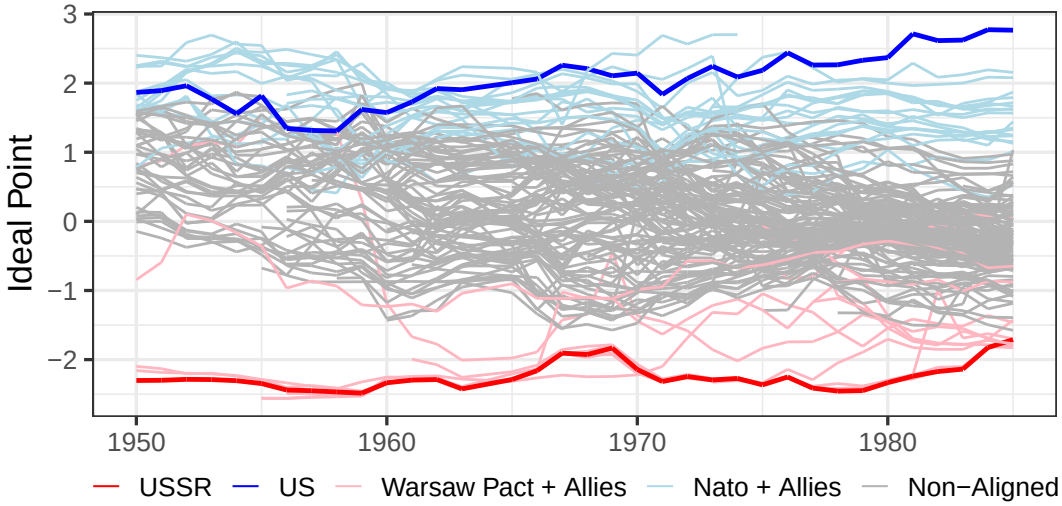
Power in international trade stems both from being able to cut off exports as well as imports. In practice, threats consist of a combination of both. Appendix Figure B.6 shows that both types of threats contribute roughly equally to the overall power of a hegemon and are highly correlated with the overall power of a hegemon (correlation around 90%). This indicates that power is robustly measured. Our notion of power is similar to Clayton et al. (2025c) and Liu and Yang (2025), who measure international power in modern data. The most important difference to these papers is that we measure power both from selling (Export Power) as well as from purchasing goods (Import Power). In contrast, prior work considers power from selling only. We replicate their measures and study the correlation to our measure in Figure B.6. The correlations are generally high and above 70%. Differences are most pronounced for country pairs with large bilateral trade imbalances. In these pairs, focusing on exports alone understates hegemonic power, because it disregards the power of large buyers that are not easily replaced.

3.4 Alignment and Other Datasets

We measure geopolitical alignment using state-of-the-art methods in international relations and use the 'ideal-points' from Bailey et al. (2017) based on U.N. votes. This follows a long literature in international relations and, more recently, economics (Kleinman et al., 2024; Becko et al., 2025; Camboni and Porcellacchia, 2025; Gopinath et al., 2025). Bailey et al. (2017) estimate dynamic, unidimensional ideal points using votes at the U.N. General Assembly (UNGA). The ideal points are estimated as latent alignment in a statistical voting model, using repeated resolutions to bridge country alignment across time, and normalized to reflect alignment with the U.S..[25]

[25]The ideal point measure addresses limitations of earlier methods (e.g., bilateral voting correlations or 'S-scores'). The statistical model of voting controls for shifts in UNGA agenda, enabling valid in-

Figure 6: Ideal Point Across Countries



Notes: This figure displays the ideal point for all countries between 1950 and 1985 using the measure of Bailey et al. (2017). The ideal point of the U.S. and USSR are highlighted in blue and red respectively. Light blue belong to NATO while light pink countries are part of the Warsaw Pact. The ideal point of non-aligned countries is shown in gray.

Voting at the UNGA yields a continuous alignment measure covering all countries in the world during the Cold War, making it ideally suited for our study. Alternative measures, such as treaties or military alliances, are sparse (especially beyond advanced economies) and lack a natural dimension of the intensity of alignment. Ideal points are estimated based on different countries expressing their preferences on the same resolutions, making them comparable across countries and time.

The ideal point measure recovers the central fault lines that define the Cold War, as we show in Figure 6, which plots the ideal points of all countries over time. The U.S. and USSR are polar opposites in terms of political stances taken in the U.N.. Close to the U.S. and the USSR are their allies, the members of NATO and the Warsaw Pact. The methodology does not impose this ex-ante, but recovers this from observed voting behavior. In the middle are the non-aligned countries, as classified by the CIA. This is consistent with the interpretation of the ideal point offered in Bailey et al. (2017), which reflects alignment on global issues rather than bilateral similarity (see also Broner et al. (2025a)). In this paper, we study alignment on the central global issue of the time, the Cold War, rather than bilateral alignment.

For our empirical analysis, we follow our model and project the ideal point onto

tertemporal comparisons and explicitly accounts for the fact that resolutions differ in their polarity (i.e., the degree to which countries disagree on resolutions based on their alignment). This methodology enhances reliability in identifying foreign policy shifts.

a unit line with the U.S. and USSR on both ends. Concretely, given the ideal point $\theta_{i,t}$ our measure of alignment $a_{i,t}$ of country i at time t is

$$a_{i,t} = \frac{\theta_{i,t} - \theta_{USSR,t}}{\theta_{US,t} - \theta_{USSR,t}}. \tag{12}$$

This measure is equal to 1 for countries fully aligned with the U.S. and 0 for complete Soviet Union allies.[26] In the regressions, we follow the model and consider the log-odds ratio of alignment, i.e. $\log\left(\frac{a_{i,t}}{1-a_{i,t}}\right)$. Figure B.8 shows that across countries, this quantity is approximately normally distributed and centered on the midpoint of the unit line. For a country that is aligned directly in the middle between the U.S. and USSR, a change in the log odds ratio (our outcome variable) by around .2 points is equivalent to moving from percentile 50 to percentile 60 (or 40). On this scale, moving a country from the median to being a NATO member corresponds to a move of around 1.7 points, or about two standard deviations.

Validation. We validate our measure of alignment both narratively and quantitatively. In Appendix B.4.1, we provide case studies of countries that are well-known to have shifted alignment during the Cold War, such as Chile, Egypt, Ethiopia, or Somalia. Our alignment measure recovers the timeline of these alignment shifts as documented by historians (David, 1991). The case of Chile offers a particularly stark example. After the election of Socialist Leader Allende in 1970, the log-odds ratio of alignment drops by around one standard deviation. It immediately recovers by the same amount in 1974 after the Pinochet Coup. The alignment measure is also consistent with quantitative indicators of geopolitical alignment, including Olympic boycotts, diplomatic recognition of the People's Republic of China and turnover in economic institutions, which we show in Table B.3 and Figure B.10. For example, a one-standard deviation increase in alignment with the U.S. is associated with a 38 p.p. higher likelihood of boycotting the 1980 Moscow Olympics.

Other Data. Aggregate data on GDP, imports, exports, government expenditure, as well as population are from the Global Macro Database (Müller et al., 2025).[27]

[26] In practice, there are some countries falling outside of those boundaries, because their ideal points are more extreme than the position of the U.S. or the Soviet Union. The countries for which this is the case are generally close allies of either hegemon (such as the U.K. or Cuba). In practice these take up more extreme positions on issues such as colonialism. For the sample of non-aligned countries, we only have a few cases for which the odds ratio is not defined.

[27] The Global Macro Database is missing real GDP in USD for Somalia, Venezuela and Zimbabwe. We add those using data from the World Bank and (for Venezuela) the Maddison Project.

4 The Effect of Carrots and Sticks on Alignment

In this section, we describe our empirical strategy and present results on the effects of carrots and sticks on political alignment, as well as their interaction.

4.1 The Effects of Carrots and Sticks

We begin with a descriptive assessment of the relationship between carrots and sticks and alignment before moving to our identification strategy. Our regressions correspond to the empirical counterpart of the reaction function (6) in the data. Concretely, for each country i at time t, we estimate versions of the specification

$$\log \frac{a_{i,t}}{1-a_{i,t}} = \beta \log(c_{i,t}) + \beta^* \log(c^*_{i,t}) + \phi(\text{Power}_{i,t} - \text{Power}^*_{i,t}) + \theta_t + \alpha_i + \gamma \mathbf{X_{i,t}} + \varepsilon_{i,t}. \quad (13)$$

$\text{Power}_{i,t}$ and $c_{i,t}$ are the measures of power and aid introduced in the previous section, $a_{i,t}$ is geopolitical alignment with the U.S. as defined in equation (12). Moreover, we include country and time fixed effects. These control for time invariant–country characteristics (e.g. colonial relations or common religion) and for shifts at the annual level, most importantly the U.N. voting agenda and the position of the hegemons themselves. We also control for the log of population, log GDP per capita and region by decade fixed effects to control for slow-moving shifts across space.[28]

The coefficients of interest are β, β^* and ϕ, which measure the effects of carrots and sticks on geopolitical alignment. We measure carrots as the log of total aid, consistent with our model. Common solutions for dealing with zero values and logarithms concern only dependent variables (Chen and Roth, 2024). Therefore, we use the transformation $\log(1+c)$, which implies a minimum payment of \$1000 given that we measure aid in \$1000. This corresponds to around half the minimum positive aid flow, we verify robustness to alternatives below.[29] Standard errors are clustered at the country level. We standardize all variables for the results in the main text, Table C.5 reports summary statistics.

Estimating equation (13) indicates a robust correlation between carrots, sticks and alignment. Columns (1)–(4) of Table 1 show the effects of carrots and sticks in isolation, and then add fixed effects and controls. Quantitatively, a one-standard deviation

[28] Given the logarithmic specification, controlling for the logarithm of population and GDP per capita (rather than dividing aid directly by population or GDP) allows these variables to enter flexibly. We show results using alternative standardizations below. Our variables do not have sufficient variation to control for more stringent region-by-year fixed effects.

[29] More generally, we think of payments as never being truly equal to 0: In the data we just don't observe the lowest payments (dinner invites, presidential birthday gifts, ...).

Table 1: The Effect of Carrots and Sticks on Alignment

	Log Odds Ratio: Support for US-led order			
	(1)	(2)	(3)	(4)
US Carrot	0.34***	0.24***	0.10*	0.09**
	(0.04)	(0.04)	(0.05)	(0.04)
USSR Carrot	-0.39***	-0.34***	-0.12***	-0.13***
	(0.04)	(0.04)	(0.03)	(0.03)
Δ Power	0.07*	0.10***	0.06	0.05
	(0.04)	(0.03)	(0.04)	(0.03)
N	2641	2641	2641	2587
R^2	0.27	0.51	0.76	0.81
Year FE		✓	✓	✓
Country FE			✓	✓
Controls				✓

Notes: This table reports estimates based on specification 13, which regresses alignment on U.S. and Soviet aid and power. All regressors are standardized, alignment is the log-odds ratio using UN ideal points (section 3). For controls see text. Clustered (country) standard errors in parentheses. Significance codes: *** 0.01, ** 0.05, * 0.1.

increase in U.S. aid predicts an increase in alignment with the U.S. by 0.1 standard deviations, with similar magnitudes for the USSR, as shown in column (4) of Table 1, which includes all controls and fixed effects. Increasing U.S. trade power, relative to Soviet power also predicts more political alignment with the U.S.. Especially once we add country fixed effects, variation in geopolitical alignment and sticks decreases, which reduces the precision of our coefficient estimates. The sign of the coefficient however is in line with carrots and sticks increasing alignment with a hegemon.

Extensions. We further unpack the data before moving to the instrumental variables.

We begin by studying which types of aid are associated with alignment in recipient countries. We distinguish economic and military aid, the two main types of aid provided by both governments. Table 2 studies the effects of these two variables on alignment separately. We find that for the U.S., military aid is more associated with geopolitical alignment, but for the USSR economic aid appears more important. The relationship between U.S. military aid and geopolitical alignment is almost twice as large than for economic aid. For the USSR, the opposite holds, and column (4) suggests that the relationship between economic aid is twice as strong as for military aid. This is a surprising finding that perhaps can be explained by studying the type of aid more in detail. Historians of the Cold War highlight military overproduction as a key

driver of Soviet aid (Westad, 2005), such that giving weapons may be cheaper than economic aid from the Soviet perspective.

Table 2: Different Carrots: The Effect of Military and Economic Aid

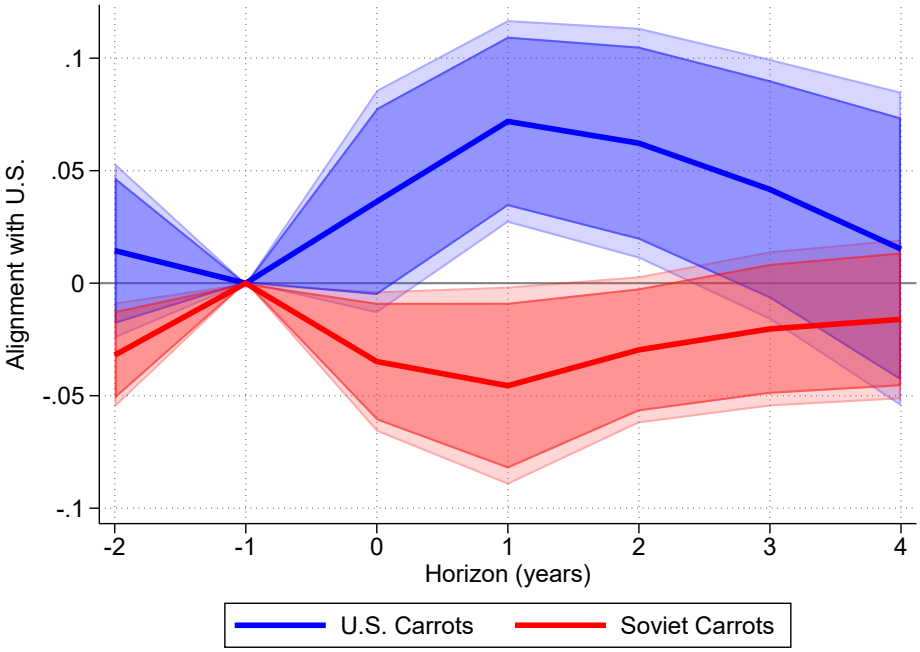
	Log Odds Ratio: Support for US-led order			
	(1)	(2)	(3)	(4)
U.S. Economic	0.20***	0.08	0.06	0.04
	(0.04)	(0.05)	(0.04)	(0.04)
U.S. Military	0.16***	0.20***	0.13***	0.10***
	(0.05)	(0.05)	(0.04)	(0.03)
USSR Economic	-0.17***	-0.16***	-0.12***	-0.10***
	(0.04)	(0.04)	(0.03)	(0.03)
USSR Military	-0.25***	-0.20***	0.02	-0.04
	(0.03)	(0.03)	(0.04)	(0.03)
N	2641	2641	2641	2587
Year FE		✓	✓	✓
Country FE			✓	✓
Controls				✓

Notes: This table reports estimates based on specification 13, which regresses alignment on U.S. and Soviet aid and power. We distinguish between economic and military aid for both the U.S. and USSR and omit power for brevity. All regressors are standardized, alignment is the log-odds ratio using UN ideal points (section 3). For controls see text. Clustered (country) standard errors in parentheses. Significance codes: *** 0.01, ** 0.05, * 0.1.

Second, we study the dynamic effects of geoeconomic tools on political alignment. We do so for carrots, because these are far less persistent than trade power. To investigate dynamic effects, we replace the outcome variable in our estimation at time t by its leads and lags at horizon $h = (-2, \ldots, 4)$ and control for the lag of alignment, as in a local projection. Figure 7 presents the dynamic effects, where $t = 0$ corresponds to the baseline (contemporaneous) specification. The effects of aid tend to recede three years after the commitment.

This specification allows us to compute the long-run effects of carrots on alignment. Denoting the coefficient in the regression on lagged alignment by λ, the long run effects corresponds to $\beta_0/(1-\lambda)$, where β_0 is the effect at horizon 0. We find that $\lambda \approx 0.69$, so that the long run of effect is estimated to be around 0.15 for the U.S. and -0.1 for the USSR. For the U.S., this amounts to around 1.5 times the short run effect from Table 1, for the USSR this is slightly smaller than the short-run effect.

Figure 7: Dynamic Effects of Carrots



Notes: This figure presents results from a dynamic specification in which we replace the outcome variable in (13) by the outcome at time $t + h$ for $h = 1, \ldots, 5$. We report the coefficients on U.S. and USSR carrots. Shaded areas indicate 90 and 95% confidence intervals, clustered at the country level.

4.2 Identification Strategies

The results of the previous section indicate a robust correlation between carrots and sticks and political alignment; however, they cannot be interpreted causally for several reasons. Most importantly, we do not observe the underlying geopolitical preference π_i of each country, which also determines geopolitical alignment in Proposition 1 and is contained in the error term. In our model, carrots and sticks respond to shifting country preferences, so this constitutes a canonical form of omitted variable bias. Moreover, we only study economic carrots and sticks. To the extent that alternative tools of influence are also used (and correlated with economic tools), these constitute omitted variables. Finally, our variables (especially Soviet payments) are likely measured with error, so that measurement error may attenuate the effects.

To address these limitations, we employ instrumental variables for the key variables of interest: U.S. and Soviet foreign aid, as well the difference in U.S. and Soviet Power. In all cases we require shifts to our variable of interest that do not affect political alignment other than through the effect on the variable of interest. The following sections outline our identification strategy in detail.

4.2.1 Instrumental Variables – Carrots

Through the lens of our theory, an ideal instrument would be a shock to the valuation v_i a hegemon assigns to alignment, for example because the costs of giving carrots change. This leads hegemons to spend more resources and countries to shift, but not because country preferences are changing.

To approximate this, we construct a shift-share instrument for carrots, building on a literature that uses shift-share instruments to estimate the effects of both domestic spending (Nakamura and Steinsson, 2014; Auerbach et al., 2024) and foreign aid (Nunn and Qian, 2014; Dreher et al., 2021; Dimant et al., 2024; Mueller, 2024). We construct the instrument $Z_{i,t}$ as the interaction of (i) the share of aid that the country received of the U.S. budget for that world region (in previous years) and (ii) the shift, overall U.S. aid to that region in year t, excluding to the country itself. We divide the world into five regions: Asia, Europe, Latin America, North Africa and the Middle East and Sub-Saharan Africa.[30] Then we define the instrument for country i in region $r(i)$ at time t as

$$Z_{i,t} = \underbrace{\frac{\sum_{t'<t} c_{i,t'}}{\sum_{t'<t, j \in r(i)} c_{j,t'}}}_{\text{Share}} \times \underbrace{\left(\sum_{j \in r(i)} c_{j,t} - c_{i,t} \right)}_{\text{Shift}}, \tag{14}$$

and analogously for the USSR. The share is predetermined at t, which also accounts for changes in the country sample.

Exclusion Restriction and Relevance. The shift-share instrument leverages that recipients are differentially affected by changes in the aid budget of a hegemon. It compares countries that have historically been large recipients of U.S. or Soviet funds to small recipients. We argue that changes in hegemon budgets across regions (from which we subtract the flows to the country itself) are driven by the political process within the hegemons rather than by shifts in the political stance of any individual country. In the language of the recent shift-share literature, identification requires that the shift, i.e., overall of U.S. or Soviet foreign aid to the region (excluding to the country itself) is exogenous to the political alignment of any particular country. Borusyak et al. (2025) show that such shifts constitute valid instruments. We develop both narrative and statistical evidence in support of this assumption.

We provide a case study of Latin America in Appendix C.2.1 to illustrate the variation that drives our instrument narratively. Figure C.12 shows the shifts from equation (14) together with U.S. aid to five recipient countries in Latin America together with a detailed narrative. To a certain extent, there is regional comovement in

[30] The classification is shown in Table C.4

aid flows (this is the first stage), however countries are differently exposed to these shifts. The big shifts in aid correspond to changes in U.S. policies. The largest shifts are the introduction of the Alliance for Progress in 1961, its effective termination in 1969[31] or cuts to foreign aid under Jimmy Carter, which we use in an event study later. Through the lens of our model, we argue that these policies correspond to changes in the importance v_i that the U.S. assigns certain parts of the world, rather than shifts in preferences of any individual country.

We show shifts for all regions in Appendix Figure C.13. The major shifts we identify correspond to changes in hegemon policies – There are large expansions of Soviet aid towards the mid 1970's, when having achieved nuclear parity and buoyed by successes in Vietnam, Soviet strategists come to believe in *'an equal right to meddle in third areas'* (Kramer, 2011, p.52). U.S. aid to Asia drops after the end of the Vietnam War, when the importance of the Asian continent drops.

A potential concern is that hegemons are responding to regionally correlated political shocks. Appendix Table C.6 shows that regional political alignment (as well as other indicators such as the Polity score and the share of governments supported by the CIA or the KGB) does not predict U.S. or Soviet aid to that region.

4.2.2 Instrumental Variables – Sticks (Power)

We construct an instrument for economic power stemmed from trade based on exogenous variation in trade costs. While trade with a hegemon may also be driven by geopolitical considerations (Berger et al., 2013; Gopinath et al., 2025; Liu and Yang, 2025), our instrument isolates changes in trade driven by technology.

Concretely, we build on Feyrer (2019) and leverage changes in the cost of air, relative to sea travel. During the Cold War, trade costs declined dramatically due to improvements in transportation technology. The costs of moving goods by air fell by a factor of almost ten from 1955 to 1990 (Hummels, 2007).[32] These technological shifts had varying impacts on different countries. Nations where sea routes align closely with air routes experienced relatively smaller benefits from the growth of air transport compared to those whose air routes traverse land masses. A major advantage of this instrument lies in the variation of trade costs within countries which allows us to include country fixed–effects.

Practically, we first use a time-varying gravity equation to predict trade and then

[31] In 1969, the Nixon administration re-evaluated its aid policy and made major cuts to the Alliance for Progress. Kissinger famously argued that *'Nothing important can come from the South. History has never been produced in the South. [...] What happens in the South is of no importance.'* (Hersh, 1983, p, 263).

[32] Before 1960, air transport accounted for only a tiny fraction of U.S. trade. By 1990, more than 40% of U.S. exports by value (excluding Mexico and Canada) were transported by air.

compute power using the predicted trade values. The time-varying gravity equation in the first step models trade Y_{ijt} from country i to j as a function of exporter-year (χ_{it}), importer-year (φ_{jt}) and pair (ψ_{ij}) fixed effects together with time-varying distance effects. Crucially, as in Feyrer (2019) we allow the effects of distance $\beta^{\text{air}}_{q(t)}, \beta^{\text{sea}}_{q(t)}$ to vary over time, using 5-year periods $q(t)$ (e.g, 1955-59,60-65, ...) to capture the slow diffusion of technology.[33] We then estimate the time-varying gravity equation

$$Y_{ijt} = \chi_{it} + \varphi_{jt} + \psi_{ij} + \beta^{\text{air}}_{q(t)} \log(\text{air distance}_{i,j}) + \beta^{\text{sea}}_{q(t)} \log(\text{sea distance}_{i,j}) + \varepsilon_{ijt} \quad (15)$$

using the full bilateral trade data from TradHist and PPML (Silva and Tenreyro, 2006), Figure C.14 plots the resulting coefficients $\beta^{\text{sea}}_{q(t)}, \beta^{\text{air}}_{q(t)}$, which indicate a strongly falling coefficient on air distance, relative to sea distance. In the second step, we compute the sanction counterfactuals using the trade flows $\widehat{Y}_{ijt}$ obtained from (15) to construct predicted U.S. and Soviet power $\widehat{\text{Power}}_{i,t}, \widehat{\text{Power}}^{*}_{i,t}$. The difference in predicted power is our instrumental variable.

4.3 Instrumental Variable Results

Table 3 presents the causal effects of carrots and sticks on geopolitical alignment. Column (1) repeats the OLS results, while columns (2)-(5) introduce the instruments first one-by-one and then simultaneously. The instrumentation of trade power reduces our sample size, because we can only construct the instrument for countries with a coastline. In terms of inference, we follow Tabellini and Magistretti (2024) and report the (Sanderson-Windemeijer) F-statistics for the individual instruments, as well as the Kleibergen-Paap (KP) F-statistic. We also report weak-instrument robust confidence intervals.[34]

Carrots and sticks increase alignment with a hegemon. A one-standard deviation increase in payments by the U.S. increases alignment with the U.S. by around 16% of a standard deviation, while a one-standard deviation increase in Soviet payments increases alignment with the USSR by around 15-20% of a standard deviation. In terms of trade power, a one standard deviation increase in U.S. relative to Soviet power also increases alignment with the U.S. by around 10% of a standard deviation. Table C.7 shows results without standardization, these are the results used for the quantitative exercises in the next section. In line with what is required by the theory,

[33] We obtain air and sea distances from the replication kit of Kleinman et al. (2024).

[34] We construct these following Andrews (2018) (using the implementation by Sun (2018)) and report 90% confidence intervals.

Table 3: Instrumental Variable Regression

	Log Odds Ratio: Support for US-led order				
	(1)	(2)	(3)	(4)	(5)
US Carrot	0.09**	0.15*	0.09**	0.07	0.16*
	(0.04)	(0.09)	(0.04)	(0.05)	(0.08)
USSR Carrot	-0.13***	-0.12***	-0.16**	-0.16***	-0.19***
	(0.03)	(0.03)	(0.06)	(0.03)	(0.07)
Δ Power	0.05	0.04	0.04	0.12*	0.12*
	(0.03)	(0.03)	(0.03)	(0.07)	(0.06)
KP-F		100.74	209.25	9.30	27.99
F-Stat (US Carrot)		100.74			94.86
F-Stat (USSR Carrot)			209.25		180.16
F-Stat (Power)				9.30	19.19
Weak-IV Robust CI		[.014, .287]	[-.249, -.062]	[.015, .265]	[.040, .284] [−.301, −.034] [.048, .247]
N	2587	2587	2587	1935	1935
Controls + FE	✓	✓	✓	✓	✓

Notes: This table reports estimates based on specification 13, which regresses alignment on U.S. and Soviet aid and power using the instrumental variables described in Section 4.2. Variables are standardized, the outcome is the log-odds ratio of alignment. Controls are as before. Rows below first-stage F-Statistics show Andrews (2018) weak-IV robust confidence intervals. Clustered (country) standard errors in parentheses. Significance codes: *** 0.01, ** 0.05, * 0.1.

we values of β and β^* below one and around 0.02-0.05.

Coefficient Interpretation. Our estimates imply that buying geopolitical alignment is expensive. Using the parameter estimates from the unstandardized regression (Table C.7), we find that doubling aid by the U.S. increases the log-odds ratio of alignment by $\beta \cdot \log 2 \approx 0.02$ (and by $\beta^* \cdot \log 2 \approx -0.024$ for the USSR), which corresponds to around 2.5% of a standard deviation, results are similar when measuring aid in per capita units.[35] This is equivalent to increasing the odds of boycotting the 1980 Moscow Olympics by about 4.5% or moving a country from p50 to p51 in the empirical distribution of alignment. Compared to other real political events, this corresponds to 2% of the effect of the coup against Salvador Allende (and the switch to Pinochet) and 1.2% of the distance of a neutral country to NATO.[36] Large investments

[35]The point estimates suggest that Soviet aid is slightly more effective, but statistical tests cannot reject that the two are equally effective.

[36]For these calculations, we compute the effect of doubling aid and the effects of these geopolitical events in Appendix B.4 in log-odds space and divide the two.

are required to produce meaningful changes in alignment.[37]

We can also consider some real examples of large aid surges. The 1978 Camp David accords that brokered a peace treaty between Egypt and Israel are followed by a more than fivefold increase in U.S. aid to Egypt, which increases the log-odds ratio of alignment by around 0.05 and can account for around 10% of the observed shift in Egyptian alignment (see Figure B.9). The construction of the Aswan Dam twenty years before (which increased Soviet Aid by about 25-40%) can explain only about 2% of Egypt's political shift towards the USSR in the late 1950's. Egypt's alignment with the USSR stagnates after 1960, so it appears that the Aswan Dam did not actively pull Egypt towards the Soviets and rather prevented Egypt from slipping back towards the U.S..[38]

A larger stick, i.e., more power also increases alignment with a hegemon. Our estimates imply that when the welfare losses a hegemon can threaten a country with increase by 1 percentage point, geopolitical alignment increases by 0.15 standard deviations (an initially neutral country moves from 0.5 to 0.53). This roughly corresponds to raising the economic dependence of a country that does not trade with the U.S. to Latin American levels. Another way of putting this is that for the U.S., doubling aid is equivalent to increasing the trade dependence of a country by 5% of the current trade dependence of Mexico on the U.S. or by increasing trade to GDP with the U.S. by three percentage points of GDP on average, holding Soviet trade fixed. A direct comparison is challenging, because it also needs to take into account the fact that payments impose a cost on the hegemon.

One way of visualizing the quantitative effects of carrots and sticks on geopolitical alignment is through *iso-power curves*, combinations of carrots and sticks that yield the same alignment. We show these curves in Appendix C.3.1. Given our empirical estimates, the tradeoff between carrots and sticks is relatively steep. Raising the trade dependence of a country only slightly allows a hegemon to scale back aid commitments significantly while maintaining the same level of alignment.

The IV estimates are larger than the OLS estimates. For foreign aid, this is consistent with hegemons paying countries that would otherwise shift away from them on their own accords. For power, changes in trade costs predict long-term changes

[37] In absolute amounts, at the average level of initial aid it costs the U.S. $120 million to shift a country from 0.5 to 0.51. But returns are sharply decreasing, and it costs the U.S. more than $2.5 billion to shift the country to a level of 0.55, about the amount the U.S. sent to Egypt following the Camp David accords.

[38] For these calculations, we compare the increase in U.S. aid to Egypt relative to the years prior to 1978 (Camp David), and the share of Soviet Aid that is related to funds for the Aswan Dam. In the data, the odds ratio of Egyptian alignment shifts by around 0.5 towards the Soviets in the late 1950's and by 0.5 towards the U.S. in the late 1970's (Figure B.9).

in trade integration, rather than year-to-year fluctuations in trade, which eliminates year-to-year noise in the trade data and corresponds more accurately to the underlying geoeconomic power.

Discussion. Our finding that buying alignment is expensive is consistent with prior work that studies vote buying at the U.N. without causal identification strategies. Dreher et al. (2008) estimate that increasing U.S. aid by 10 percentage points of recipient GDP increases the coincidence of voting with the U.S. by 20%, Raess et al. (2022) similarly find relatively small effects for China. The historical literature on the Cold War also highlights that convincing non-aligned countries was an expensive proposition in which time and again, hegemons ended up *'throwing good money after bad'* (Zubok, 2009, p. 350) in relatively ineffective attempts to achieve large political goals through aid.[39] For example, many large Soviet aid recipients still joined NATO in condemning the Soviet invasion of Afghanistan at the U.N. (Resolution ES-6/2, 1980), and many USAID recipients voted together with the Warsaw Pact to declare 'Zionism a form of racism' (Resolution 3379, 1975).

Identification in an Event Study. To illustrate the effects of carrots in shifting alignment we consider an event study using the shift in U.S. aid policy under Jimmy Carter. Jimmy Carter's surprise election by a two percentage point margin led to a large shift in U.S. aid priorities. Relative to the previous U.S. support for military dictatorships in Latin America, Carter cut military aid to Latin America by more than 75%, publicly declaring that *'we are now free of that inordinate fear of communism which once led us to embrace any dictator who joined us in that fear'* (Carter, 1977). We interpret this as a shift in U.S. geopolitical priorities v_i that is not influenced by shifts in the preferences of Latin American leaders.

Formally, we use an event study design that compares the geopolitical alignment of countries with differential exposure to the Carter aid shock, as in our instrumental variable strategy (details are in Appendix C.5). We compare the alignment of more exposed Latin American countries, such as Bolivia or Uruguay, to less exposed countries, such as Mexico or Brazil, which received very little U.S. support at the time. There there were no differential trends in aid or geopolitical alignment between countries with different treatment intensity prior to Carter's election (Figure C.5).

Countries more exposed to Jimmy Carter's aid cuts realigned away from the U.S. politically, as the coefficient estimates in Figure C.17 show. This event study allows us to obtain an estimate of the effect of foreign aid on political alignment using a different source of variation. Compared to the coefficient obtained using the instrumental

[39]Similarly, Kanet (1973, p.443) argues that *'However one might wish to measure the success of U.S. policies in Asia, Africa, and Latin America [...] it seems necessary to conclude that these policies have met with, at best, minimal success.'*

variables above, the coefficient is about twice as large. This may be linked to the fact that the event study primarily leverages variation in military aid, which is potentially more effective in shifting alignment.

Spillovers. During the Cold War, the 'Domino Theory' postulated that changes in alignment could spread across countries. Work in international relations and geoeconomics similarly emphasizes strategic complementarities in the choices of different countries (Walt, 1987; Broner et al., 2025b; Clayton et al., 2025b). While a full empirical treatment of these spillovers is beyond the scope of this paper, we provide some preliminary evidence in Appendix C.6. We study empirically whether carrots and sticks in economically or geographically close countries lead to more alignment.[40] The results are shown in Tables C.11 and C.12. We find weak evidence of immediate spillovers on geopolitical alignment, spillovers are small in magnitude and generally insignificant.

Separating U.S. and Soviet Power. Our main specification studies the effect of U.S. power relative to Soviet power. We allow the coefficients on U.S. and Soviet power to differ in Appendix Table C.10, both in the OLS and the IV specification. Consistent with the results for the difference, we find that power stemmed from trade is related to political alignment with a hegemon. The IV estimates indicate that these effects are causal, at least for the U.S. (estimates for the Soviets are noisier, likely because market forces such as the decline in air travel cost explain Soviet trade to a lesser extent). The size of the causal effect of U.S. power is close to the baseline IV results in Table 3. However, we cannot use the instrumental variables for U.S. and Soviet power simultaneously because the two are collinear – time-varying distance to the U.S. is correlated with time-varying distance to the USSR, simultaneous instrumentation leads to weak instruments (F-Stat$<$1, see Table C.10, column 6).

Robustness. Our instrumental variable estimates may be confounded because other tools of statecraft co-move with the variation in carrots and sticks that we use. In Table C.8, we explicitly account for other tools by controlling for (i) U.S. FDI, (ii) CIA or KGB interventions,[41] (iii) GATT membership, (iv, v) IMF and World Bank lending (Dreher et al., 2022b) and (vi) Aid from Other communist States (China, North Korea ...). We also control for realized sanctions and show our measures have an impact over and above sanctions – consistent with the view in international relations and geoeconomics that *'successful threats are those which do not have to be carried*

[40] The implementation follows Moretti et al. (2025), we weight carrots and sticks in other countries using proximity in terms of trade or geographic distance.

[41] We obtain these from Berger et al. (2013). They define an 'intervention' as CIA or KGB support for a government, including using foreign aid. Therefore some of the effects are already included in our baseline specification.

out' (Schelling, 1966, p.10). Throughout, the effects and magnitudes we document persist, although in some specifications statistical significance decreases slightly.

We show that our IV results are robust to various different specification choices in Table C.9. We first show that clustering by year as well, as mentioned in Borusyak et al. (2025) gives very similar results. When instrumenting both carrots simultaneously in the large sample, we find similar results to the reduced sample in which the data on air and sea-distances is available. Following suggestions by Chen and Roth (2024), we show that results are unchanged when measuring aid using the inverse hyperbolic sine transformation, or in units of \$10,000 or \$100 before applying the $\log(1+x)$ transformation, results also remain quantitatively identical when measuring aid in per-capita terms. Historians of the Cold War highlight that in terms of aid, *'the Kremlin's policy explicitly aimed to include coordinated action of the Warsaw Pact states under Soviet supervision'* (Müller, 2015, p.161). We verify that our results continue to hold when adding aid from Warsaw pact members, as well as using different schedules for apportioning communist aid to multiple years. We also verify that our results are not driven by outliers and hold when winsorizing all variables.

4.4 The Relationship between Carrots and Sticks

We study the relationship between carrots and sticks directly. Our theory predicts that there is a *hump shape* between carrots and sticks, such that countries where either hegemon is very dominant should not receive much aid.

A cursory look at Figure C.15, which plots U.S. aid against power already reveals that this may indeed be the case. It is not the case that the U.S. gives most funds to the countries where it has the largest stick. More formally, we test this prediction by regressing total aid on the power difference, as well as its square in

$$\text{Aid}_{i,t} = \delta_1(\text{Power}_{i,t} - \text{Power}^*_{i,t}) + \delta_2(\text{Power}_{i,t} - \text{Power}^*_{i,t})^2 + \alpha_i + \theta_t + \gamma X_{i,t} + \varepsilon_{i,t}. \quad (16)$$

As before, α_i and θ_t denote country and year fixed effects, aid is the sum of U.S. and Soviet aid. We average data across 5-year intervals to abstract from high-frequency fluctuations in aid. Because we now have aid as an outcome, we can estimate coefficients using both log-OLS and PPML. Our theory predicts that the coefficient δ_2 is negative.

Table 4 shows that the allocation of payments indeed corresponds to a hump shape between aid and power. The sign on the squared power difference is negative across specifications, so that carrots decrease for countries where a hegemon has either lots or very little power. Figure C.16 shows scatter plot of the relationship between carrots

Table 4: Aid and Power

	Total Aid			
	(1) OLS	(2) OLS	(3) Poisson	(4) Poisson
Δ Power	1.11**	0.84**	-0.03	2.23***
	(0.56)	(0.33)	(0.27)	(0.80)
Δ Power^2	-0.47**	-0.29**	-0.29	-0.64***
	(0.21)	(0.13)	(0.18)	(0.24)
Observations	577	565	577	557
Period FE	✓	✓	✓	✓
Country FE + Controls		✓		✓

Notes: This table reports estimates based on specification (16), which regresses total aid on the power difference as well its square. Columns (1) and (2) use the log of total aid as a dependent variable and estimate the equation using OLS, columns (3) and (4) use PPML. The vector of controls is the same as in Section 4.3. Clustered (country) standard errors in parentheses. Significance Codes: ***: 0.01, **: 0.05, *: 0.1

and sticks for the U.S. to understand the underlying patterns. Many countries where the U.S. has most influence through trade, like Mexico, see very little U.S. aid. On the other hand, countries with basically no economic relations with the U.S., like Mali, a large Soviet trade partner at the time, also receive very little from the U.S.. The largest recipients tend to be countries like Egypt and Jordan, where both hegemons have credible economic influence.[42]

5 Applications

We provide two applications that show the implications of our findings for the historical time period and the modern U.S.-China competition.

5.1 The Geopolitical Return on Foreign Aid

During the Cold War, hegemonic powers looked for their foreign investments to yield geopolitical returns. Our approach allows us to define and estimate these geopolitical returns, we believe for the first time.

[42] A similar argument applies to the initial preference π. Lee (2022) shows that in the Cold War, the U.S. aid allocation prioritized countries which were not already close allies with the U.S.

5.1.1 Defining and Measuring Geopolitical Returns

We define the *Geopolitical Return* on aid as net geopolitical benefits divided by costs. In the model, the geopolitical return for the U.S. from increasing spending from $\underline{c}$ to $\bar{c}$ in country i is given by

$$\text{Return}_i(\underline{c}, \bar{c}) = \frac{\overbrace{v_i}^{\text{Geopolitical Importance}} \cdot \overbrace{\left(a_i(c_i = \bar{c}) - a_i(c_i = \underline{c})\right)}^{\Delta \text{ Alignment moving from } \underline{c} \text{ to } \bar{c}} - (\bar{c} - \underline{c})}{(\bar{c} - \underline{c})}. \tag{17}$$

The geopolitical benefits of foreign aid are shifts in alignment, which are weighted by the geopolitical importance v_i of each country. Because of decreasing returns to scale, returns are nonlinear and depend on the level of payments, so we always study the returns from moving from a level $\underline{c}$ to a higher amount $\bar{c}$. With decreasing returns to scale, the change in alignment of the first dollars a hegemon spends is very high relative to the costs, so the returns for the first dollars of expenditure are extremely high.

We calculate the geopolitical returns from moving from a level of $\underline{c} = \$100,000$ to the observed aid levels in the data.[43] To focus on longer-term relationships, we group data into five-year intervals.

Measuring Changes in Alignment. The change in geopolitical alignment is tightly linked to the effect of aid on alignment estimated in Section 4.3. In particular, we use the reaction function

$$\log\left(\frac{a_i}{1 - a_i}\right) = \pi_i + \beta \log(c_i) + \beta^* \log(c_i^*) + \phi(\text{Power}_i - \text{Power}_i^*) \tag{18}$$

The change in alignment a_i consists of both direct effects through the $\beta \log c_i$ term and indirect effects through the reaction of Soviet aid, which adjusts c_i^*. The direct effects are straightforward to compute. For the indirect effects, we use the Soviet reaction function (8). This requires estimation of π_i which we obtain as a residual, and the Soviet geopolitical valuation v_i^*, which we obtain using (9) (the precise computation is detailed in Appendix D.1). Together, these yield the counterfactual alignment $a_i(c_i = \underline{c})$ if the U.S. decided to spend $\underline{c}$.

Measuring Geopolitical Importance. Measuring how much or why hegemons value geopolitical alignment is a general challenge for the literature in geoeconomics (Becko et al., 2025). We use our estimated parameters for the effectiveness of carrots and sticks to recover estimates of the geopolitical importance $\mathbf{v}, \mathbf{v}^*$ of each country for both hegemons using equation (9). These figures rationalize the observed aid

[43] This corresponds to a reduction of aid by 99.5% for the median U.S. or Soviet aid recipient. Using a 99% reduction rather than a level of $100,000 yields similarly high returns of about 400% on average.

allocation as optimal for a hegemon given our parameter estimates. They correspond to the (dollar) amount the U.S. or USSR would gain in terms of welfare when a country completely realigns from one hegemon to the other.

We estimate that the geopolitical importance hegemons assign to foreign countries is large, much larger than the actual aid budgets. Figure D.19 shows that both hegemons value winning all of the non-aligned countries at around 20-40% of U.S. GDP for most of the Cold War (the total is even higher for the U.S. in the early Cold War). The effects of foreign aid on geopolitical alignment are relatively modest, so the fact that hegemons still expend considerable resources implies that hegemons value alignment highly through the lens of our model. Table D.13 shows the top-5 most important non-aligned countries for both hegemons, which includes countries such as Egypt, India or Turkey.

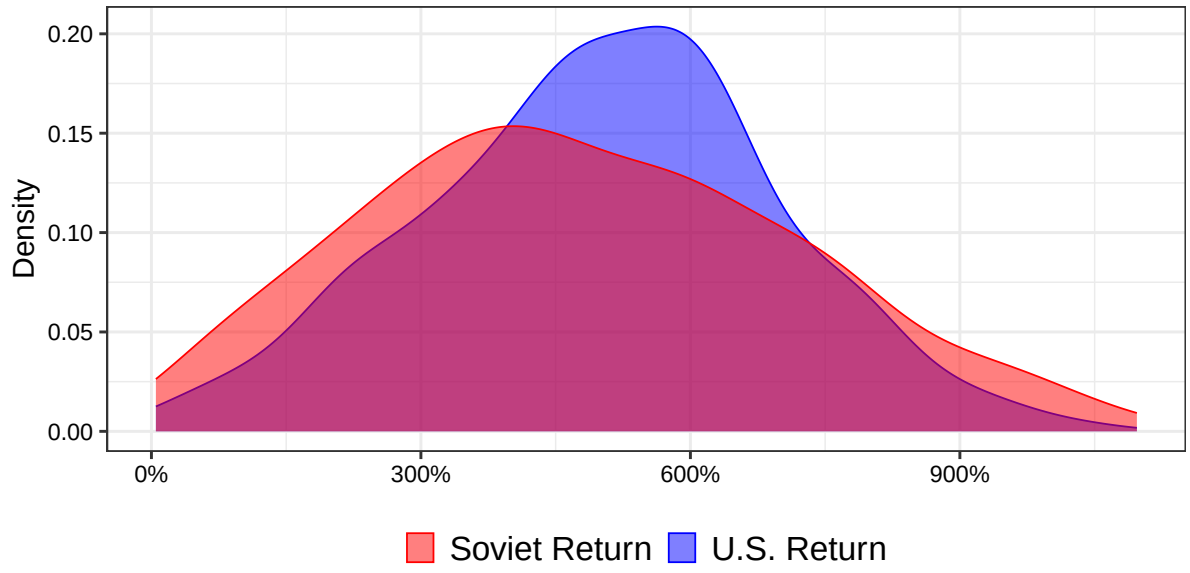
We study the determinants of geopolitical importance in Table D.14, within and across countries. Specifically, we conduct a cross-country analysis in which we regress our estimates of v_i and v_i^* on economic and political factors that have been been proposed to shape geopolitical importance in work on economics and political science (Meernik et al., 1998; Alesina and Dollar, 2000). Consistent with this work, we find an important role for strategic factors such as distance to war or distance for the USSR in explaining valuations. We also find a role for economic self-interest: Trade with a hegemon is a strong predictor of valuations, similarly oil production predicts higher valuations (this effect is stronger for the USSR than the U.S.).

5.1.2 Estimated Geopolitical Returns

We estimate that the geopolitical returns to foreign aid are high. The median and average geopolitical return on aid is around 500% for the U.S. and only slightly lower for the USSR at 450%, as shown in Figure 8. Returns are relatively dispersed across countries, with some countries seeing returns of more than 1000%. Table D.15 shows summary statistics on returns and their components. The returns to foreign aid are high because our model implies that hegemons value alignment highly relative to the money they spend. We generally do not find that countries move by much in our counterfactuals, the average country moves by only around 0.05 units. However, because the valuations are large relative to the modest sums that hegemons spend, we find very large returns.

To understand the geopolitical returns, it is useful to consider some examples. We show the inputs that go into the geopolitical returns on foreign aid in Panel (b) of Figure 8 for three countries. The first row shows the geopolitical return to aid in Egypt in the early Cold War and its components. As explained above, Egypt was

Figure 8: Geopolitical Returns on Foreign Aid



(a) Geopolitical Returns Across Countries

	U.S.				USSR			
Country	v	Δa	c	Return (%)	v^*	Δa	c^*	Return (%)
Egypt	3.24%	0.05	0.021%	734.7%	5.01%	0.08	0.039%	891.9%
India	15.52%	0.08	0.112%	942.7%	3.42%	0.08	0.030%	813.4%
Iran	3.39%	0.06	0.021%	836.9%	0.08%	0.04	0.001%	419.9%

(b) Components of U.S. and Soviet Returns in Select Countries, 1960-64

Notes: Panel (a) shows the cross-country distribution of the return on U.S. and Soviet foreign aid, defined in (17). The numbers underlying the calculations are shown in panel (b) for three countries for the period 1960-64. Valuations v, v^* and payments c, c^* are shown as a percentage of U.S. GDP.

a geopolitically important target for both hegemons at the time. For instance, the U.S. would be willing to pay 3% of its GDP to turn Egypt from being fully aligned with the USSR to fully aligning with the U.S.. Through the lens of our estimates, U.S. spending only moves Egypt by 0.05 points on the 0-1 line. However, the implied welfare gain from the U.S. from moving Egypt by 0.05 units is still more than seven times the actual U.S. expenditure on Egypt, thus resulting in high donor returns. The returns are even higher in India, which has a larger geopolitical value for the U.S. (row 2 of the Table). The final row shows a more a unbalanced example – Iran, which receives as much support from the U.S. as Egypt, but far less support from the USSR (Iran under the Shah is relatively more aligned with the U.S.). However, we still find higher U.S. returns in Iran than Egypt, because our model projects Moscow to make

a move into Iran absent U.S. support, consistent with U.S. fears around the 1960's described in Hoffman (2013, p.303) and Alvandi (2014), when the Shah embarks on a period of détente with Moscow.

Discussion. Little is known about how large geopolitical returns to foreign aid to donors are. Prior work has mostly focused on mostly on the social returns of aid projects (estimated returns 1600% (Kremer et al., 2021)) or effects on economic growth (estimated returns 20% (Dalgaard and Hansen, 2017)).[44] In contrast, we compute geopolitical returns using a well-specified counterfactual. Using a similar methodology, Kang (2016) estimates that the return to corporate lobbying is about 150%. These returns are similarly driven by high valuations, not by large effects on the enactment probability of specific policies. The high geopolitical returns could explain why the financial returns on projects such as the Belt-and-Road are generally quite low (Franz et al., 2024) – high geopolitical returns compensate for low financial returns.

One limitation of these findings is that we do not observe the valuations directly but back them out from the model. Little is known about how much hegemons value alignment of foreign countries. Alekseev and Lin (2025) estimate that the U.S. values winning a conflict against China in the present-day at up to 250% of U.S. GDP, up to ten times more than the valuations we find for winning over all the non-aligned countries during the Cold War. In contrast, Becko et al. (2025) proxy valuations using military spending by the U.S., which leads to valuations that are around 4-5 times lower than what we find. The returns scale linearly with the valuations, so that we may either over- or understate geopolitical returns.

Our calculations assume that the only motivation for aid is to increase geopolitical alignment, in line with a view in the foreign aid literature on the Cold War that *'power-political and security concerns are the central interests supported by and controlled through the U.S. aid program'* (McKinlay and Little, 1977, p.80). However, aid may of course also have economic or humanitarian motivations. Ignoring those leads us to overestimate valuations and thus geopolitical returns.[45] Yet, unless non-geopolitical motives dominate, the estimated geopolitical returns would remain high.

[44] Many of these papers report 'benefit-cost ratios', which correspond to gross returns in our language. We subtract 100% from their reported gross returns to compare to the net returns we report.

[45] To see this, assume that hegemons maximize a function $v_i a_i(\beta \log c_i) + \kappa_i \log c_i - c_i$, where κ contains all other (humanitarian, economic) benefits that accrue to the hegemons. Then the correct formula to back out v_i is $v_i = (c_i - \kappa_i)/(a_i(1-a_i)\beta)$. The degree to which we overestimate returns depends on the size of non-geoeconomic benefits κ_i.

5.2 Application to the U.S. – China Competition

To conclude, we apply our findings to the U.S.-China hegemonic competition and evaluate the consequences of a USAID shutdown.

5.2.1 Data

We extend the previously introduced datasets to the present.

Carrots. For China, we obtain foreign aid from AidData (Custer et al., 2023), which provide detailed data on Chinese development projects in emerging and developing countries. We follow the literature on Chinese foreign aid and consider only Official Development Assistance (ODA)-like flows, as classified by AidData, for our main analysis. These are politically directed concessional flows, while other official flows (OOF) – the other major category – are mostly commercial projects that more closely resemble FDI or other types of capital flows (Dreher et al., 2018). For the U.S. we continue to rely on the Greenbook for economic and military assistance.

We provide descriptive statistics in Appendix D.2.1. Figure D.20a compares total Chinese and U.S. aid over time. The U.S. continues to be a larger contributor of development aid than China, but Chinese aid has quintupled since 2000. From 2015-19, Chinese aid is around half the size of U.S. aid (but only slightly smaller when excluding the top-3 U.S. aid recipients, Afghanistan, Iraq and Israel). This changes completely when including other official finance (OOF) from China. Including OOF, China contributes around three times as many funds as the U.S.. While commonly seen as commercially oriented, there is some evidence that these flows do respond to Chinese geopolitical objectives (Dreher et al., 2022a; Raess et al., 2022). We therefore also conduct counterfactuals including OOF.

The global allocation of U.S. and Chinese flows is shown in Figures D.20b - D.20d. As in the past, Africa and Asia appear as the key targets of carrots by both hegemons.

Sticks. We extend our measure of power to the present day. Figure D.22 plots U.S. and Chinese power. The difference to the Cold War is clear: Nowadays, the two hegemons are much more evenly matched in economic terms than during the Cold War. In most countries, Chinese power is already larger than U.S. power when focusing purely on power stemmed from international trade. China is particularly dominant in Southeast Asia, but also in many African Countries. The U.S. remains very powerful in Latin America, but also in many East Asian countries.

Alignment. We continue to measure geopolitical alignment using voting in the UNGA. We use the Ideal Points from Bailey et al. (2017), measured on the sample

of 'important' votes, as classified by the U.S. department of state.[46] An alternative is to use the percentile rank between the U.S. and China as in Becko et al. (2025), we pursue this as a robustness check.

Figure D.21 shows the resulting alignment across different countries. Again, U.N. voting reflects intuitive notions of geopolitical alignment: NATO countries are aligned with the U.S., while countries in the new Chinese coalition, such as Belarus, Russia or Iran vote more closely with China. In the middle are countries that are part of the 'new neutrals' such as Panama or Turkey (Heine, 2025).

5.2.2 Counterfactuals

Our main counterfactual exercise is a shutdown of USAID. Constrained by data availability, we start from an initial equilibrium in 2015-19. This period is generally seen as the time in which U.S. foreign strategy shifted towards great power competition with China as exemplified in the national security strategy of the Trump administration (The White House, 2017). This entailed a restructuring of economic statecraft to focus on competition with China. In 2018, the U.S. reformed its development finance to *'compete more effectively in a new era of strategic competition'* (Corker, 2018). These dynamics clearly share similarities with the Cold War studied in the rest of the paper.[47] We therefore regard our historical findings as a first pass to study great power competition in the present.

We study the implication of the USAID shutdown, modeled as an exogenous decrease of U.S. carrots. Through the lens of our model, this could correspond to a large drop in the U.S. willingness to give up consumption in exchange for more political alignment, or to a change in the cost of providing aid.[48] We hold the initial geopolitical stance π_i and Chinese geopolitical preferences v_i^* fixed, and set the effectiveness of carrots β to the midpoint of the estimates for the U.S. and USSR.

Counterfactual Construction. We quantify both the direct and indirect effects of shutting down USAID. The direct effect on the geopolitical alignment of countries around the world from just changing U.S. carrots. However, there is also an indirect effect from China adjusting its strategy in response.

[46] Bailey et al. (2017) note that these measures are more noisy from year-to-year, because they are estimated on fewer UNGA resolutions. We do not use the year-to-year variation but average over the period 2015-19. The index of important resolutions is not available for the historical sample because the U.S. only started publishing the underlying report in 1983.

[47] Of course, there are also important differences. Most importantly, the economic interdependence between hegemons, which we do not study, is currently much larger than during the Cold War.

[48] In our model, these both in China and the countries choosing sides only respond to the carrots and sticks wielded by the U.S., the underlying motivation for the aid cuts is not relevant. This means we do not need to specify the cause of the USAID cuts, as long as it is originating from the U.S..

Our baseline counterfactual is a shutdown of USAID. To compare across countries and time, we measure aid in per capita terms and use the parameters from Table C.7. We model the shutdown of USAID as setting aid per capita to five cents per capita, the smallest observed flow to a emerging and developing country from 2015-19 (aid per capita to Iran). As in the return computation, we compute the necessary parameters (initial preferences, valuations) from the country reaction function and the first order conditions of the hegemons. Table D.16 shows summary statistics for all parameters. Then we compute both the Chinese reaction and the subsequent political realignment. We also consider three alternative scenarios: (1) A partial shutdown of USAID in line with the preliminary estimates of Sandefur and Kenny (2025),[49] (2) A scenario where Chinese carrots include OOF and (3) A scenario where alignment is measured using the rank in the voting distribution between the U.S. and China (Becko et al., 2025).

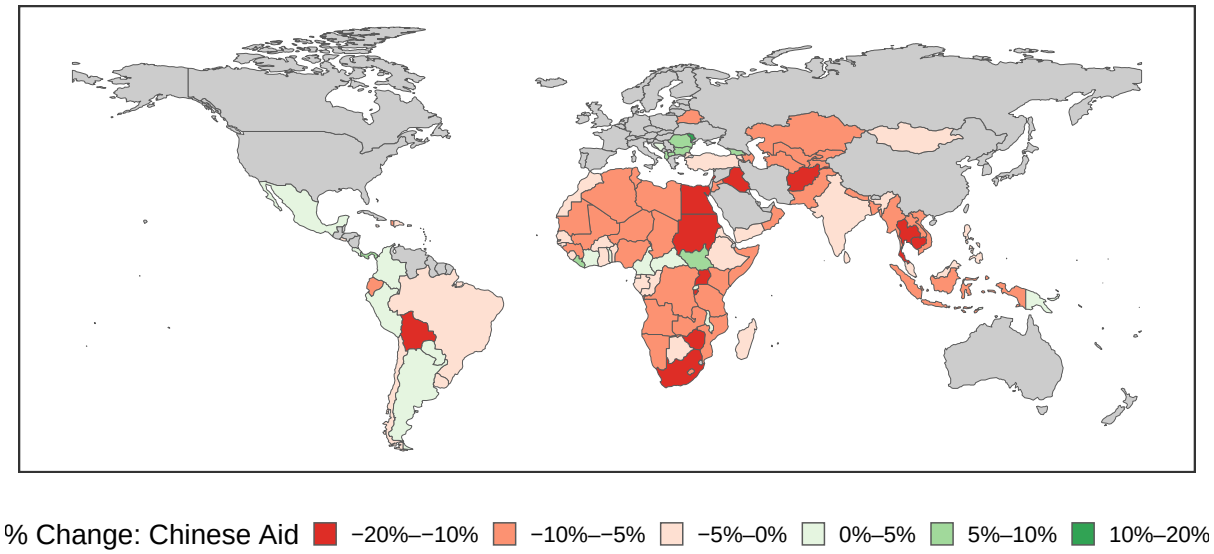
How does China React? The Chinese reaction to a full USAID shutdown is shown in Figure 9. Ex ante, the Chinese reaction is ambiguous: On the one hand, the USAID shutdown moves countries lowers the influence the U.S. has in these countries, so that China could obtain the same level of geopolitical alignment in a country given lower levels of aid. On the other hand, the absence of a competitor means that China can step in to fill the void.

Our findings indicate that in the majority of countries, China will *decrease* its payments in response to the USAID shutdown. This is because in our data, most developing countries are already more aligned with China than the U.S. to begin with. The USAID shutdown only moves countries further into the Chinese sphere of influence. At this point, does not have to expend additional resources so it is optimal to decrease aid. The Chinese aid cuts in our baseline scenario can be sizable. Much of Africa sees Chinese aid drop by around 5-10% on top of the U.S. aid cuts, some countries by up to 20%. For many of the poorest countries in the World, these cuts have macroeconomic consequences. Consider Burundi, where average annual aid flows from the U.S. from 2015-19 amounted to about around 2% of GDP. Our findings imply that in response to a full shutdown of USAID, Chinese aid may also be lowered by 13% from around 0.8% of GDP to 0.7% of GDP.

However, there are some countries in which China may increase its support. This is the case in countries in Eastern Europe or Latin America, such as Albania, Colombia but also in Liberia. What these countries have in common is that they are important recipients of U.S. funds and are relatively aligned with with the U.S. initially. The shutdown of USAID means that now, they come into play for China. Liberia for

[49] Sandefur and Kenny (2025) provide estimates of aid cuts at the country level based on lists shared with U.S. congress, the estimates are shown in Figure D.23. The estimates indicate that most affected countries are in East Asia and Latin America, Africa is less affected.

Figure 9: Percent Change in Chinese Aid in Reaction to USAID Shutdown



Notes: This figure plots the change in Chinese aid to a shutdown of USAID as a percentage of initial Chinese aid. The underlying numbers and inputs to the counterfactuals are in Table D.16.

example has traditionally been a strong ally of the U.S. and has been hit particularly hard by USAID cuts. Our counterfactuals predict Chinese aid to increase by 10%, the positive reaction is consistent with reporting in Pronczuk and Mengonfia (n.d.).

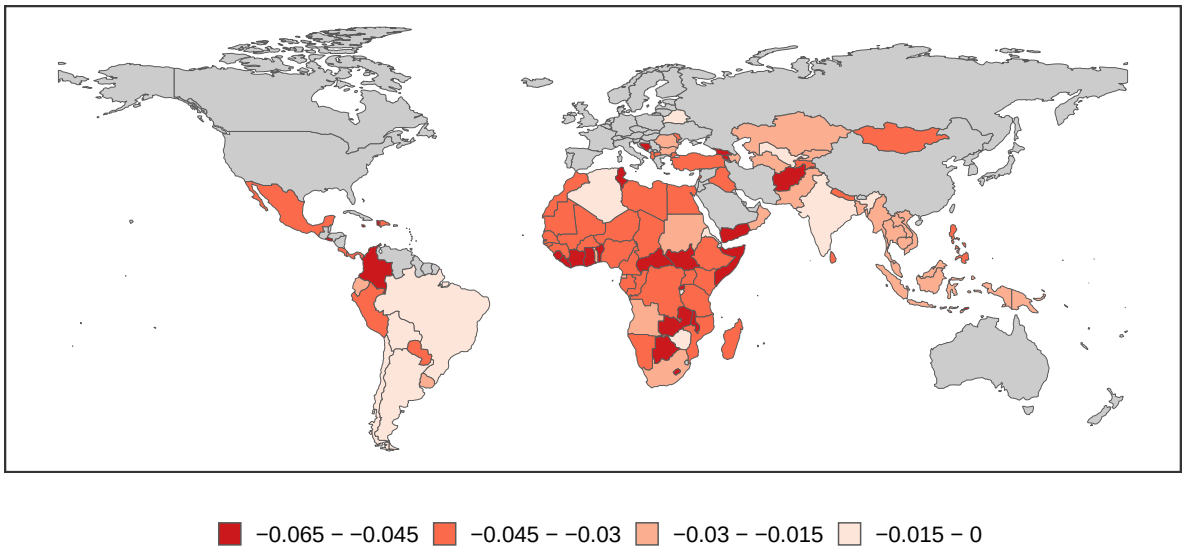
How does Alignment React? We plot the change in alignment in Figure 10. Our estimates indicate that the average country will realign by around 0.035 points towards China on the 0 to 1 scale.[50] This corresponds to roughly 15% of the geopolitical distance between Turkey and historically closer U.S. allies like France, Germany or the U.K. . The countries projected to realign away from the U.S. by the largest margins are those most aligned with the U.S. initially, for example countries in Central Africa, Eastern Europe or parts of Latin America (see Figure D.24). Indiscriminate cutting of aid institutions has the potential to alienating U.S. allies more than adversaries.

Can Sticks Compensate for a Lack of Carrots? One way the U.S. could offset its loss of influence through carrots is through increasing coercive power.[51] We show that this may be possible in countries tightly connected to the U.S., e.g. in Latin America, but is very challenging elsewhere. In Figure D.25, we compute how much economic power would need to increase to maintain the same level of alignment

[50]The reaction of geopolitical alignment is the combination of the (exogenous) cut in USAID and the (endogenous) reaction of Chinese aid. Given our empirical estimates, the alignment shift induced by the exogenous USAID cut dominates the overall effects.

[51]While hegemons already leverage their full coercive power in our model, we can think of threats becoming more credible or increases in the ability to threaten existing dependencies as domestic constraints on threats loosen.

Figure 10: Change in Geopolitical Alignment with U.S. (0-1 Scale)



Notes: This map plots the change in geopolitical alignment with the U.S. for the counterfactual considering a full shutdown of USAID. Alignment is measured on a scale from 0 to 1, with 1 indicating full alignment with the U.S..

with the U.S. across countries. In relative terms, economic leverage would need to increase by 20-100% in Latin America, but more than twenty-fold in East Africa or the Middle East, where the U.S. has little economic leverage and China is already a viable alternative. In absolute terms, this would require raising power in East Africa to Latin American levels. This pattern is consistent with reactions to U.S. economic pressure in recent months, which has been more successful in yielding policy concessions in Latin America and Europe than elsewhere.[52]

Alternative Scenarios. There is of course considerable uncertainty about both the Chinese reaction and the reaction of geopolitical alignment. We show the Chinese reaction and the change in alignment under alternative scenarios in Table D.16. A robust conclusion across scenarios is that China does not step up to fill the gap left by USAID. Rather, the decrease of Chinese aid to many countries holds across measures of Chinese foreign aid, geopolitical alignment or the details of the USAID shutdown. This model prediction is consistent with anecdotal reports about Chinese hesitancy to increase aid in most African countries in recent months (Sun, 2025).

There is more uncertainty about the change in geopolitical alignment. In particular, a partial shutdown of USAID could go a long way in preserving geopolitical

[52]Chivvis and Geaghan-Breiner (2024) highlight that the economic position of Mexico and other Latin American countries naturally ties them to the U.S., but this is not the case for countries in the rest of the world.

alignment with the U.S.. If aid cuts are implemented following the initial estimates of Sandefur and Kenny (2025), the loss in alignment is reduced by 50%.

6 Conclusion

Economic statecraft and geopolitical competition have returned. While we do not yet know the precise dynamics of the competition ahead, our paper turns to the past for insights. We develop a model of hegemonic competition and estimate the effectiveness of geoeconomic tools based on Cold War data.

From the perspective of a hegemon our results show that geoeconomic tools work, but they are expensive. Large increases in payments or trade dependencies are required to change alignment meaningfully. From the perspective of small countries, hegemonic competition can be more beneficial than a world with a single hegemon. The presence of a rival constrains the ability of hegemons to extort small countries and can even lead countries to extract payments from both sides.

Our results call for caution in overemphasizing the geopolitical effects of China's aid. The rise of China in global trade reshapes the balance of power even without direct transfers.

Our analysis opens many avenues for future research. Our paper has made progress in estimating the effects of different economic tools on geopolitical alignment. However, geopolitical alignment also affects trade and financial flows (Gopinath et al., 2025; Liu and Yang, 2025). Empirically characterizing this two-way interaction in a dynamic setting is increasingly important. Moreover, governments are now taking an active role in reshaping their economic structure through industrial policy, often motivated by geopolitical concerns (Juhász et al., 2024). Studying the consequences of these policies for geopolitical power is an exciting direction for future work.

References

Alekseev, Maxim and Xinyue Lin (2025). "Trade Policy in the Shadow of Conflict: The Case of Dual-Use Goods".

Alesina, Alberto and David Dollar (2000). "Who gives foreign aid to whom and why?" *Journal of economic growth* 5, pp. 33–63.

Alfaro, Laura, Sebnem Kalemli-Ozcan, and Vadym Volosovych (2014). "Sovereigns, upstream capital flows, and global imbalances". *Journal of the European Economic Association* 12.5, pp. 1240–1284.

Alvandi, Roham (2014). "The Shah's détente with Khrushchev: Iran's 1962 missile base pledge to the Soviet Union". *Cold War History* 14.3, pp. 423–444.

Andrews, Isaiah (2018). "Valid two-step identification-robust confidence sets for GMM". *Review of Economics and Statistics* 100.2, pp. 337–348.

Antràs, Pol and Gerard Padró i Miquel (2011). "Foreign influence and welfare". *Journal of International Economics* 84.2, pp. 135–148.

— (2025). "Exporting Ideology: The Right and Left of Foreign Influence". *Quarterly Journal of Political Science* 20.1, pp. 33–70.

Armington, Paul S. (1969). "A Theory of Demand for Products Distinguished by Place of Production". *IMF Staff Papers* 16.1, pp. 159–178.

Asmus, Gerda, Andreas Fuchs, and Angelika Müller (Apr. 2018). Russia's foreign aid re-emerges.

Atallah, Abdel Hakam A. (June 1981). Hydro-Electric Energy in Egypt. Tech. rep. Vienna: United Nations Industrial Development Organization (UNIDO).

Auerbach, Alan J, Yuriy Gorodnichenko, and Daniel Murphy (2024). "Macroeconomic frameworks: Reconciling evidence and model predictions from demand shocks". *American Economic Journal: Macroeconomics* 16.3, pp. 190–229.

Avdjiev, Stefan, Bryan Hardy, Şebnem Kalemli-Özcan, and Luis Servén (2022). "Gross capital flows by banks, corporates, and sovereigns". *Journal of the European Economic Association* 20.5, pp. 2098–2135.

Bailey, Michael A, Anton Strezhnev, and Erik Voeten (2017). "Estimating dynamic state preferences from United Nations voting data". *Journal of Conflict Resolution* 61.2, pp. 430–456.

Baldwin, David A (1971). "The power of positive sanctions". *World Politics* 24.1, pp. 19–38.

— (1985). Economic Statecraft: New Edition. New Edition. Princeton, NJ: Princeton University Press.

Baqaee, David, Julian Hinz, Benjamin Moll, Moritz Schularick, Feodora A Teti, Joschka Wanner, and Sihwan Yang (2024). What if? The effects of a hard decoupling from China on the German economy. Kiel Policy Brief.

Bearce, David H and Daniel C Tirone (2010). "Foreign aid effectiveness and the strategic goals of donor governments". *The Journal of Politics* 72.3, pp. 837–851.

Becko, J. S. and D. G. O'Connor (2025). Strategic (Dis) Integration.

Becko, John Sturm, Gene M. Grossman, and Elhanan Helpman (2025). "Optimal Tariffs with Geopolitical Alignment".

Berger, Daniel, William Easterly, Nathan Nunn, and Shanker Satyanath (2013). "Commercial imperialism? Political influence and trade during the Cold War". *American Economic Review* 103.2, pp. 863–896.

Bernstein, Martin, Josefin Meyer, Kevin O'Rourke, and Moritz Schularick (July 2025). Economic Insecurity: Trade Dependencies and Their Weaponization in History. Discussion Paper 20457. Paris & London: CEPR.

Bombardini, Matilde and Francesco Trebbi (2011). "Votes or money? Theory and evidence from the US Congress". *Journal of Public Economics* 95.7-8, pp. 587–611.

Bonadio, Barthélémy, Andrei A Levchenko, Dominic Rohner, and Mathias Thoenig (2024). "Feeding the Tigers: Remittances and Conflict in Sri Lanka".

Borusyak, Kirill, Peter Hull, and Xavier Jaravel (2025). "A practical guide to shift-share instruments". *Journal of Economic Perspectives* 39.1, pp. 181–204.

Brands, Hal (2012). Latin America's cold war. Harvard University Press.

Broner, Fernando, Alberto Martin, Josefin Meyer, Christoph Trebesch, and Jiaxian Zhou Wu (2025a). "Hegemony and International Alignment". *AEA Papers and Proceedings* 115, pp. 593–98.

Broner, Fernando, Alberto Martin, Josephin Meyer, and Christoph Trebesch (2025b). "Hegemonic globalization".

Bueno de Mesquita, Bruce and Alastair Smith (2016). "Competition and collaboration in aid-for-policy deals". *International Studies Quarterly* 60.3, pp. 413–426.

Camboni, Matteo and Michael Porcellacchia (May 2025). "Spheres of Influence".

Campos, Rodolfo G, Benedikt Heid, and Jacopo Timini (2024). The economic consequences of geopolitical fragmentation: Evidence from the Cold War.

Carter, Jimmy (May 1977). Address at Commencement Exercises at the University of Notre Dame. The American Presidency Project.

Caselli, Francesco and Daniel J Wilson (2004). "Importing technology". *Journal of monetary Economics* 51.1, pp. 1–32.

Chen, Jiafeng and Jonathan Roth (2024). "Logs with zeros? Some problems and solutions". *The Quarterly Journal of Economics* 139.2, pp. 891–936.

Chivvis, Christopher S and Beatrix Geaghan-Breiner (2024). Emerging powers and the future of American statecraft. Vol. 9. Carnegie Endowment for International Peace.

CIA (July 2, 1964). Soviet International Economic Policy. Special Report OCI No. 0338/64. Office of Current Intelligence, Central Intelligence Agency.

— (Aug. 1984). A Comparison of Soviet and US Gross National Products, 1960–83. Intelligence Assessment. Central Intelligence Agency, Directorate of Intelligence, Office of Soviet Analysis.

— (1955-86). Communist Aid to Non-Communist Less Developed Countries. Tech. rep. Declassified report series. Langley, VA: Central Intelligence Agency.

Clayton, Christopher, Antonio Coppola, Matteo Maggiori, and Jesse Schreger (2025a). "Chokepoints: Identifying Economic Pressure".

Clayton, Christopher, Matteo Maggiori, and Jesse Schreger (2025b). A Framework for Geoeconomics.

— (2025c). A Theory of Economic Coercion and Fragmentation.

— (2025d). "Putting Economics Back Into Geoeconomics". *NBER Macroeconomics Annual*.

Corker, Bob (May 10, 2018). Opening Statement at Hearing "Modernizing Development Finance". U.S. Senate Committee on Foreign Relations.

Costinot, Arnaud and Andrés Rodríguez-Clare (2014). "Trade theory with numbers: Quantifying the consequences of globalization". In: *Handbook of international economics*. Vol. 4. Elsevier, pp. 197–261.

Custer, Samantha, Axel Dreher, Thai-Binh Elston, Brooke Escobar, Andreas Fuchs Fedorochko, Siddhartha Ghose, Joyce Jiahui Lin, Ammar A Malik, Bradley C Parks, Kyra Solomon, et al. (2023). Tracking Chinese Development Finance: An Application of AidData's TUFF 3.0 Methodology. AidData at William & Mary Williamsburg, VA.

Dal Bó, Ernesto, Pedro Dal Bó, and Rafael Di Tella (2006). ""Plata o Plomo?": bribe and punishment in a theory of political influence". *American Political science review* 100.1, pp. 41–53.

Dalgaard, Carl-Johan and Henrik Hansen (2017). "The return to foreign aid". *The Journal of Development Studies* 53.7, pp. 998–1018.

David, Steven R. (1991). Choosing Sides: Alignment and Realignment in the Third World. Baltimore: Johns Hopkins University Press, p. 247.

Dimant, Eugen, Tim Krieger, and Daniel Meierrieks (2024). "Paying them to hate US: The effect of US military aid on anti-American terrorism, 1968–2018". *The Economic Journal* 134.663, pp. 2772–2802.

Dixit, Avinash and John Londregan (1996). "The determinants of success of special interests in redistributive politics". *the Journal of Politics* 58.4, pp. 1132–1155.

Dougherty, James E (1959). "The Aswan decision in perspective". *Political Science Quarterly* 74.1, pp. 21–45.

Dreher, Axel, Andreas Fuchs, Brad Parks, Austin M Strange, and Michael J Tierney (2018). "Apples and dragon fruits: The determinants of aid and other forms of state financing from China to Africa". *International Studies Quarterly* 62.1, pp. 182–194.

Dreher, Axel, Andreas Fuchs, Bradley Parks, Austin Strange, and Michael J Tierney (2021). "Aid, China, and growth: Evidence from a new global development finance dataset". *American Economic Journal: Economic Policy* 13.2, pp. 135–174.

— (2022a). Banking on Beijing: The aims and impacts of China's overseas development program. Cambridge University Press.

Dreher, Axel, Valentin Lang, B Peter Rosendorff, and James Raymond Vreeland (2022b). "Bilateral or multilateral? International financial flows and the dirty-work hypothesis". *The Journal of Politics* 84.4, pp. 1932–1946.

Dreher, Axel, Peter Nunnenkamp, and Rainer Thiele (2008). "Does US aid buy UN general assembly votes? A disaggregated analysis". *Public choice* 136, pp. 139–164.

Drezner, Daniel W (1999). The sanctions paradox: Economic statecraft and international relations. 65. Cambridge University Press.

Dunning, Thad (2004). "Conditioning the effects of aid: Cold War politics, donor credibility, and democracy in Africa". *International organization* 58.2, pp. 409–423.

Edwards, Sebastian (2023). "The debauchery of currency and inflation: Chile, 1970-1973".

Faye, Michael and Paul Niehaus (2012). "Political aid cycles". *American Economic Review* 102.7, pp. 3516–3530.

Feyrer, James (2019). "Trade and income—exploiting time series in geography". *American Economic Journal: Applied Economics* 11.4, pp. 1–35.
Fouquin, Michel and Jules Hugot (2016). "Two centuries of bilateral trade and gravity data: 1827-2014".
Franz, Lukas, Sebastian Horn, Bradley C. Parks, Carmen M. Reinhart, and Christoph Trebesch (2024). The Financial Returns on China's Belt and Road.
Giorcelli, Michela and Bo Li (2025). "Technology transfer and early industrial development: evidence from the Sino-Soviet alliance".
Gopinath, Gita, Pierre-Olivier Gourinchas, Andrea F. Presbitero, and Petia Topalova (2025). "Changing global linkages: A new Cold War?" *Journal of International Economics* 153, p. 104042.
Groseclose, Tim and James M Snyder (1996). "Buying supermajorities". *American Political Science Review* 90.2, pp. 303–315.
Harmer, Tanya (2011). Allende's Chile and the inter-American cold war. Univ of North Carolina Press.
Heine, Jorge (2025). "Not Picking Sides and the "New Neutrals": Active Nonalignment, Great Power Competition, and the Global South". *Journal of World Affairs* 1.1, pp. 7–14.
Hersh, Seymour M. (1983). The Price of Power: Kissinger in the Nixon White House. New York: Summit Books.
Hirschman, Albert O (1945). National power and the structure of foreign trade. Vol. 105. Univ of California Press.
Hoffman, Elizabeth Cobbs (2013). American Umpire. Harvard University Press.
Horn, Sebastian, Carmen Reinhart, and Christoph Trebesch (2020). "Coping with Disasters: Two Centuries of International Official Lending".
Horn, Sebastian, Carmen M Reinhart, and Christoph Trebesch (2021). "China's overseas lending". *Journal of International Economics* 133, p. 103539.
Hummels, David (2007). "Transportation costs and international trade in the second era of globalization". *Journal of Economic perspectives* 21.3, pp. 131–154.
Juhász, Réka, Nathan Lane, and Dani Rodrik (2024). "The new economics of industrial policy". *Annual Review of Economics* 16.1, pp. 213–242.
Kalinovsky, Artemy M. (2017). "The Soviet Union and the Global Cold War". In: *The Cambridge History of Communism: Volume 3, Endgames? Late Communism in Global Perspective, 1968 to the Present*. Ed. by Juliane Fürst, Silvio Pons, and Mark Selden. Cambridge University Press, pp. 72–94.
Kanet, Roger E (1973). "Soviet and American Behaviour Toward the Developing Countries: A Comparison". *Canadian Slavonic Papers* 15.4, pp. 439–461.
Kang, Karam (2016). "Policy Influence and Private Returns from Lobbying in the Energy Sector". *The Review of Economic Studies* 83.1, pp. 269–305.
Kindleberger, Charles P (1986). The world in depression, 1929-1939. Univ of California Press.
Kleinman, Benny, Ernest Liu, and Stephen J. Redding (2024). "International Friends and Enemies". *American Economic Journal: Macroeconomics* 16.4, pp. 350–85.
König, Michael D., Dominic Rohner, Mathias Thoenig, and Fabrizio Zilibotti (2017). "Networks in Conflict: Theory and Evidence From the Great War of Africa". *Econometrica* 85.4, pp. 1093–1132.

Kramer, Mark (2011). "The Decline in Soviet Arms Transfers to the Third World, 1986–1991: Political, Economic, and Military Dimensions". In: *The End of the Cold War and the Third World: New Perspectives on Regional Conflict*. Ed. by Artemy M. Kalinovsky and Sergey Radchenko. London and New York: Routledge, pp. 46–100.

Kremer, Michael, Sasha Gallant, Olga Rostapshova, and Milan Thomas (2021). "Is Development Economics a Good Investment? Evidence on scaling rate and social returns from USAID's innovation fund". *Harvard University*.

Kushi, Sidita and Monica Duffy Toft (2023). "Introducing the military intervention project: A new dataset on US military interventions, 1776–2019". *Journal of Conflict Resolution* 67.4, pp. 752–779.

Kuziemko, Ilyana and Eric Werker (2006). "How much is a seat on the Security Council worth? Foreign aid and bribery at the United Nations". *Journal of political economy* 114.5, pp. 905–930.

Lee, James (2022). "Foreign Aid, Development, and US Strategic Interests in the Cold War". *International Studies Quarterly* 66.1, sqab090.

Liu, Ernest and David Yang (2025). International Power.

Luke, Christina and Lynn Meskell (2023). "New deals for the past: the Cold War, American archaeology, and UNESCO in Egypt and Syria". *History and Anthropology* 34.2, pp. 194–214.

Maurer, Noel (2011). Much Ado about Nothing: Expropriation and Compensation in Peru and Venezuela, 1968-75. Harvard Business School.

Mayer, Thierry, Isabelle Mejean, and Mathias Thoenig (2025). "The fragmentation paradox: De-risking trade and global safety".

McKinlay, Robert D and Richard Little (1977). "A foreign policy model of US bilateral aid allocation". *World Politics* 30.1, pp. 58–86.

Mearsheimer, John J (2001). The tragedy of great power politics. WW Norton & Company.

Meernik, James, Eric L Krueger, and Steven C Poe (1998). "Testing models of US foreign policy: Foreign aid during and after the Cold War". *The Journal of Politics* 60.1, pp. 63–85.

Mellor, John W, Christopher L Delgado, and Malcom J Blackie (1987). Accelerating food production in sub-Saharan Africa. International Food Policy Research Institute.

Miskovic, Natasa, Harald Fischer-Tiné, and Nada Boskovska (2014). The non-aligned movement and the cold war: Delhi-Bandung-belgrade. Routledge.

Mohr, Cathrin (2023). Carrots and sticks: Targeting the opposition in an autocratic regime. Tech. rep. ECONtribute Discussion Paper.

Moretti, Enrico, Claudia Steinwender, and John Van Reenen (2025). "The intellectual spoils of war? Defense R&D, productivity, and international spillovers". *Review of Economics and Statistics* 107.1, pp. 14–27.

Morgenthau, Hans (1962). "A political theory of foreign aid". *American political science review* 56.2, pp. 301–309.

Most, Benjamin A and Harvey Starr (1984). "International relations theory, foreign policy substitutability, and "nice" laws". *World Politics* 36.3, pp. 383–406.

Mueller, Joris (2024). "China's foreign aid: Political determinants and economic effects".
Müller, Karsten, Chenzi Xu, Mohamed Lehbib, and Ziliang Chen (2025). "The Global Macro Database: A New International Macroeconomic Dataset".
Müller, Miriam M. (2015). "A Spectre is Haunting Arabia How the Germans Brought Their Communism to Yemen". In: Bielefeld: transcript Verlag.
Nakamura, Emi and Jón Steinsson (2014). "Fiscal stimulus in a monetary union: Evidence from US regions". *American Economic Review* 104.3, pp. 753–792.
National Intelligence Council (Sept. 1984). The USSR and the Third World. National Intelligence Estimate NIE 11-10/2-84. Washington, DC: Director of Central Intelligence, National Intelligence Council.
Nunn, Nathan and Nancy Qian (2014). "US food aid and civil conflict". *American economic review* 104.6, pp. 1630–1666.
Pronczuk, Monika and Mark Mengonfia (n.d.). As U.S. abruptly ends support, Liberia faces empty health clinics and unplanned pregnancies. The Associated Press.
Raess, Damian, Wanlin Ren, and Patrick Wagner (2022). "Hidden strings attached? Chinese (commercially oriented) foreign aid and international political alignment". *Foreign Policy Analysis* 18.3.
Rai, Kul B (1980). "Foreign aid and voting in the un general assembly, 1967—1976". *Journal of Peace Research* 17.3, pp. 269–277.
Sandefur, Justin and Charles Kenny (2025). "USAID Cuts: New estimates at the country level". *Center for Global Development (CGD)* 26.
Schelling, Thomas C. (1966). Arms and Influence. New Haven, CT: Yale University Press.
Silva, JMC Santos and Silvana Tenreyro (2006). "The log of gravity". *The Review of Economics and statistics*, pp. 641–658.
Sun, Liyang (2018). "Implementing valid two-step identification-robust confidence sets for linear instrumental-variables models". *The Stata Journal* 18.4, pp. 803–825.
Sun, Yun (2025). "Can China fill the void in foreign aid?" *Brookings Institution commentary* 11.
Tabellini, Marco and Giacomo Magistretti (2024). "Economic integration and the transmission of democracy". *Review of Economic Studies*.
The White House (Dec. 2017). *National Security Strategy of the United States of America*. Executive Office of the President. Washington, DC.
Thoenig, Mathias (2024). "Trade in the shadow of war: A quantitative toolkit for geoeconomics". In: vol. 1. Handbook of the Economics of Conflict. North-Holland, pp. 325–380.
U.S. International Trade Commission (Aug. 2009). The Economic Effects of Significant U.S. Import Restraints, Chapter 3: U.S. Trade Policy since 1934.
Walt, Stephen M (1987). The origins of alliance. Cornell University Press.
Waltz, Kenneth N. (1979). Theory of International Politics. Reading, MA: Addison-Wesley.
Westad, Odd Arne (2005). The Global Cold War: Third World Interventions and the Making of Our Times. Cambridge UP.
Zubok, Vladislav M (2009). A failed empire: the Soviet Union in the Cold War from Stalin to Gorbachev. Univ of North Carolina Press.

A Appendix to Section 2

A.1 Equilibrium with Sticks Only

Lemma 1 (Equilibrium with Sticks Only)**.** *In equilibrium, both hegemons choose the same cutoff points* $\widehat{\mathbf{a}} = \widehat{\mathbf{a}}^*$*. In a country i in which the U.S. is more powerful, i.e.,* $Power_i > Power_i^*$*, both hegemons choose the same (unique)* $\widehat{a}_i$ *such that* $\widehat{a}_i > \pi_i$ *and*

$$-\varphi(\widehat{a}_i, \pi_i) = Power_i - Power_i^* \tag{19}$$

Alternatively, when the USSR is stronger, the corresponding threat is the unique $\widehat{a}_i < \pi_i$ *s.t.*

$$-\varphi(\widehat{a}_i, \pi_i) = Power_i^* - Power_i \tag{20}$$

All countries choose the alignment $\widehat{\boldsymbol{a}}$ *corresponding to the cutoff points specified above.*

The proof is in Section A.2. The first thing to note is that in all equilibria, the country trades with both hegemons and sanctions are off the equilibrium path. However, by changing the outside options of the small countries, the power of each hegemon still influences the equilibrium alignment. Concretely, the stronger hegemon coerces the small country into choosing an alignment that is closer to the position of that hegemon.

What matters for a country's alignment is *differential power*. Consider the case in which the U.S. has more power, i.e. $\text{Power}_i > \text{Power}_i^*$. Intuitively, the presence of another hegemon means that there is an outside option for the country, in which it trades only with the USSR. This lowers the leverage of the U.S., so that it can only extract alignment due to the excess power it has over its opponent. The threat offered by the U.S. is the characterized by the $\widehat{a}_i$ from (19). Because the USSR has less power, it is unable to counter this offer and offers the same threat as a best response.

We illustrate the result graphically in Figure A.1, which shows both country welfare and alignment in three settings in which hegemons compete using sticks only. We begin with an environment with no economic coercion (green). In this setting, the country will choose to align at its bliss point π, which we calibrate to be at 0.5. With only the U.S. as a hegemon (blue), the U.S. will threaten to withdraw trade and coerce the country into aligning more closely with it. This is associated with a welfare loss for the target, because the hegemon can extract the full surplus from trade. When there are two hegemons (red), this benefits the country. Now, the U.S. can only extract the surplus relative to the USSR. Unless the hegemons are exactly equally matched, the country sees welfare losses relative to the equilibrium without coercion.

A.2 Proofs

Below, we provide the proofs of the propositions in the main text.

Lemma 1 (Equilibrium with Sticks Only)**.** *In equilibrium, both hegemons choose the same cutoff points* $\widehat{\mathbf{a}} = \widehat{\mathbf{a}}^*$*. In a country i in which the U.S. is more powerful, i.e.,* $Power_i > Power_i^*$*, both hegemons choose the same (unique)* $\widehat{a}_i$ *such that* $\widehat{a}_i > \pi_i$ *and*

$$-\varphi(\widehat{a}_i, \pi_i) = Power_i - Power_i^* \tag{19}$$

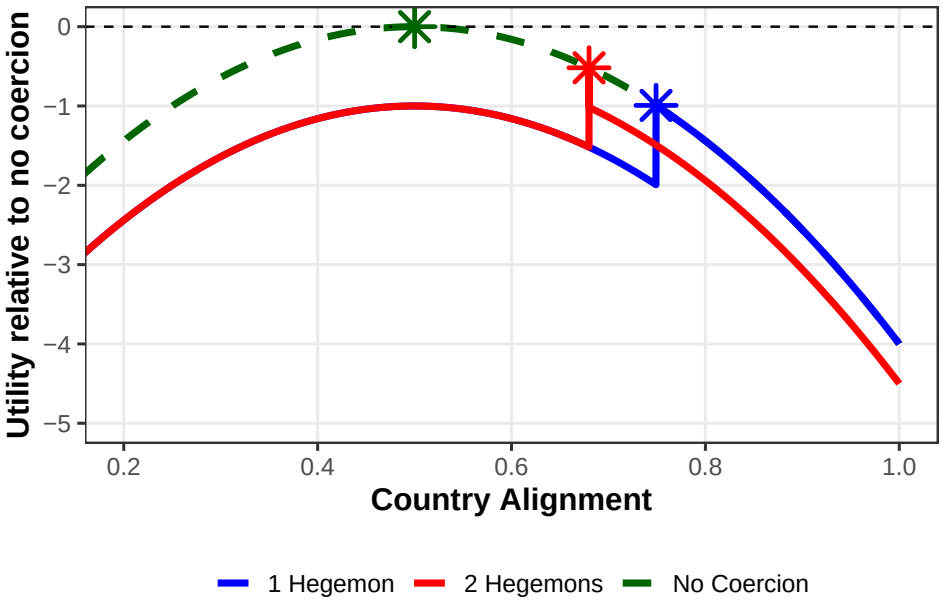


Figure A.1: Illustration of Lemma 1

Notes: This figure illustrates the equilibrium in Lemma 1. For details see text.

Alternatively, when the USSR is stronger, the corresponding threat is the unique $\widehat{a}_i < \pi_i$ *s.t.*

$$-\varphi(\widehat{a}_i, \pi_i) = Power_i^* - Power_i \tag{20}$$

All countries choose the alignment $\widehat{\boldsymbol{a}}$ *corresponding to the cutoff points specified above.*

Proof. For the proof, we suppress the subscript i. Without loss of generality, consider the case in which the U.S. has more power (Power $-$ Power*), the other case is symmetric. We first show that for the country choosing the alignment $\widehat{a}$ specified by (19) is optimal. Given the threats specified in the Lemma, the country's utility is given by

$$U(a) = \begin{cases} \varphi(a, \pi) + C(\overline{\tau}^*) & \text{if } a > \widehat{a} \\ \varphi(a, \pi) + C & \text{if } a = \widehat{a} \\ \varphi(a, \pi) + C(\overline{\tau}) & \text{if } a < \widehat{a} \end{cases}$$

where C is consumption without sanctions. Choosing an alignment $a > \widehat{a}$ closer to the U.S. is clearly not optimal because it leads the country to move further from its bliss point, while also loosing trade with the Soviet Union. The maximal utility the country can attain by deviating from $\widehat{a}$ is by choosing an alignment equal to its bliss point π, which yields utility $C(\overline{\tau})$. However, choosing $\widehat{a}$ yields utility $\varphi(\widehat{a}, \pi) + C = C(\tau) + (C - C(\overline{\tau}^*))$, which is strictly greater than $C(\overline{\tau})$. So choosing $\widehat{a}$ is the optimal response.

Next, we show that making these threats are best responses for both hegemons. For the U.S., we show that choosing any threat point $\widetilde{a} > \widehat{a}$ that extracts more concessions is rejected by the target country, which instead chooses to remain at its bliss

point.[53] Choosing this more extreme position yields utility $U(\widetilde{a}) = \varphi(\widetilde{a}, \pi) + C(\overline{\tau}^*)$ for the target country it loses trade with the Soviet Union. We can bound this by

$$U(\widetilde{a}) = \varphi(\widetilde{a}, \pi) + C(\overline{\tau}^*) < \varphi(\widehat{a}, \pi) + C(\overline{\tau}^*) = C(\tau) = U(\pi).$$

The inequality follows from the fact that $\widetilde{a} > \widehat{a}$, together this means that for stronger threats, the target country's optimal decision is to remain at its bliss point, yielding lower utility for the U.S..

Finally, we show that choosing $\widehat{a}$ is a best response for the Soviet Union. This follows from the fact that there is no threat that the Soviet Union can make that leads the country to choose a different alignment. Suppose the Soviet Union makes a weaker threat $\widetilde{a}^* < \widehat{a}$. Utility for the target at that point is given by $U(\widetilde{a}^*) = \varphi(\widetilde{a}^*, \pi) + C(\overline{\tau}) \leq C(\overline{\tau})$. In contrast, utility from choosing $\widehat{a}$ is $U(\widehat{a}) = C(\tau)$ in this case, so that for the target country choosing $\widetilde{a}$ is a best response. □

Proposition 1 (Hegemonic Competition with Carrots and Sticks)**.** *Assume that utility over geopolitics is given by* (2) *and that* $\beta, \beta^* \in (0, 1]$*. Then there exists a unique equilibrium in which the cutoff points of the hegemons and the country alignment are given by*

$$a_i = \frac{\exp\left(\widetilde{\pi}_i + \text{Power}_i + \beta \log c_i\right)}{\exp\left(\text{Power}_i^* + \beta^* \log c_i^*\right) + \exp\left(\widetilde{\pi}_i + \text{Power}_i + \beta \log c_i\right)}, \tag{6}$$

where π_i *is the bliss point of the country. Equivalently,*

$$\log\left(\frac{a_i}{1 - a_i}\right) = \widetilde{\pi}_i + \beta \log c_i - \beta^* \log c_i^* + \text{Power}_i - \text{Power}_i^*. \tag{7}$$

Moreover, the payments by each hegemon are characterized by

$$\begin{aligned} \frac{\exp\left(\widetilde{\pi}_i + \text{Power}_i^* + \beta^* \log c_i^* + \text{Power}_i + \beta \log\ c_i\right)}{\left(\exp(\text{Power}_i^* + \beta^*\ \log c_i^*) + \exp(\widetilde{\pi}_i + \text{Power}_i + \beta \log c_i)\right)^2} &= \frac{c_i}{\beta v_i} \\ \frac{\exp\left(\widetilde{\pi}_i + \text{Power}_i^* + \beta^* \log c_i^* + \text{Power}_i + \beta \log c_i\right)}{\left(\exp(\text{Power}_i^* + \beta^*\ \log c_i^*) + \exp(\widetilde{\pi}_i + \text{Power}_i + \beta \log c_i)\right)^2} &= \frac{c_i^*}{\beta^* v_i^*}. \end{aligned} \tag{8}$$

where v_i *and* v_i^* *are the valuations hegemons have for different countries.*

Proof. In the proof, we again suppress the country subscript i. Given our specification for the effects of carrots, expression (6) by combining the fact that hegemons will shift alignment by their power different from Proposition 1 with the utility function (2).

The payments (8) follow from the fact that each hegemon solves the maximization problem (4), to which this is the first order condition. For existence and uniqueness note that it follows directly from the two equations that $c^* = K \cdot c$ for some constant

[53] Weaker threats yield less alignment for the stronger hegemon, so are not optimal.

K. Using (8), this means that the optimal payment for the US is characterized by

$$\frac{\exp\left(\widetilde{\pi} + \text{Power}^* + \beta^* \log Kc + \text{Power} + \beta \log\, c\right)}{\left(\exp(\text{Power}^* + \beta^* \log Kc) + \exp(\widetilde{\pi} + \text{Power} + \beta \log c)\right)^2} = \frac{c}{\beta v}$$

We show below that this equation has a unique solution for $0 < \beta, \beta^* \leq 1$.

To simplify notation, define the positive constants $a \equiv \exp(\text{Power}^*)$, $b \equiv \exp(\widetilde{\pi} + \text{Power})$, and $K' \equiv \exp(\widetilde{\pi} + \text{Power}^* + \text{Power} + \beta^* \log K)$.

Then the equation becomes

$$\frac{K' \cdot c^{\beta+\beta^*}}{(aK^{\beta^*}c^{\beta^*} + bc^{\beta})^2} = \frac{c}{\beta v}. \tag{21}$$

Define the function $g(c)$ by rearranging (21):

$$g(c) \equiv \frac{K' \cdot c^{\beta+\beta^*-1}}{\left(aK^{\beta^*}c^{\beta^*} + bc^{\beta}\right)^2} - \frac{1}{\beta v}.$$

We show that $g(c)$ has a unique root for $c > 0$, which implies that (21) has a unique solution. The function $g(c)$ is continuous on $(0, \infty)$ and satisfies

$$\lim_{c \downarrow 0} g(c) = +\infty, \qquad \lim_{c \to \infty} g(c) = -\frac{1}{\beta v}$$

This holds because the numerator is on the order of $\beta + \beta^* - 1$, while the denominator is on the order of $\max(2\beta^*, 2\beta)$ (so the numerator grows larger for small c, while the denominator dominates for large c).

It remains to show that there is only one crossing. For this, we show that $g(c)$ is strictly decreasing. It suffices to show that the function g_1, defined as

$$\begin{aligned} g_1(c) &\equiv \ln\left(g(c) + \frac{1}{\beta v}\right) \\ &= \ln K' + (\beta + \beta^* - 1)\ln c - 2\ln\left(aK^{\beta^*}c^{\beta^*} + bc^{\beta}\right) \end{aligned}$$

is strictly decreasing, because g_1 is a strictly monotonically increasing transformation of g. The derivative of this function with respect to c is

$$\frac{d}{dc}g_1(c) = \frac{\beta + \beta^* - 1}{c} - \frac{2}{c} \cdot \frac{aK^{\beta^*}\beta^* c^{\beta^*} + b\beta c^{\beta}}{aK^{\beta^*}c^{\beta^*} + bc^{\beta}}.$$

The right-hand side is strictly negative for all $c > 0$ whenever $0 < \beta, \beta^* \leq 1$, because the second term is a convex combination of β and β^*, and thus

$$\frac{aK^{\beta^*}\beta^* c^{\beta^*} + b\beta c^{\beta}}{aK^{\beta^*}c^{\beta^*} + bc^{\beta}} \geq \min\{\beta, \beta^*\}.$$

Hence,

$$\beta + \beta^* - 1 < 2 \cdot \min\{\beta, \beta^*\} \leq 2 \cdot \frac{aK^{\beta^*}\beta^* c^{\beta^*} + b\beta c^{\beta}}{aK^{\beta^*} c^{\beta^*} + bc^{\beta}}.$$

It follows that $\frac{d}{dc} g_1(c) < 0$, so that g_1 and g are strictly decreasing. This establishes uniqueness of the equilibrium. □

Proposition 2 (Implications)**.** *In the equilibrium, we have the following.*

- *There is a hump shape of carrots in sticks for given parameters $\boldsymbol{\pi}, \mathbf{v}, \mathbf{v}^*, \beta, \beta^*$. That is, for small values of the difference in hegemonic power, total payments are increasing in the power difference, but beyond a threshold value, they fall.*
- *The valuations v_i and v_i^* for a country i can be recovered using the observed alignment a_i and the effectiveness β, β^* of carrots for both hegemons,*

$$\begin{aligned} v_i &= \frac{1}{a_i(1-a_i)\,\beta} c_i \\ v_i^* &= \frac{1}{a_i(1-a_i)\,\beta^*} c_i^* \end{aligned} \tag{9}$$

Proof. For the first claim, we hold Soviet Power fixed initially and consider the first order condition

$$\frac{K' \cdot c^{\beta+\beta^*-1}}{(aK^{\beta^*} c^{\beta^*} + bc^{\beta})^2} - \frac{1}{\beta v} = 0 \tag{22}$$

from the proof of Proposition 1, where we defined the variables $a \equiv \exp(\text{Power}^*)$, $b \equiv \exp(\widetilde{\pi} + \text{Power})$, and $K' \equiv \exp(\widetilde{\pi} + \text{Power}^* + \text{Power} + \beta^* \log K)$. Equation (22) defines the optimal payment by the U.S. c as an implicit function f of its Power, $f(c, a, b(\text{Power}), K'(\text{Power}))$ such that $f = 0$. Using the implicit function theorem, we can compute

$$\frac{\partial c}{\partial \text{Power}} = -\frac{\frac{\partial f}{\partial b}\frac{\partial b}{\partial \text{Power}} + \frac{\partial f}{\partial K'}\frac{\partial K'}{\partial \text{Power}}}{\frac{\partial f}{\partial c}} \tag{23}$$

Because of $\beta, \beta^* \leq 1$, it follows from (22) that $\frac{\partial f}{\partial c}$ is strictly negative. Thus, the sign of the derivative (23) is fully determined by the sign of the numerator. Computing all the derivatives yields

$$\begin{aligned} \frac{\partial f}{\partial b} &= \frac{-2K' c^{2\beta+\beta^*-1}}{(aK^{\beta^*} c^{\beta^*} + bc^{\beta})^3}, \\ \frac{\partial b}{\partial \text{Power}} &= b, \\ \frac{\partial f}{\partial K'} &= \frac{c^{\beta+\beta^*-1}}{(aK^{\beta^*} c^{\beta^*} + bc^{\beta})^2}, \\ \frac{\partial K'}{\partial \text{Power}} &= K'. \end{aligned}$$

Therefore, the sign of the derivative (23) is given by the second term in

$$\underbrace{\frac{K' c^{\beta+\beta^*-1}}{(aK^{\beta^*}c^{\beta^*}+bc^{\beta})^3}}_{>0} \cdot \underbrace{\left(aK^{\beta^*}c^{\beta^*}-bc^{\beta}\right)}_{\gtrless 0}$$

Recall that $b = \exp(\widetilde{\pi} + \text{Power})$ and $a = \exp(\text{Power}^*)$ (K is a positive constant that does not depend on Power). When Power* is large relative to Power, the second term is positive (carrots are increasing in terms of the power difference), but when Power* is small, the second term is negative. The precise range in which the function is upward or downward sloping depends on the remaining parameter values.

This shows that U.S. payments display a hump-shape in terms of sticks. The proof of Proposition 1 shows that Soviet payments can be written as $c^* = Kc$ for $K = \beta^* v^* / \beta v$. Thus total payments display a hump shape, which proves the claim.

For the second part, note that the first order condition of a hegemon implies that

$$\frac{v\beta}{c}\frac{\partial a(\beta \log c)}{\partial \beta \log c} = 1$$

Using (6), we have that

$$\frac{\partial a(\beta \log c)}{\partial \beta \log c} = \frac{\exp\left(\widetilde{\pi} + \text{Power}^* + \beta^* \log c^* + \text{Power} + \beta \log\ c\right)}{\left(\exp(\text{Power}^* + \beta^*\ \log c^*) + \exp(\widetilde{\pi} + \text{Power} + \beta \log c)\right)^2} = a_i(1-a_i)$$

□

A.3 Relation to the Literature

Relation to the Literature. Our model extends upon recent models of geoeconomics, most importantly by allowing for multiple tools of economic competition (carrot and stick). Clayton et al. (2025b) study competition between two hegemons in their Appendix B.2. They study a special case of their model with symmetric hegemons, so the presence of a second hegemon eliminates geoeconomic power, similar to the Bertrand paradox. When hegemonic power is asymmetric, the power of the weaker hegemon determines the surplus that can be extracted by the stronger hegemon – as is the case in Bertrand competition with unequal marginal costs. Broner et al. (2025b) show that hegemonic competition can lead to a world of 'fragmentation', in which every country aligns with one bloc and only trades with that side. In our model, countries never fully align with one side and continue relationships with both great powers. This is because we allow alignment to be continuous (rather than binary) and hegemons to bargain individually with different countries, so that they do not have to make the same offer to all countries. We show that empirically, non-aligned countries continued economic relations with both hegemons in the Cold War, so it is important to capture this fact.

A.4 Microfoundation

We provide a microfoundation for the contest function (3) that characterizes the competition between the two hegemons. This also allows us to consider contingent payments. The microfoundation involves a country that takes N binary actions (e.g. votes at the UNGA) denoted by $\{a^1, \ldots, a^N\}$, with $a^j \in \{0, 1\}$. For each action j, it uses an auction to sell its choice to the U.S. and the USSR. The country has an initial preference $\widetilde{\pi}$ for choosing $a^j = 1$ but experiences unobserved taste shocks $\varepsilon_0^j, \varepsilon_1^j$ for each decision which follow a type 1 extreme value distribution. The hegemons offer payments c and c^* to the country and have valuations v, v^* for every action the country makes.

All-Pay Auction. When the country uses an all-pay auction to sell its choices to the hegemons, we show that the problem collapses to the setup in the main text. To see this, note that for each action j, the country chooses $a_j = 1$ (the action supported by the U.S.) if

$$U(a^j = 1) = \beta \log c + \widetilde{\pi} + \varepsilon_1^j > \beta^* \log c^* + \varepsilon_0^j$$

The properties of the extreme value distribution yield that

$$P[a^j = 1|c] = \frac{\exp(\beta \log c + \widetilde{\pi})}{\exp(\beta \log c + \widetilde{\pi}) + \exp(\beta^* \log c^*)}, \tag{24}$$

which is exactly the formulation from the contest function in (3). Thus, each hegemon maximizes

$$\max_c \sum_j P[a^j = 1|c]v - c \quad \text{resp.} \quad \max_{c^*} \sum_j P[a^j = 0|c^*]v - c^*, \tag{25}$$

which is the same maximization problem each hegemon solves in equation (4). The average choice of the country is given by the same expression as in the main text, so that we can think of $P[a^j = 1] \equiv a$.

Alternative Micro-foundation An alternative micro-foundation is the following: Both the U.S. and the USSR make a costly effort to influence the country's preferences on a decision. The effectiveness of this effort has decreasing returns to scale and is subject to stochastic noise, so that final efforts are given by $c^{\beta} \cdot Z$, and $c^{*\beta^*} \cdot Z^*$, where Z, Z^* are Frechet-distributed with shape parameter 1. The country chooses the U.S. if it has greater influence, i.e. if $\exp(\widetilde{\pi}) \cdot c^{\beta} \cdot Z > c^{*\beta^*} \cdot Z^*$. The probability of this event is given by (24).

A.4.1 Winner-Pay Auction

Alternatively, the country could also use a winner-pay auction. In this setting, each hegemon makes an *offer* $\widehat{c}$ (resp $\widehat{c}^*$) for each action. The payment is made only if the country chooses the action in favor of the hegemon. Note that this does not change the optimal choice the country makes at each point given offers, i.e. the country reaction function to offers is unchanged. What changes are the optimal payments for

each hegemon. Each hegemon now takes into account that not all offers are accepted, which changes the costs of offering payments. The maximization problem becomes

$$\max_{\widehat{c}} \sum_j P[a^j = 1|\widehat{c}\,] \cdot v - \sum_j P[a^j = 1|\widehat{c}\,] \cdot \widehat{c}, \tag{26}$$

where $P[a^j = 1|\widehat{c}\,]$ is the probability that an offer $\widehat{c}$ of the U.S. is accepted. It follows that the optimal offer for the U.S. solves

$$\frac{\beta(v - \widehat{c})}{\widehat{c}}\big(1 - P[a^j = 1|\widehat{c}\,]\big) = 1, \tag{27}$$

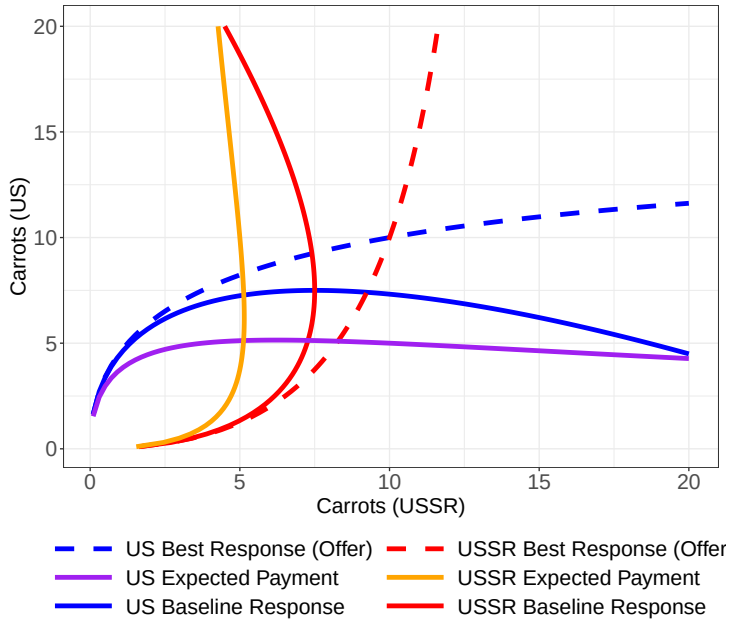
where we used that the derivative of (24) is $P[a^j = 1|c]\big(1 - P[a^j = 1|c]\big)$. Taking the number of choices a country makes to be large we can study the expected payments of both hegemons. Both hegemons have positive expected payments, because they pay the country for different choices. The acceptance probability $P[a^j = 1] \equiv a$ corresponds to the alignment chosen by the country in equilibrium. We define expected payments as $\widetilde{c} = \widehat{c} \cdot a$, the offered payments times the probability that a payment is accepted (which corresponds to the alignment).

Differences to the All-Pay Auction. The differences between the two setups are very subtle and we show that they lead to very similar predictions empirically below. To see this graphically, we show the response functions under both models in Figure A.2. Importantly, there is now a distinction between offered payments and realized payments. Focusing on the U.S., the dashed lines show the best response curves in terms of offered payments. Offered payments do not slope downwards because the U.S. can still offer some payments even when the Soviets make a large offer, because the U.S. offer will likely not be accepted. Therefore realized payments (the purple line) have a hump shape, because U.S. offers are not accepted often when the Soviets make large offers. We also show the response functions in the baseline model for the same parameter values in blue.

Quantitative Comparison. We show that quantitatively, for small values of β such as those we find in the empirical section, the all-pay and winner pay auction produce practically identical results. To show this, we conduct a simulation study, where we draw 10,000 combinations of different model parameters fixing β, β^* to a value of 0.05 (the upper end of the values we find in the empirical section). For the parameters, we draw v, v^* from a uniform distribution ranging from 10^3 to 10^{12} to capture the large variation in payments in the data. The power and the initial preference enter the decision problem of hegemons jointly as one parameter $\exp\big(\widetilde{\pi} + \text{Power} - \text{Power}^*\big)$, which we draw from a log-uniform distribution with parameters $1/10$ and 10, so that it has a median of 1 (this parameter enters multiplicatively, the log-uniform distribution ensures a uniform distribution in multiplicative space).

We then solve for the optimal decisions of the hegemons under the all-pay setting as in Proposition 1 and the winner-pay setting in equation (26) for each set of parameters. Given the low value of β, the two settings yield virtually practically results, both in terms of payments and alignment. Figure A.3, Panel (a) compares the alignment of the country under both settings and Panel (b) shows the expected payments. In both cases, the settings yield practically identical results. The all-pay setting is yields

Figure A.2: Baseline Model vs Model with Conditional Payments



Notes: For the model in which payments are conditional, the dashed blue and red lines show the optimal *offers* in response to offers by the other side. The purple and orange line show the response curves in terms of expected payments, i.e. accepted offers. The solid blue and red lines show the optimal response functions in the baseline model. The illustrative calibration is as in Figure 2.

higher expected payments unless the hegemons are very unbalanced. The intuition for these results is that under low values of β, such as the ones we find, the final alignment is close to the initial preference π and responses functions are relatively flat, so the two settings are quantitatively similar.

Predictions. The core predictions of the model in the main text continue to hold with appropriate modifications, which we collect in Proposition 3. We also allow hegemons to make threats using trade in this equilibrium.

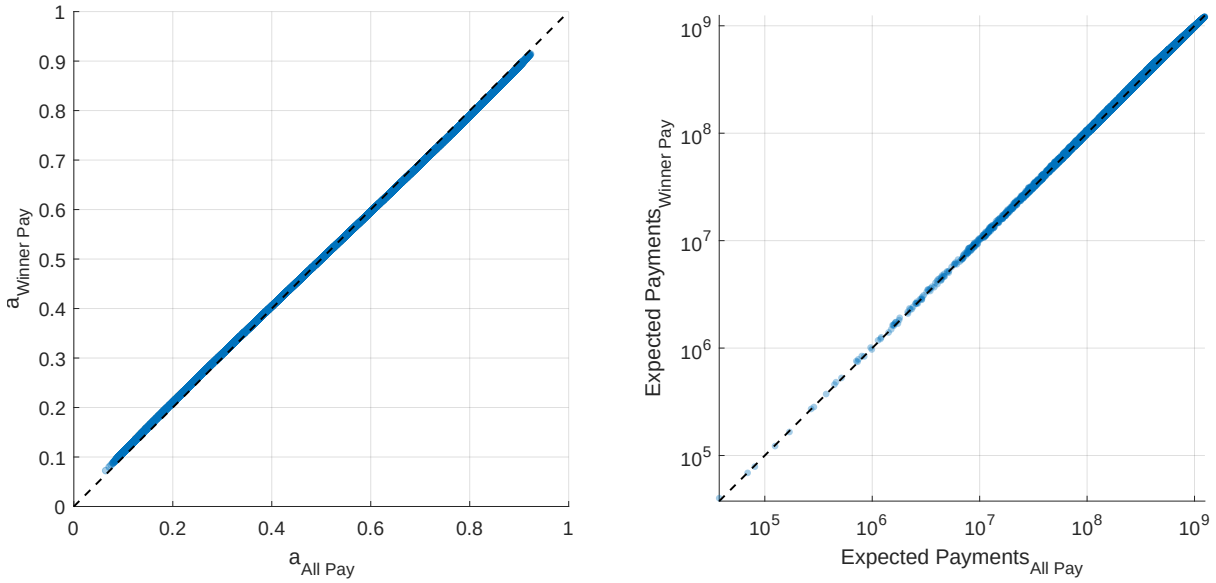
Proposition 3 (Implications of the Model with Conditional Payments)**.** *Consider the model with conditional payments and allow hegemons to announce threats afterwards. Denote a_i as the average action taken, $\widehat{c}, \widehat{c}^*$ as the offered payments and $\widetilde{c}, \widetilde{c}^*$ as the accepted payments. In equilibrium, we have the following.*

- *For given parameters $v, v^*, \text{Power}, \text{Power}^*, \beta, \beta^*$, there is a hump-shape of accepted payments of each hegemon in sticks. That is, for small values of the power difference, accepted payments of each hegemon are increasing with the power difference, but beyond a threshold value, they fall.*[54]

- *The valuations v and v^* for a given country i can be recovered using the empirically observed alignment and accepted payments $a, \widetilde{c}, \widetilde{c}^*$ and the returns β, β^* on carrots for*

[54]Note that we are only able to show there is a hump shape with one interior maximum for the payments of the U.S. and the USSR in this setting. The total payments are the sum of the two, but there may be multiple 'humps' in the interior.

Figure A.3: Comparison of Models



(a) Alignment Choices (b) Expected Payments

Notes: This figure compares outcomes under the two microfoundations described in Section A.4. The x-axis corresponds to the baseline model, the y-axis to the model where only the winner pays. Each dot corresponds to one draw of model parameters, as described in the text. Panel (a) compares the resulting alignment of the country, Panel (b) compare the expected payments. Dashed lines shows the 45 degree line.

both hegemons,

$$v = \widetilde{c}\left(\frac{1+\beta(1-a)}{\beta a(1-a)}\right) \tag{28}$$

Proof.
1. Equilibrium. We study an equilibrium in which hegemons first make payments, then announce threats and then an action is taken. The threats apply to the average action a taken by a country, not to the individual action. Effectively this means that after payments, the odds ratio $\widetilde{\pi} + \beta \log \widehat{c} - \beta^* \log \widehat{c}^*$ is shifted by Power $-$ Power*. The hegemons take this into account when choosing their payment offers. Effectively, the bliss point of the country becomes $\widetilde{\pi} +$ Power $-$ Power*. Using the maximization problem (27) of the U.S. and USSR, we have that

$$\frac{\beta(1-a)(v-\widehat{c})}{\widehat{c}} = 1; \quad \frac{\beta^* a(v^*-\widehat{c}^*)}{\widehat{c}^*} = 1. \tag{29}$$

2. Hump-Shape. We show that the accepted payments of the U.S. and the USSR follow a hump shape. The accepted payments for the U.S. are given by $\widetilde{c} = \widehat{c} \cdot a$. We denote $K = \exp(\text{Power}^* - \widetilde{\pi} - \text{Power})$. Plugging in the functional form for a from (6), we can write alignment as $a = \frac{\widehat{c}^\beta}{c^\beta + K(\widehat{c}^*)^{\beta^*}}$. We show that $\widehat{c} \cdot a$ follows a hump-shape in K.

From (29) we can write accepted payments as a function of the equilibrium alignment,

$$a \cdot \widehat{c} = v \frac{a(1-a)\beta}{1+\beta(1-a)} \tag{30}$$

Holding other variables constant, we can write the equilibrium alignment as an implicit function $a(K)$ of K. Because increasing K tilts the contest towards the USSR, $a(K)$ is decreasing in K. It is straightforward to show that the right hand side of (30) is hump-shaped in a. Because the equilibrium alignment $a(K)$ decreases in K, the right hand side of (30) therefore has an hump-shape in $a(K)$. Because the equation (30) holds at equilibrium, it follows that the accepted payments $\widetilde{c} = \widehat{c} \cdot a$ follow a hump shape in K, and therefore in the power difference.

3. Valuations. This expression follows directly from combining (29) with the the definition of the accepted payments $\widetilde{c} = \widehat{c} \cdot a$.

□

B Appendix to Section 3

B.1 Appendix: Historical Background

Sanctions. Table B.1 shows a list of all aid and trade sanctions against non-aligned countries during the Cold War. Data on trade sanctions is from the Global Sanctions Database (Felbermayr et al., 2020), data on aid sanctions was collected separately by Yoto Yotov for Gibson et al. (2025) and concerns the U.S. only. These cases are mostly not fully sanctions, so that there is still trade (resp. aid) happening.

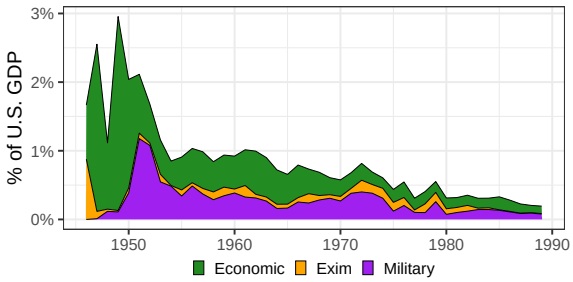
Sanctions in terms of both aid and trade are relatively rare. Of the total number of dyad-years involving the U.S. or USSR, around 2% are explicitly sanctioned. The U.S. is much more active in terms of sanctions; which may be related to the coverage of the database (aid sanctions are tracked for the U.S. only).

B.2 Additional Details: Carrots

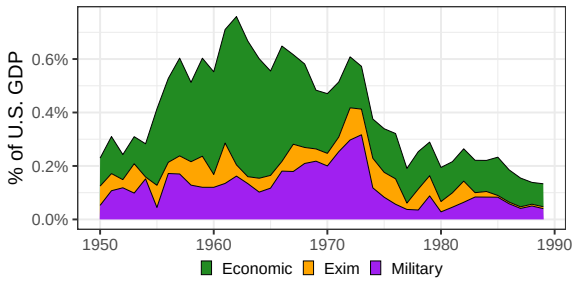
In this section, we provide additional descriptive statistics on U.S. and Soviet aid. First, Table B.2 shows the size of these flows as a percentage of recipient GDP. The flows we study are large, both relative to recipient GDP (2.5% of GDP for the average recipient) and relative to recipient government budgets (more than 10% on average).

Next, Figure B.4 shows additional time series for aid by the U.S. and USSR. Panel a) shows U.S. aid to all countries (not just the non-aligned), panel b) shows U.S. aid to the non-aligned only. Total aid tends to be larger than just aid to the non-aligned during the Marshall Plan directly after WW2. Afterwards, the two series are more similar. Panels c) and d) show Soviet aid and aid from all communist donors. Panels e) and f) show the fiscal cost of providing this support, both as a percentage of hegemon GDP and the government budget of the hegemon. Panel (g) shows total aid normalized by recipient GDP.

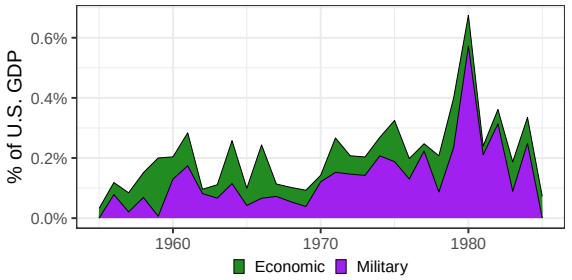
Figure B.4: Additional Charts: Carrots



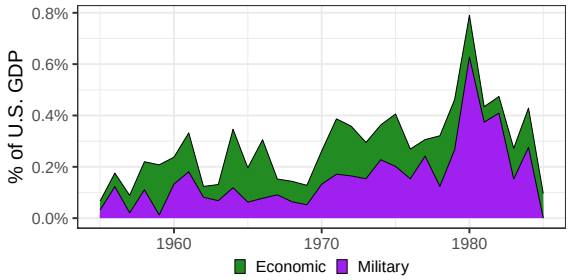
(a) U.S. Outflows (All Recipients)



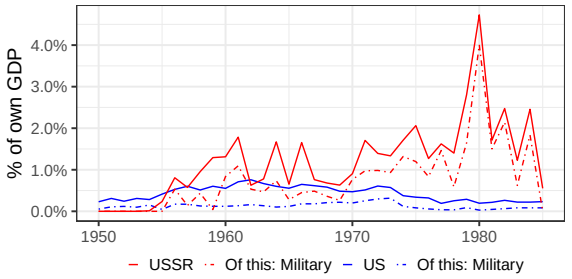
(b) U.S. Outflows (to non-aligned)



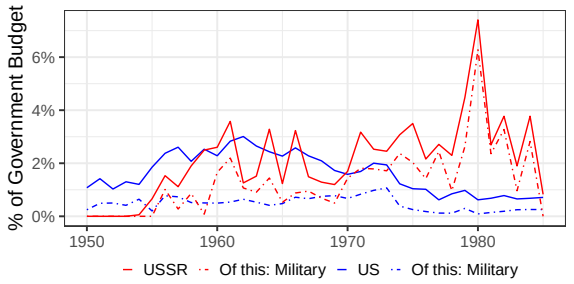
(c) Soviet Outflows (USSR only)



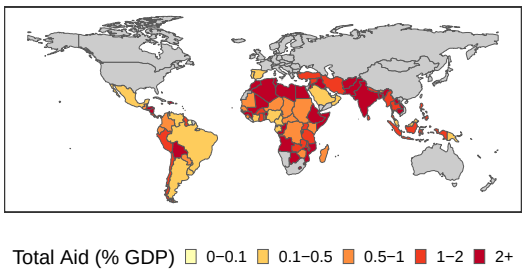
(d) Communist Outflows (all donors)



(e) Carrots as % of Donor GDP



(f) Carrots as % of Government Budget



(g) Carrots as % of Recipient GDP

Notes: This figure shows the time series and distribution of U.S. and Soviet carrots. Panel (a) shows U.S. flows to all recipient countries (i.e. allies as well as non-aligned countries), Panel (b) shows flows to non-aligned countries only. Panel (c) shows outflows from the USSR across categories, while Panel (d) shows the outflows from all Communist donors (incl. e.g., China). Panel (e) shows the total flows to non-aligned countries as a percentage of donor GDP, while Panel (f) refers to donor government budget. Panel (g) shows aid as a percentage of recipient GDP. Data on GDP and government budgets is from the Global Macro Database.

Table B.1: Sanction Episodes by USA and the USSR (1955-1985)

Initiator	Target	Years	Initiator	Target	Years	Initiator	Target	Years	Initiator	Target	Years
Panel A: Trade Sanctions (sorted by Target ISO)											
USA	ARG	1977-1985	USA	BRA	1978-1981	USA	DOM	1960-1961	USA	IND	1974-1985
USA	IRN	1979-1981	USA	IRN	1984-1985	USA	IRQ	1980-1985	USA	KHM	1975-1975
USA	LBY	1978-1985	USA	NIC	1977-1979	USA	NIC	1983-1985	RUS	PRT	1966-1974
USA	PRT	1966-1974	USA	TUR	1974-1978	USA	UGA	1978-1979	USA	URY	1977-1977
RUS	ZWE	1966-1979	USA	ZWE	1966-1979						
Panel B: Aid Sanctions (sorted by Target ISO)											
USA	ARG	1977-1985	USA	BOL	1979-1982	USA	BRA	1962-1964	USA	CHL	1974-1985
USA	DOM	1963-1963	USA	DZA	1962-1962	USA	ECU	1971-1972	USA	EGY	1956-1957
USA	EGY	1963-1965	USA	GTM	1977-1984	USA	HTI	1962-1964	USA	IDN	1963-1966
USA	IND	1965-1967	USA	IND	1971-1971	USA	IND	1974-1985	USA	IRN	1984-1985
USA	LAO	1958-1958	USA	LAO	1962-1962	USA	LAO	1975-1975	USA	LBN	1984-1985
USA	LKA	1963-1965	USA	MOZ	1970-1971	USA	NIC	1977-1979	USA	NIC	1981-1985
USA	PAK	1971-1971	USA	PAK	1979-1981	USA	PER	1962-1962	USA	PER	1968-1974
USA	SLV	1977-1980	USA	SUR	1982-1985	USA	URY	1977-1981	USA	ZWE	1983-1985

Notes: This table reports all episodes of trade sanctions by the two hegemons during the Cold War in the Global Sanctions Database. "RUS" refers to sanctions initiated by the Soviet Union.

B.3 Additional Details: Sticks

We follow Costinot and Rodríguez-Clare (2014) and consider a single-sector Armington model as our baseline model, calibrated using bilateral trade flows from TradHist and Comtrade. We compute the expenditure share on domestic goods using data on GDP, exports and imports following Kleinman et al. (2024).[55]

The model replicates existing quantification of the gains from trade almost exactly. Figure B.5, Panel (a) compares gains from trade in our model to those in Costinot and Rodríguez-Clare (2014), they match each other nearly exactly even though the calibration uses different data.

B.3.1 Evaluating Model Complexity

We study whether allowing for additional complexity in our trade model, such as introducing multiple sectors or incorporating input–output linkages, would yield systematically different results. We rely on the framework and data developed by Wesseler (2025), who quantifies bilateral reliance using increasingly complex trade models. We provide a concise overview of the paper's analysis here and refer readers to the original paper for details.

Wesseler (2025) develops a novel measure of bilateral reliance to quantify the welfare costs when trade ties are severed between two countries. The framework is built on a multi-sector Armington trade model that, at the highest level of complexity, incorporates sector-specific trade elasticities and production networks with tradable intermediate inputs. Welfare losses are calculated using the exact hat algebra. The underlying data come from the OECD Inter-Country Input-Output (ICIO) tables (1995–2020), aggregated to 75 countries and 15 sectors, sector-level long-run trade elasticities are from Fontagné et al. (2022). The empirical exercise compares the

[55] Kleinman et al. (2024) compute this as self share $= \frac{2.2 \cdot GDP - X}{2.2 \cdot GDP - X + M}$.

Table B.2: Inflows as a Percentage of Recipient GDP

Variable	N (Countries)	Mean	SD	Median	Q10	Q90
US (% Recipient GDP)	117	1.55	4.13	0.75	0.01	2.70
Soviet (% Recipient GDP)	117	0.93	2.25	0.04	0.00	2.34
Total (% Recipient GDP)	117	2.47	4.77	1.02	0.02	7.09
US (% Recipient Budget)	96	8.52	16.07	3.77	0.60	15.69
Soviet (% Recipient Budget)	96	3.27	7.37	0.43	0.00	9.46
Total (% Recipient Budget)	96	11.79	17.88	6.08	0.86	26.17

Notes: This table shows summary statistics for US and Soviet Aid as a percentage of recipient GDP and recipient government budgets, averaged over the Cold War. The table reports the mean, standard deviation, median, as well as quantiles of the distribution across non-aligned countries. Data on GDP and budgets is from the Global Macro Database, government budgets are available for a limited set of countries only. Table excludes Liberia and Sao Tomè and Principe, where average aid is more than 100% of GDP and North and South Yemen where we do not have data on GDP.

change in welfare loss across all country pairs using three main model variants: a one-sector model, a multi-sector model without input–output linkages, and a multi-sector model with input–output linkages. While these models differ substantially in the level of predicted welfare losses, they produce highly correlated results in terms of relative changes over time and cross-country patterns. The correlations between power measures are shown in Figure B.5b. Correlations are uniformly very high, ranging from 0.98-0.99, indicating that model complexity has little effect on the ranking or relative movement of welfare predictions (see also Levchenko and Zhang (2014)).

Together, the findings support the argument that the complexity of the underlying trade model is not first order for comparisons across countries and over time. Although the absolute magnitudes of predicted welfare losses are larger in full multi-sector model with input–output linkages, their movements over time and relative positions across countries are nearly identical.

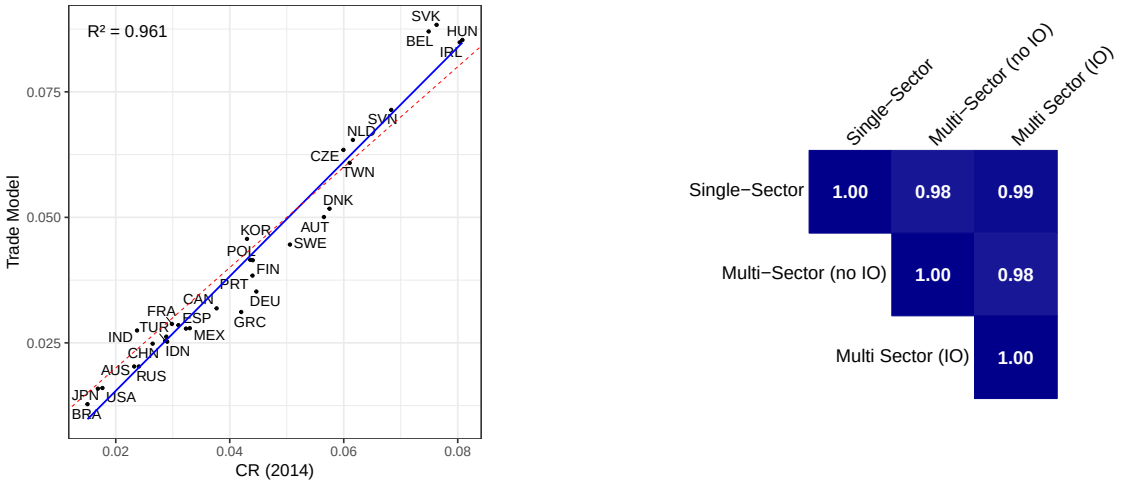
B.3.2 Comparison with Other Measures

We now compare our measure of power to alternative measures. Overall, our measure is positively correlated with these alternatives. However, it turns out to be important to account for both the export and import side of trade. We compute each measure for all dyads involving the USSR or U.S. during the Cold War and show the pairwise correlations in Figure B.6, before and after including dyad fixed effects.

We begin by comparing our measure of power, which is computed under full export sanctions and import sanctions to alternative economic sanctions that we simulate in the trade model. We compute a measure of partial sanctions, an increase of 25% of tariffs on imports as well as exports.[56] The correlation of this with the baseline

[56] 25% is close to the unilaterally optimal tariff for the U.S. in Ignatenko et al. (2025) or Costinot and Rodríguez-Clare (2014). These optimal tariff rates do not consider tariffs used as threats in geopolitical bargaining. We have experimented with different tariff levels, these yield similar results.

Figure B.5: Additional Results on Trade Model



(a) Comparison to CR (2014)

(b) Power in Different Trade Models

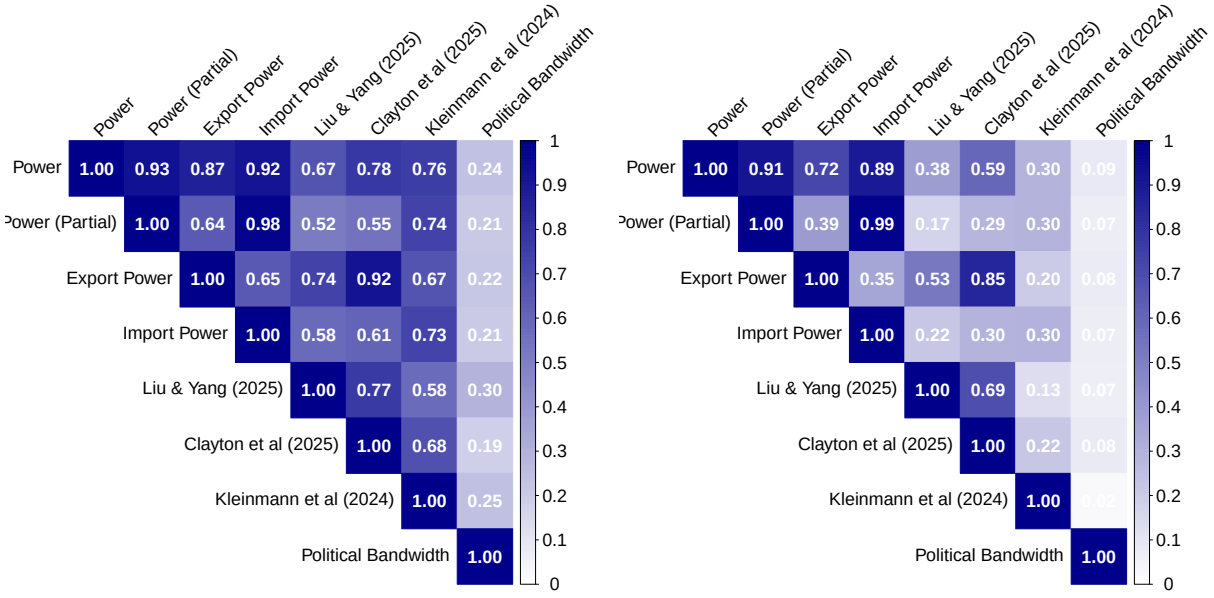
Notes: This figures gives additional results on the trade model. Panel a) compares the gains from trade in the model to Costinot and Rodríguez-Clare (2014) for the countries that overlap. The numbers refer to the year 2008, which is the year used in Costinot and Rodríguez-Clare (2014). Panel b) shows the correlation of power in different trade models in modern data based on Wesseler (2025).

measure is reassuringly high at 93% (resp 91% after dyad FE). Next, we compute the implied economic loss from export sanctions (*Export Power*) or import sanctions (*Import Power*) only. These are generally also very correlated with our measure of power, with correlations ranging from 70-92%.

Next, we compare two related measures of power that have recently proposed in the geoeconomics literature. First, Clayton et al. (2025c) show how in their model power can be quantified using a sufficient statistic similar to Arkolakis et al. (2012). We replicate their measure of power in our historical sample, focusing on trade power only (and not finance power due to data constraints). Second, Liu and Yang (2025) measure power as the difference of bilateral import dependencies (see details on both measures below). The correlation between these measures and ours is high at around 70-80% . The main differences between the measures are that (i) our measure is computed from a full quantitative model in which prices are allowed to move (and not a small open economy) and (ii) we consider both buyer and seller power. The correlation between export power and their measures is very high, which indicates that the differences are driven by the consideration of both buyer and seller power. Our measure of power is less correlated with the exposure measure of Kleinman et al. (2024). This measure is conceptually more distinct and captures the gains from trade in a target country from a productivity shock in the hegemon.

Finally, we compare our power measure to the formal bilateral influence capacity (FBIC) (Moyer et al., 2024), a dyadic measure from the international relations literature that captures political factors, such as the presence of embassies and military bases. As expected, our power measure is less correlated with the FBIC, because they

Figure B.6: Correlation with Other Measures



(a) Correlations

(b) Correlation after dyad f.e.

Notes: This figures computes the pairwise correlation of our measure of power with alternative measures over the course of the Cold War. Panel a) shows the raw correlation, while panel b) shows the correlation after taking out dyad fixed effects. In addition to our baseline power measure, we consider a measure of partial sanctions, export sanctions only, import sanctions only, the measure of Clayton et al. (2025c), the measure of Liu and Yang (2025), the measure of Kleinman et al. (2024) and political bandwidth from the FBIC. For details see the text.

measure different dimensions of international relations.

Details on Clayton et al. (2025c) and Liu and Yang (2025). Clayton et al. (2025c) measure hegemonic power from exporting goods. We adapt the measure from Proposition 13 in their May 2025 draft to our single sector setting. Considering power from trade in goods only, Power is proportional to

$$\text{Power}_{i,t}^{CMS} \propto \log\left(\left[(1-\Omega_{i,t,R}) + \Omega_{i,t,R}\left(1-\omega_{i,t,R_{\text{US}}}\right)^{\frac{\xi-1}{\sigma-1}}\right]^{\frac{1}{\xi-1}}\right), \tag{31}$$

where Ω_{itR} is the share of total expenditure on foreign goods and $\omega_{itR_{\text{US}}}$ is the share of total expenditure on goods from the U.S. (see their equation 22). We calculate expenditure shares using our data and adopt their calibration of $\sigma = 6$ and $\xi = 3$.

Liu and Yang (2025) compute power as relative import dependencies. In a one-good setting such as ours, their measure is defined as

$$\text{Power}_{i,t}^{LY} = s_{i,t,US} - s_{US,i}, \tag{32}$$

where $s_{i,US}$ is the share of imports of country i from the U.S., and $s_{US,i}$ is the share of

U.S. imports from i.[57] All measures are defined analogously for the USSR.

B.3.3 Additional Points in Time for Power

We provide additional snapshots of the constructed measure of power in Figure B.7. First, in Panels (a) and (d), we plot the same measure for 1960 and 1980. Then, in Panel (e) we plot the difference of U.S. and Soviet power.

These maps illustrate the power dynamics over the course of the cold war between the two countries. In the initial period, the U.S. is mostly dominant within Latin America and Asia. In the early part of the cold war, the countries which are the 'battleground states' include India, Turkey, and Cambodia. By the 1980's, the power of the U.S. is generally increasing relative to the Soviets, though with important differences across countries. The U.S. solidifies its power over India and Turkey, while the Soviet Union becomes more powerful in (then strongly communist leaning) Cambodia.

B.4 Additional Details: Alignment

In this section, we provide additional details on the alignment measure. We begin by providing additional descriptive statistics and then use case studies and quantitative evidence to validate the measure.

Distribution of the Measure. We plot the distribution of our outcome variable in Figure B.8. Reassuringly, the log-odds ratio is centered at $x = 0$, which corresponds to the midpoint of the unit line at $\pi = 0.5$. The dashes at the bottom of the figure indicate quantiles 10 to 90 within the non-aligned. In the middle, the distances between different quantiles are relatively small, such that moving by 10 percentage points from percentile 50 corresponds to a move of around 0.2 on the log-odds scale. The average NATO member has an alignment of around 1.7 on this scale, the average Warsaw Pact member stands at -2.79.

B.4.1 Narrative Validation with External Sources.

We validate the alignment measure against external sources. Historians of international relations have provided extensive case studies of non-aligned countries in the Cold War which we use as benchmarks. Most prominently, David (1991) provides three case studies of countries in the cold war that explicitly 'changed sides'. For these countries (and Chile, which provides another case study), we plot their alignment in Figure B.9. We describe the country-specific narratives and how they accord with the alignment measure below, the main source is always David (1991) unless otherwise specified.

1. **Chile.** During most of the Cold War, Chile is leaning more towards the U.S.. The pro-U.S. stance is particularly strong towards the early Cold War, the Chilean communist party is banned up to 1958. There is a spike in alignment

[57] Liu and Yang (2025) further weigh goods by their trade elasticity, this addition is irrelevant in a one-good setting.

with the U.S. towards 1955-58 when president Carlos Ibáñez shifts to a more hawkish position and becomes reliant on U.S. support amid domestic struggles (Hudson, 1994; Edwards, 2007). The most well-known shift in Chilean alignment occurs in 1970, when socialist Salvador Allende wins the presidency and ushers in a *'Chilean way to socialism'*. The 1973 Pinochet coup puts this development to an abrupt end. Both Allende's election and Pinochet's coup are clearly visible in Chile's alignment with the U.S..

2. **Egypt.** During most of the early Cold War, Egypt is a key partner of the USSR, which supports it in multiple wars with Israel. This partnership is encapsulated by the large amounts of military and economic aid (such as the construction of the Aswan Dam) Egypt is receiving over this time period. During the 1970's, after a series of military disputes with Israel and the death of Nasser, Egypt switches towards the U.S.. While the Camp David Accords in 1978 are generally regarded as the culmination of the move toward alignment with the U.S., however the process of moving towards realignment with the U.S. started already in the years before. Already, around 1972, relations with the Soviet Union start to complicate with disputes over the use of Egyptian airfields. Although the USSR continues supporting Egypt, for instance in Yom-Kippur war with Israel in 1973, Egypt is dissatisfied with the levels of support they receive. The U.N. voting record of Egypt reflects this, as it switches from the USSR toward the US in the early 1970's.

   Therefore, Egypt turns towards the U.S. which increases military and economic (especially wheat) aid to the country in the 1970's. The relationship between the U.S. and Egypt is deepened to such an extent that by 1976, 'Egypt's jugular vein is going through Iowa, Nebraska and the Dakota's' (David, 1991, p.95). The Camp David Accords affirm this process and afterwards, Egypt maintains more alignment with the U.S..

3. **Ethiopia.** In the 1970's, Ethiopia realigns away from the U.S. towards the USSR. In the last years of Ethiopian rule under Haile Selassie and the new government under Mengistu Haile Mariam, Ethiopia tended to align with the U.S. and the U.S. was the largest supplier of military and economic aid to Ethiopia. In turn, the U.S. operated a Cold War listening station in Asmara with over 5000 Americans in the base at peak times. However, the relations between the U.S. and Ethiopia begin to sour in 1976, when Ethiopia is classified as violating human rights by the U.S. (David, 1991, p.116). One year later, the Ogaden war with Somalia breaks out. Somalia (initially supported by the USSR, who disapprove of this attack) begins to overpower the Ethiopian military. This leads to the Ethiopians turning towards the USSR for military support, which proves decisive in an eventual Ethiopian victory. In line with this, the U.S. listening station is dismantled.

   This is reflected in the U.N. voting behavior of both Ethiopia and Somalia. During the early 1970's, Ethiopia is leaning more towards the U.S.. However, during and after the Ogaden War from 1977-78, there is a clear realignment towards the USSR which persists until the end of the Cold War.

4. **Sudan.** The Sudan switches its alignment from the USSR to the U.S. during the early 1970's. During the late 1960's, the Sudan changes from a largely neutral policy towards a closer relationship with the USSR, facilitated by Egyptian support. This continues after the successful coup of Jaafar Nimeiri in 1969, who intends to continue and intensify Soviet support for his own military government, such that in 1969, '*The Sudan had abandoned its traditional policy of nonalignment and had oriented itself firmly [...] towards the Soviet block* (David, 1991, p.147). This turn is clearly visible in the voting measure, which shows a large trough in 1969. In the next years, however, Nimeiri comes under threat from internal Communist revolutionaries who attempt at coup in 1971. This practically ends the relationship of the USSR with the Sudanese government. The U.N. voting measures reflects a large switch in alignment away from the USSR. The U.S. steps in and quickly restarts the flow of aid towards the Sudan, first authorizing shipments of food aid. After the regime comes under further threat in 1976, the U.S. also begins delivering arms towards the Sudanese government, which is seen as an important strategic ally given the loss of U.S. influence in Ethiopia and other parts of Northern Africa.

B.4.2 Quantitative Validation with External Sources.

As highlighted in the text, Bailey et al. (2017) provide a quantitative measure of geopolitical alignment that covers all countries in the world over time. We show that U.N. voting behavior is also consistent with other indicators of geopolitical alignment by studying the relationship with these proxies. As outcomes we use (1) Whether a country boycotts the 1980 Olympics in Moscow (2) Whether a country attends the 1984 Olympics in Los Angeles and (3) Whether a country does *not* recognize the People's Republic of China. For each outcome $Y_{i,t}$, we estimate

$$Y_{i,t} = \beta \log \frac{a_{i,t}}{1 - a_{i,t}} + \alpha_i + \gamma_t + \varepsilon_{i,t} \tag{33}$$

and report the resulting coefficients β in Table B.3, estimated using OLS and logit, including country fixed effects when possible. In all cases, the coefficient β is positive and alignment in U.N. voting is consistent with behavior outside the U.N.: U.N. voting predicts boycotting the 1980 Olympics in Moscow, attending the 1984 Olympics in Los Angeles and not recognizing China.

We further validate the measure of alignment by studying the response of geopolitical alignment to changes in institutions. We construct an index of economic ideology using data from Lee (2022) and the Database of Political Institutions (DPI) (Beck et al., 2001). These papers provide an index of the economic system of a country constructed from qualitative sources (Lee (2022) covers the early Cold War, the DPI the latter part). The index is equals -1 for left-wing economic institutions, 0 for centrist and 1 for right-wing institutions. Denoting this index as $\text{Institutions}_{i,t}$, we estimate the effect of a change in institutions on geopolitical alignment using the local projection

Table B.3: Validation of Alignment Measures

	Olympic Boycott 1980		Olympic Attendance 1984		No PRC Recognition	
	(1) OLS	(2) Logit	(3) OLS	(4) Logit	(5) OLS	(6) Logit
Alignment	0.38***	1.8***	0.16**	3.0***	0.13***	5.0***
	(0.09)	(0.56)	(0.07)	(0.90)	(0.03)	(0.52)
Observations	111	111	118	118	2,641	2,641
Country					✓	✓
Year					✓	

Notes: This table reports estimates based on specification (33), which regresses various diplomatic indicators on geopolitical alignment as measured in Section 3.4. The first two outcomes are dummy variables equal to one when a country boycotts the 1980 Moscow Olympics (resp. if it attends the 1984 Olympics). The next column uses a dummy variable that indicates no diplomatic recognition of the PRC. The logit estimator does not converge with both country and year fixed effects, so we report results using country fixed effects only. Clustered (country) standard errors in parentheses. Significance codes: *** 0.01, ** 0.05, * 0.1.

$$\Delta_{t+h,t} \log\left(\frac{a_i}{1-a_i}\right) = \alpha_i + \gamma_h + \beta_h \text{Institutions}_{i,t} + \gamma \mathbf{X}_{i,t-1} + \varepsilon_{i,t+h}, \quad h = 0, \ldots, 5 \quad (34)$$

We control for two lags of the outcome and the impulse variable. This allows us understand the impact a change in economic institutions has on geopolitical alignment. Figure B.10 plots the resulting impulse response function. We estimate that a unit change in institutions (i.e. changing from left to centrist, or centrist to right-wing) institutions increases the log-odds ratio of alignment by about about 0.2 units, about 20% of a standard deviation.

C Appendix to Section 4

C.1 Country Sample and Summary Statistics

We estimate our regressions on the sample of non-aligned economies, as classified by the CIA. We show the country sample that we use in Figure C.11. Per the CIA's definition, "non-aligned countries" includes all African nations except South Africa; all East Asian countries except Hong Kong and Japan; Malta, Portugal, and Spain in Europe; all Caribbean and Latin American countries except Cuba; and all countries in the Middle East and South Asia except Israel.[58] During the period we study, there are many former colonies that achieve independence. These enter our sample only once they become recognized voting members in the UN, such that we observe their

[58]Portugal, Spain and Turkey are of course NATO members. However, they also received some aid from communist countries and used this as leverage against the U.S. (İşçi et al., 2024).

geopolitical alignment. Table C.4 shows the classification of countries into world regions.

There are a few special cases of countries in which country borders change throughout the sample. The data on trade and aid considers historical borders (Fouquin and Hugot, 2016), so our measures of carrots and sticks adjust with country borders.[59] Throughout, we consider North and South Yemen separately, we do the same for East and West Germany when relevant (e.g. for trade flows).

Table C.4: Regional Classification

Region
Asia: Afghanistan; Bangladesh; Bhutan; Brunei; Cambodia; India; Indonesia; Laos; Malaysia; Maldives; Myanmar; Nepal; Pakistan; Philippines; Singapore; Sri Lanka; Thailand; Fiji; Papua New Guinea; Samoa; Solomon Islands; Vanuatu
Europe: Malta; Portugal; Spain
Latin America: Antigua & Barbuda; Argentina; Bahamas; Barbados; Belize; Bolivia; Brazil; Chile; Colombia; Costa Rica; Dominica; Dominican Republic; Ecuador; El Salvador; Grenada; Guatemala; Guyana; Haiti; Honduras; Jamaica; Mexico; Nicaragua; Panama; Paraguay; Peru; St. Kitts & Nevis; St. Lucia; St. Vincent & Grenadines; Suriname; Trinidad & Tobago; Uruguay; Venezuela
North Africa & Middle East: Algeria; Bahrain; Egypt; Iran; Iraq; Jordan; Kuwait; Lebanon; Libya; Morocco; Oman; Qatar; Saudi Arabia; Sudan; Syria; Tunisia; Turkey; United Arab Emirates; Yemen (North); Yemen (South)
Sub Saharan Africa: Angola; Benin; Botswana; Burkina Faso; Burundi; Cameroon; Cape Verde; Central African Republic; Chad; Comoros; Congo – Brazzaville; Congo – Kinshasa; Côte d'Ivoire; Djibouti; Equatorial Guinea; Eswatini; Ethiopia; Gabon; Gambia; Ghana; Guinea; Guinea–Bissau; Kenya; Lesotho; Liberia; Madagascar; Malawi; Mali; Mauritania; Mauritius; Mozambique; Niger; Nigeria; Rwanda; Senegal; Seychelles; Sierra Leone; Somalia; São Tomé & Príncipe; Tanzania; Togo; Uganda; Zambia; Zimbabwe

Notes: This table shows the regional classification of different countries.

Summary Statistics. Table C.5 reports summary statistics on the main variables in our empirical analysis.

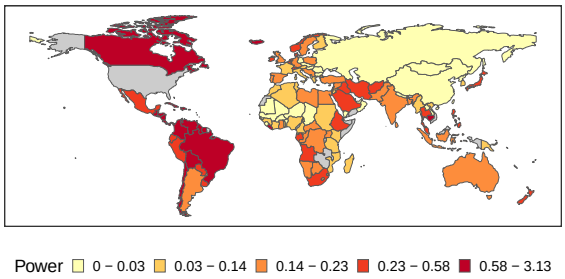
[59]For instance Pakistan is considered as a single country before the independence of Bangladesh. Accordingly, there is no aid to Bangladesh by the U.S. and Soviets before 1971.

Table C.5: Summary Statistics for the Regression Variables

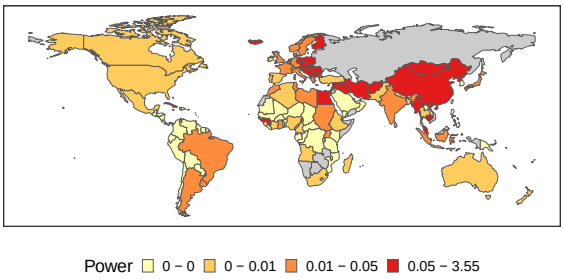
	N	Mean	SD	Median	Min	Max
U.S. Carrot, $1000	2670	151219.63	425624.11	23492.30	0.00	6692870.86
U.S. Carrot, Log	2670	8.88	4.10	10.06	0.00	15.72
Soviet Carrot, $1000	2670	122774.67	487070.35	0.00	0.00	6441499.61
Soviet Carrot, Log	2670	4.26	5.33	0.00	0.00	15.68
100 $\times$ Δ Power	2670	0.43	0.65	0.19	-4.28	5.13
100 $\times$ U.S. Power	2670	0.48	0.62	0.23	0.00	5.19
100 $\times$ Soviet Power	2670	0.05	0.17	0.01	0.00	4.32
Alignment, Log-Odds	2641	0.09	0.89	-0.04	-3.47	6.71
Alignment with U.S., 0-1	2670	0.52	0.18	0.49	0.03	1.16

Notes: This table shows summary statistics for the main regressors and outcome variables, i.e. US and Soviet Aid, U.S. and Soviet Power (measured as in (1)) and geopolitical alignment with the U.S.. We multiply power by 100 to aid the visualization. The Table reports the mean, standard deviation, minimum, median and maximum value for the sample of non-aligned countries that vote at the U.N.. Note that the log-odds ratio is only defined when alignment is between 0 or 1, so the number of observations drops slightly relative to the full sample.

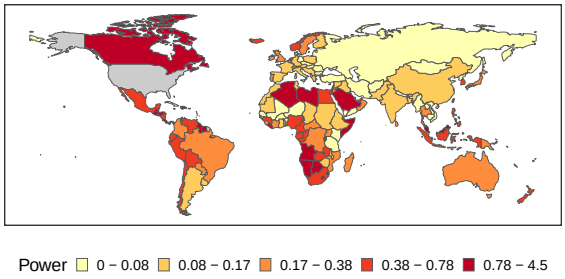
Figure B.7: Power of the Two Hegemons, Additional Years



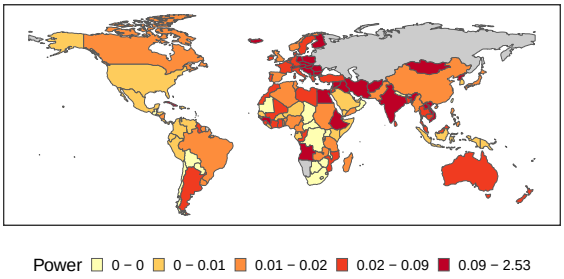
(a) Power of the U.S., 1960



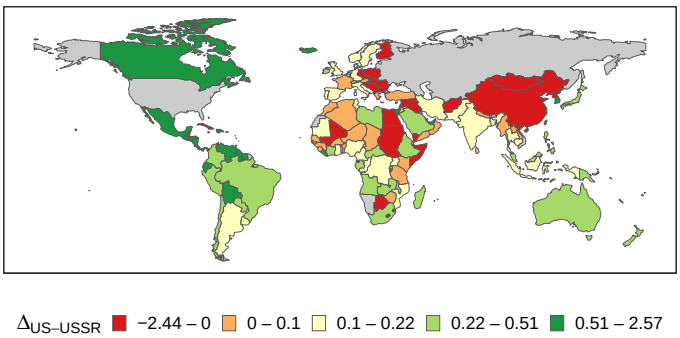
(b) Power of the Soviet Union, 1960



(c) Power of the U.S., 1980



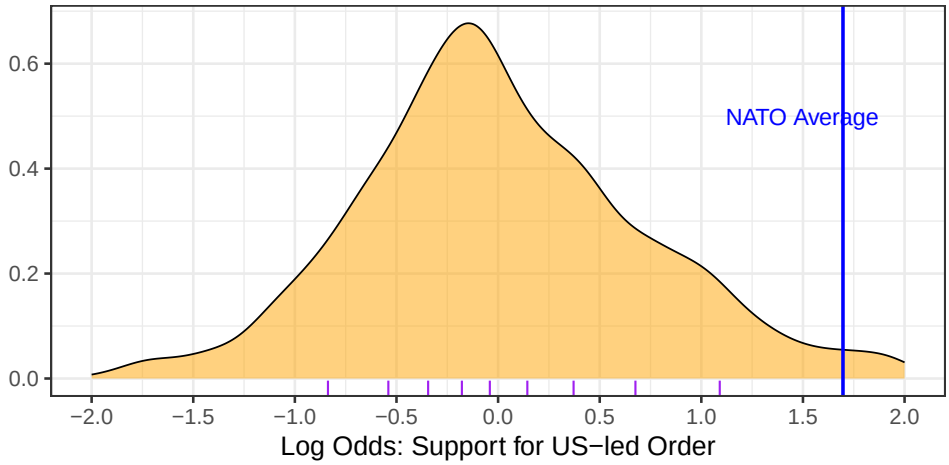
(d) Power of the Soviet Union, 1980



(e) US Power less Soviet Power, 1970

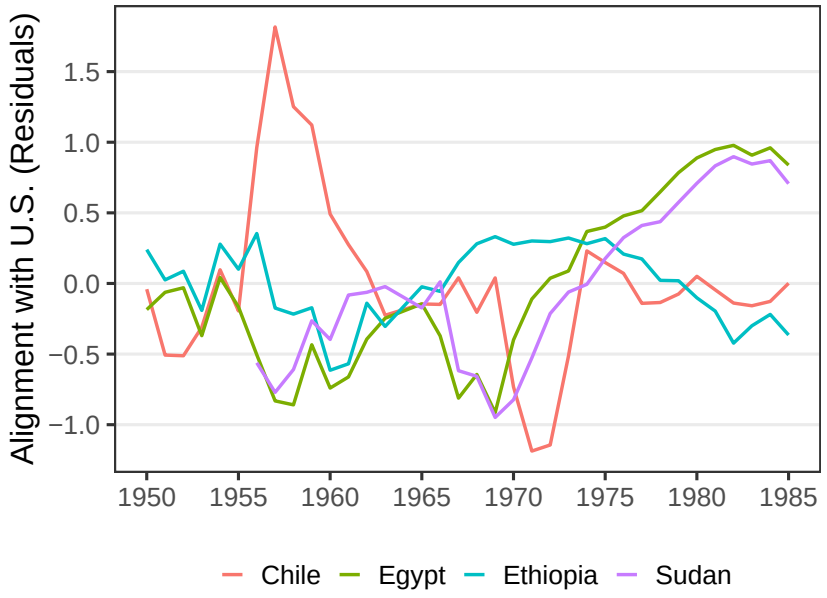
Notes: Panels a)-d) plot the power of the two hegemons in 1960 and 1980. Panel e) shows the difference in Power between the two hegemons. Shading refers to quintiles of the measure. Power refers to the welfare loss (in %) each country experiences upon interrupting trade with the hegemon, for details see text.

Figure B.8: Density of Geopolitical Alignment



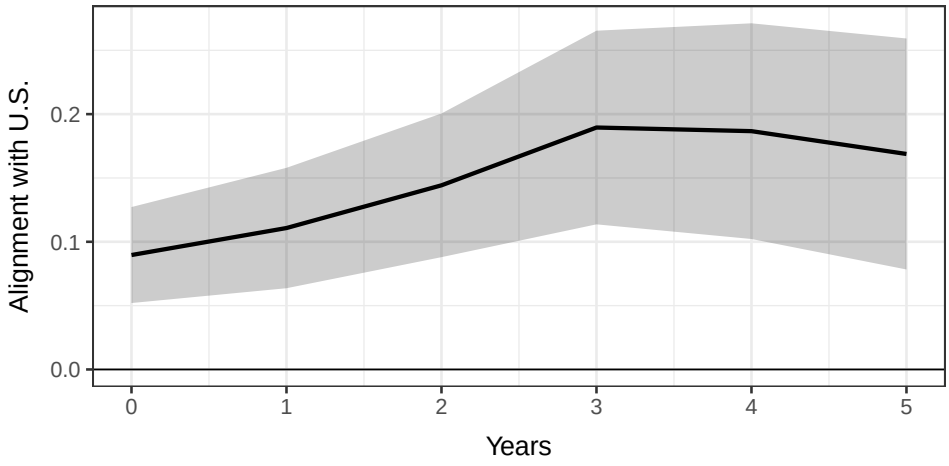
Notes: This figure plots the density of the log-odds ratio of the support for the US-led order across non-aligned countries. The purple dashes at the bottom indicate quantiles from percentile 10 to percentile 90. The blue line indicates the alignment of the average NATO member as measured on this scale.

Figure B.9: Residualized Alignment in 4 Countries



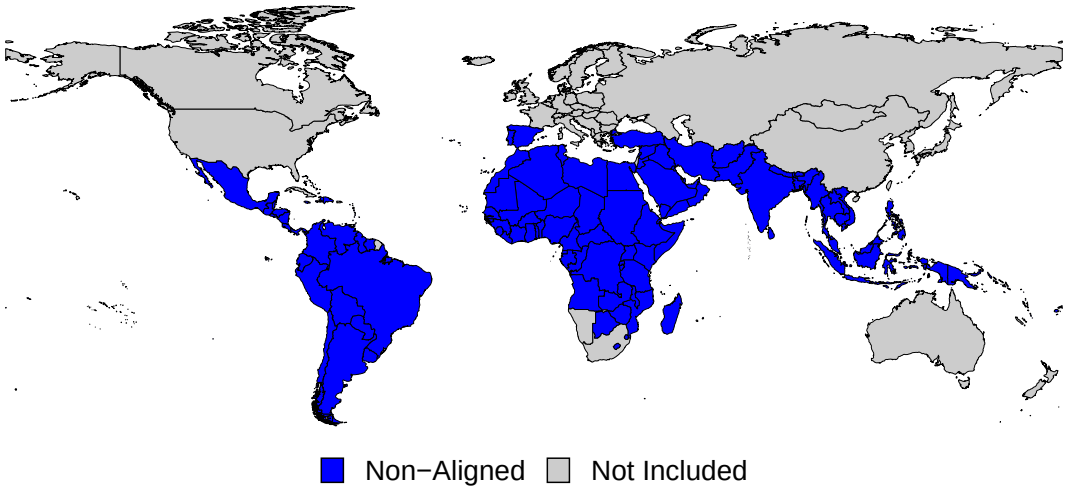
Notes: This figure shows the log-odds ratio of alignment with the U.S. (residualized on country and year fixed effects) for the four countries discussed in Section B.4. Higher values of the residuals indicate more alignment with the U.S..

Figure B.10: Response to Change in Economic Institutions



Notes: This figure plots the response of log odds of alignment to a unit change in institutions (i.e. from left-wing to centrist or centrist to right-wing). Response is obtained using specification (34). Shaded area indicates 90% confidence intervals clustered by country.

Figure C.11: Non-Aligned Countries



Notes: This figure shows the non-aligned countries, as classified by the CIA. Note that Vietnam, Laos and Cambodia are not classified as non-aligned after 1975.

C.2 Identification Strategies

C.2.1 Shift-Share Instrument

Narrative for Large Shifts. We provide a detailed narrative of the shifts underlying our instrumental variable strategy for the case of U.S. aid to Latin America. Figure C.12 shows the time series of total aid to Latin America, as well as to 5 recipient countries, in all cases standardized within the respective units. There is some clear regional comovement (this is the first stage of the regression). Importantly, the large shifts corresponds to shifts in U.S. policy, as marked by the vertical lines. The first shift corresponds to the introduction of the Alliance for Progress under Kennedy, when Latin America experienced a sharp increase in aid as *'U.S. policymakers made it a top priority'* (Taffet, 2012, p.6). This increase is concentrated in a few countries, with countries like Brazil or Chile receiving large sums of money. Other countries, like Costa Rica or Uruguay did not see meaningful increases in their aid flows. As detailed in the main text, in 1969 the Nixon administration decides that the Alliance for Progress was a failure and subsequently slashes aid flows. There are further cuts to military aid in many countries under Carter in 1977, with countries like Uruguay hit particularly hard. Aid to Latin American only starts growing again when the U.S. adopts a more 'proactive' foreign policy strategy under Reagan, who sought to overturn Soviet influence across the World.

Shifts for Remainder. We show the shifts for all world regions in Figure C.13.

Predictability of Shifts. We test whether the shifts in aggregate U.S. and Soviet Aid to a region are predictable by using political fluctuations in the region. Concretely, we estimate the relationship between U.S. and Soviet aid to different regions using regressions of the form

$$y_{r,t} = \beta X_{r,t-1} + \alpha_r + \gamma_t + \varepsilon_{r,t}. \tag{35}$$

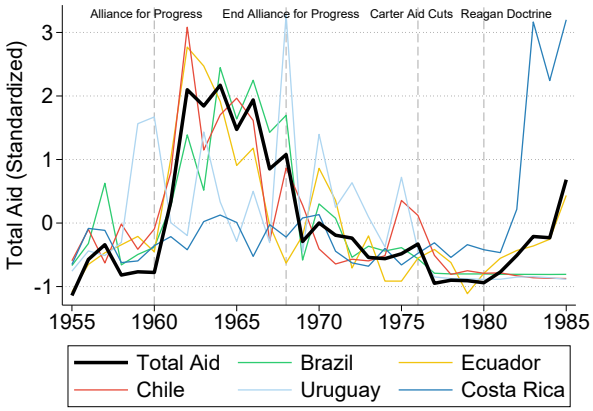
The outcome variables are U.S. and Soviet aid to the region, i.e. the shifts from the instrumental variable (14). The predictors are different region-level variables political indicators; we use the average alignment in the region in $t-1$, the average polity score and the share of countries experiencing a CIA or KGB intervention; the share of countries with new leaders, and the share of countries in which a conflict starts.[60] These variables are only weakly correlated with the value of aid either hegemon is giving to the region, as we show in Table C.6, which reports the results of these predictability regressions. If anything, we find that the U.S. and the USSR are increasing aid to regions which are shifting away from them politically.

C.2.2 Time-Varying Gravity Regression

The coefficients on air and sea distance of the time-varying gravity equation (15) are in Figure C.14. Consistent with previous work, we find that the coefficient on sea distance remains relatively constant over time while the coefficient on air distance is falling.

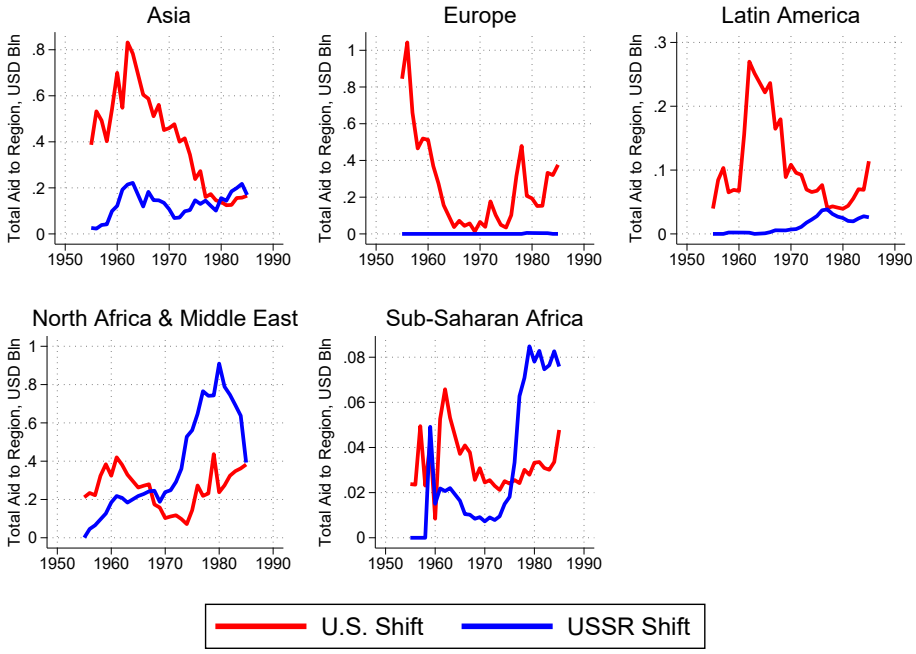
[60] Coups are from Powell and Thyne (2011), conflicts are from the Uppsala Conflict Data Program (Gleditsch et al., 2002).

Figure C.12: Shifts for Latin America



Notes: This figure plots total aid to Latin America together with five selected countries. Variables are standardized. The vertical lines mark the large shifts.

Figure C.13: Shifts for All Regions



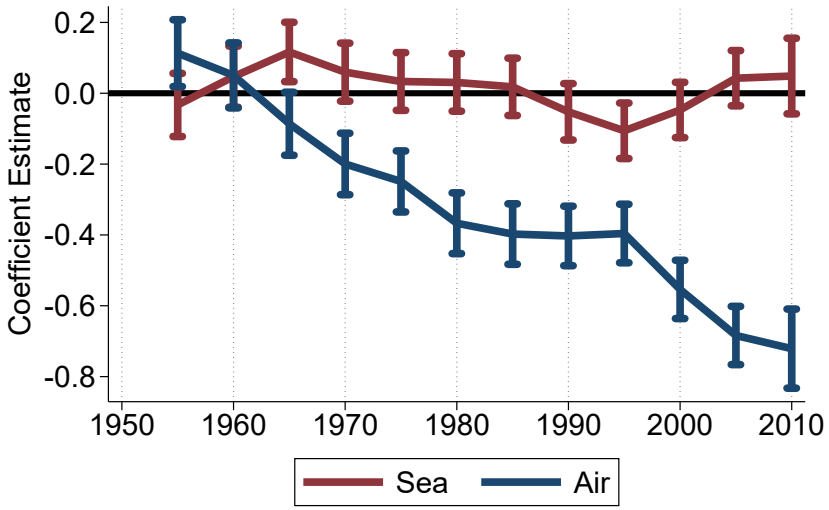
Notes: This figure shows the underlying shifts for all world regions, i.e. total aid to the region.

Table C.6: Predictability Tests for Regional Aid

	U.S. Shift		Soviet Shift	
Right-Hand Side Variable	Coefficient	p-value	Coefficient	p-value
Lag Regional Alignment	-0.08	0.81	0.38	0.36
Lag Polity Score	0.08	0.74	-0.40	0.41
Lag CIA Intervention	0.39	0.52	0.74	0.61
Lag KGB Intervention	-0.31	0.84	-0.43	0.93
Lag New Leader	-0.05	0.85	-0.18	0.51
Lag Coups	-0.33	0.22	-0.37	0.50
Lag Conflict	0.09	0.68	0.26	0.32

Notes: This table reports the results of the regression (35), which regresses U.S. and Soviet aid on a number of lagged regional political characteristics, as well as region and year fixed effects. The table reports the resulting coefficients and p-values, which are clustered by region using the Wild Bootstrap Roodman et al. (2019) due to the small number of clusters. All variables are standardized.

Figure C.14: Coefficients: Time-Varying Gravity Equations



Notes: The figure plots the coefficients $\beta^{\text{air}}_{q(t)}, \beta^{\text{sea}}_{q(t)}$ on air and sea distance from the time-varying gravity equation (15). The coefficient from 1950-55 is normalized to 0, so that the estimates indicate changes relative to that period.

C.3 Appendix: Instrumental Variable Results

We now present robustness tests on the instrumental variable results.

Unstandardized Results. We present the relation between the log-odds ratio of the alignment and the regressors without any standardization in Table C.7 (Column (6) shows results using the log of aid per capita, which are close to the baseline results). These are the parameter values we use in our quantitative exercises. For equilibrium uniqueness, we require that the coefficient on U.S. and Soviet carrots is between 0 and 1 in absolute value. Reassuringly, we estimate the returns to U.S. and Soviet funds to be around 0.02-0.05 in levels.

Table C.7: Regression without Standardization

	Log Odds Ratio: Support for US-led order					
	(1)	(2)	(3)	(4)	(5)	(6)
US Carrot	0.016**	0.027*	0.016**	0.013	0.028*	0.030*
	(0.007)	(0.016)	(0.008)	(0.009)	(0.015)	(0.016)
USSR Carrot	-0.023***	-0.022***	-0.028**	-0.028***	-0.035***	-0.042***
	(0.005)	(0.005)	(0.011)	(0.005)	(0.012)	(0.015)
Δ Power	5.659	4.885	5.377	15.241*	14.561*	15.636*
	(3.855)	(3.843)	(3.849)	(8.376)	(8.077)	(8.168)
KP-F		100.74	209.25	9.30	27.99	31.27
F-Stat (US Carrot)		100.74			94.86	97.91
F-Stat (USSR Carrot)			209.25		180.16	149.19
F-Stat (Power)				9.30	19.19	25.48
N	2587	2587	2587	1935	1935	1935
Controls + FE	✓	✓	✓	✓	✓	✓

Notes: This table reports estimates based on specification 13, which regresses alignment on U.S. and Soviet aid and power. All Variables are not standardized, alignment is the log-odds ratio using UN ideal points (Section 3). Columns (1)-(5) correspond to the columns of Table 3. Controls and fixed effects are as in the main text. Column (6) considers log aid per capita, using a minimal value of 0.1 cents per capita, which corresponds to half the minimal value for U.S. and Soviet aid per capita. Clustered (country) standard errors in parentheses. Significance codes: *** 0.01, ** 0.05, * 0.1.

Robustness. Table C.8 adds additional controls to account for other channels of geopolitical influence. Controls are (i) FDI from the U.S. (ii) dummies for CIA and KGB interventions (iii) membership in GATT (iv) IMF lending (v) World Bank lending (vi) Aid from other communist countries not in the Warsaw Pact (vii) dummies for sanctions from the U.S. or USSR. In each column, we add a different control. Throughout, the effects we document persist, although in some specifications statistical significance weakens slightly.

We show that our IV results are robust to various specification choices in Table C.9. Columns 1-2 repeat the OLS results, both in the full sample and in the sample for which air and sea distances are available. The remaining columns provide alternative instrumental variable regressions. Column 3 repeats the instrumental variable

regression from the main text, but clusters by iso and year. In column 4, we show that instrumenting both carrots in the full sample yields similar results to the restricted sample. Columns 5-8 show that our results are robust to using the inverse hyperbolic sign transformation, using $10.000 or $100 as the unit of measurement for aid, or measuring aid in per capita units. Column 9 winsorizes all variables at the 1% level. Column 10 considers aid from all countries in the Warsaw pact instead of just the USSR, column 11 apportions Soviet aid into three years instead of five years.

Table C.8: Robustness IV Regression – Additional Controls

	(1) + U.S. FDI	(2) + CIA/KGB Intervention	(3) + GATT	(4) + IMF	(5) + WB	(6) + Other Comm.	(7) + Sanctions
US Carrot	0.16*	0.18**	0.15*	0.16*	0.16*	0.19**	0.15*
	(0.08)	(0.08)	(0.09)	(0.08)	(0.08)	(0.08)	(0.08)
USSR Carrot	-0.19***	-0.19***	-0.18***	-0.19***	-0.19***	-0.17**	-0.20***
	(0.06)	(0.07)	(0.06)	(0.07)	(0.07)	(0.07)	(0.07)
Δ Power	0.12*	0.10	0.09	0.11*	0.11*	0.11*	0.12*
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.07)
KP-F	30.31	27.85	28.69	28.14	29.38	28.48	28.56
F-Stat (US Carrot)	102.31	91.91	97.81	95.37	97.47	92.91	95.81
F-Stat (USSR Carrot)	179.66	163.15	183.01	185.20	183.07	163.02	177.39
F-Stat (Power)	19.22	19.12	21.03	18.82	21.02	19.40	18.93
N	1930	1933	1935	1935	1935	1935	1935
Controls + FE	✓	✓	✓	✓	✓	✓	✓

Notes: This table reports robustness tests that control for additional channels of influence based on specification 13, which regresses alignment on U.S. and Soviet aid and power using the instrumental variables described in section 4.2. All Variables are standardized. Column (1) controls for the (logged) value of U.S. FDI, columns (2) controls for dummies for CIA or KGB interventions from Berger et al. (2013), column (3) includes a dummy for GATT membership, columns (4) and (5) add controls for IMF and World Bank lending, column (6) controls for aid from other communist donors, column (7) controls for indicator variables for U.S. or Soviet sanctions from Felbermayr et al. (2020, p. v.4). Clustered (country) standard errors in parentheses. Significance codes: *** 0.01, ** 0.05, * 0.1.

Table C.9: Robustness IV Regression – Specification

	(1) OLS	(2) OLS Sample	(3) IV Cluster Iso-Year	(4) IV Both Carrots	(5) IV IHS	(6) IV Log 10K	(7) IV Log 100	(8) IV Aid/Capita	(9) IV Wins	(10) IV Warsaw	(11) IV 3-year
US Carrot	0.09**	0.08	0.16*	0.16*	0.15*	0.18*	0.14*	0.14*	0.15*	0.16*	0.17**
	(0.04)	(0.05)	(0.09)	(0.09)	(0.08)	(0.09)	(0.08)	(0.08)	(0.08)	(0.09)	(0.09)
USSR Carrot	-0.13***	-0.16***	-0.19***	-0.15**	-0.20***	-0.18***	-0.20***	-0.19***	-0.19***	-0.25***	-0.31***
	(0.03)	(0.03)	(0.07)	(0.06)	(0.07)	(0.07)	(0.07)	(0.07)	(0.06)	(0.07)	(0.09)
Δ Power	0.05	0.10**	0.12*	0.04	0.12*	0.11*	0.12*	0.12*	0.10*	0.11*	0.11*
	(0.03)	(0.04)	(0.06)	(0.03)	(0.06)	(0.06)	(0.07)	(0.06)	(0.06)	(0.06)	(0.06)
KP-F			17.73	44.42	28.26	26.07	27.98	31.27	26.87	24.53	19.05
F-Stat (US Carrot)			58.27	115.73	95.04	91.16	92.74	97.91	92.16	85.65	86.41
F-Stat (USSR Carrot)			185.32	232.07	183.71	165.58	190.58	149.19	179.35	325.21	84.08
F-Stat (Power)			19.61		18.67	21.53	17.57	25.48	30.36	17.75	17.79
N	2587	1935	1935	2587	1935	1935	1935	1935	1935	1935	1935
Controls + FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Notes: This table reports robustness tests for estimates based on specification 13, which regresses alignment on U.S. and Soviet aid and power using the instrumental variables described in section 4.2. Variables are standardized. Column (1) repeats the OLS results, column (2) shows the OLS results in the sample for which the data for the IV is available. Column (3) clusters by country and year. Colum (4) instruments U.S. and Soviet carrots only in the large sample. Columns (5)-(8) consider different transformations of aid Column (5) uses the inverse hyperbolic sine, column (6) measures aid in $10,000, column (7) in $100, column (8) in log aid per capita)(using a minimal value of 0.1 cents per capita, which corresponds to half the minimal value for U.S. and Soviet aid per capita). Column (9) winsorizes all variables at the .5 and 99.5% level. Column (1) considers aid from all of the Warsaw pact instead of just the USSR. Column (11) apportions aid from the USSR to three-year intervals. For Details see text. Clustered (country) standard errors in parentheses. Significance codes: *** 0.01, ** 0.05, * 0.1.

IV-Regression separating U.S. and Soviet Power. In the main text, we impose that U.S. and Soviet power is equally effective and instrument the power difference. We now lift this restriction and estimate a specification which allows the coefficients on U.S. and Soviet power ϕ and ϕ^* to differ,

$$\log \frac{a_{i,t}}{1-a_{i,t}} = \beta \log(c_{i,t}) + \beta^* \log(c^*_{i,t}) + \phi \text{Power}_{i,t} + \phi^* \text{Power}^*_{i,t} + \theta_t + \alpha_i + \gamma \mathbf{X_{i,t}} + \varepsilon_{i,t}. \quad (36)$$

We estimate (36) using both OLS and IV in Table C.10. In the OLS specification, the power of both hegemons has similar effects on geopolitical alignment. In columns (2) and (3) we instrument U.S. and Soviet aid using the same instrumental variables as before. Column (4) instruments U.S. power using its predicted power from Section 4.2.2 and column (5) instruments Soviet power. The individual instruments indicate that the effects we document in the main text are driven by shifts in U.S. power, rather than Soviet power. This is perhaps the case because U.S. trade was much larger than Soviet trade historically. However, we cannot jointly instrument U.S. and Soviet power because the two instruments are collinear – time-varying distance to the U.S. is related to time-varying distance to the USSR, leading the KP-F statistic to drop below 1 and standard errors to become large.

Table C.10: IV Results – Separating U.S. & Soviet Power

	Log Odds Ratio: Support for US-led order					
	(1)	(2)	(3)	(4)	(5)	(6)
US Carrot	0.09**	0.16*	0.09**	0.08	0.08	0.16
	(0.04)	(0.09)	(0.04)	(0.05)	(0.05)	(0.10)
USSR Carrot	-0.13***	-0.12***	-0.15**	-0.16***	-0.16***	-0.19*
	(0.03)	(0.03)	(0.06)	(0.03)	(0.04)	(0.11)
US Power	0.03	0.03	0.03	0.10*	0.09**	0.10
	(0.03)	(0.03)	(0.03)	(0.05)	(0.04)	(0.10)
USSR Power	-0.04**	-0.04**	-0.04**	-0.04**	-0.05	-0.07
	(0.02)	(0.02)	(0.02)	(0.02)	(0.43)	(0.63)
KP-F		82.07	206.78	23.24	47.81	0.55
F-Stat (US Carrot)		82.07				30.77
F-Stat (USSR Carrot)			206.78			58.98
F-Stat (US Power)				23.24		17.90
F-Stat (USSR Power)					47.81	35.31
N	2587	2587	2587	1935	1935	1935
Controls + FE	✓	✓	✓	✓	✓	✓

Notes: This table reports estimates based on specification 36, which regresses alignment on the difference of U.S. and Soviet Power and Aid. Columns (1) reports OLS results, column (2)-(6) instrument U.S. and Soviet Carrots and Power, first individually and then jointly. Clustered (country) standard errors in parentheses. Significance codes: *** 0.01, ** 0.05, * 0.1.

C.3.1 Where does Influence Come From? Iso-Power Curves

Using our empirical estimates we can study how much influence hegemons are obtaining through carrots and sticks. Our empirical estimates define *iso-power curves*, combinations of carrot and stick that yield the same alignment, holding fixed the actions of the other hegemon, as introduced in Clayton et al. (2025c).[61] Given a level of influence $\overline{\mathcal{A}}$ that a hegemon wants to achieve, the iso-power curve is defined as the combinations of carrots c and Power that yield the same influence,

$$\overline{\mathcal{A}} = \phi \text{Power} + \beta \log c. \tag{37}$$

The slope of this curve is defined by our empirical estimates for the effect of carrots (β) and sticks (ϕ) on political alignment from section 4.3. The alignment of all countries on an iso-power curve is shifted by the same amount, but the tools to achieve that shift differ. Our data allows us to compute iso-power curves and study the geoeconomic tools hegemons use across countries. To reduce noise, we group data into five-year intervals.

We plot the implied iso-power curve for the U.S. in Figure C.15, together with the positions of the non-aligned countries. For the iso-power curve, we fix the level of influence $\overline{\mathcal{A}}$ at 0.6, the level achieved by the U.S. in Egypt through the Camp David accords after 1978. On the unit line of political alignment, this corresponds to a move from 0.5 to 0.65, or from percentile 50 to 70 in the distribution of countries. We highlight two other countries in which the U.S. could achieve the same level of political concessions, but through different combinations of carrots and sticks: Liberia and Trinidad and Tobago. All three lie on an iso-power curve with Egypt, but see different combinations of carrots and sticks. At one end, for Egypt carrots are the main geoeconomic tool, with only mild influence through trade. On the other extreme, Trinidad and Tobago sees almost no aid from the U.S., but is very dependent on trade.

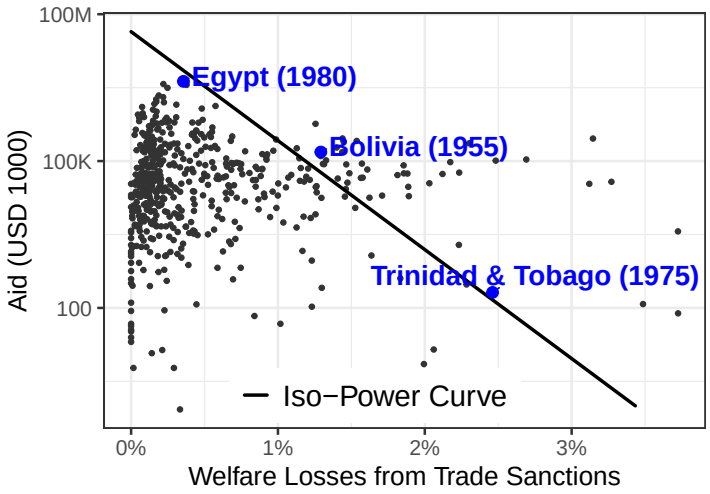
The first insight from this chart is that the tradeoff between carrots and sticks is relatively steep (note the logarithmic scale on the y-axis). Given our empirical estimates of β and ϕ, the slope of the line is given by $-\phi/\beta \approx -500$. This means increasing the welfare losses of a target country from trade with the U.S. by one percentage point is equivalent to increasing aid by a factor of $\exp(0.01 \cdot \phi/\beta) \approx 150$.

Second, the chart makes clear that, quantitatively, much of the influence of the U.S. across non-aligned countries came through the carrot, not the stick. Most of the dots are clustered towards the y-axis. These are countries in which the U.S. has very little influence through trade (the stick), because trade dependencies on the U.S. are relatively low. However in many of these countries, like Egypt, the U.S. influence came through aid (the carrot). Looking at the underlying countries reveals that countries in which welfare losses from U.S. exceed 1% tend to be Latin American countries or commodity exporters with high export dependence on the U.S..

Finally, the figure shows that countries where the U.S. has most power through trade do *not* generally receive the most aid. As a case in point, Egypt has 50 times

[61] Clayton et al. (2025c) use iso-power curves for power stemmed from finance and trade, calculating the combination of finance and trade that yields the same influence in their model. While our measure of power is related, the slope of the iso-power curve is purely determined by the data in our case.

Figure C.15: Iso-Power Curve for the U.S.



Notes: This figure plots the *iso-power curve* defined in (37) for the U.S. in black, i.e. combinations of carrots and sticks that achieve the same influence for the U.S.. The dots indicate the observed magnitude across countries. Note that the y-axis has a logarithmic scale and that the iso-power curve is not a fitted line through the points.

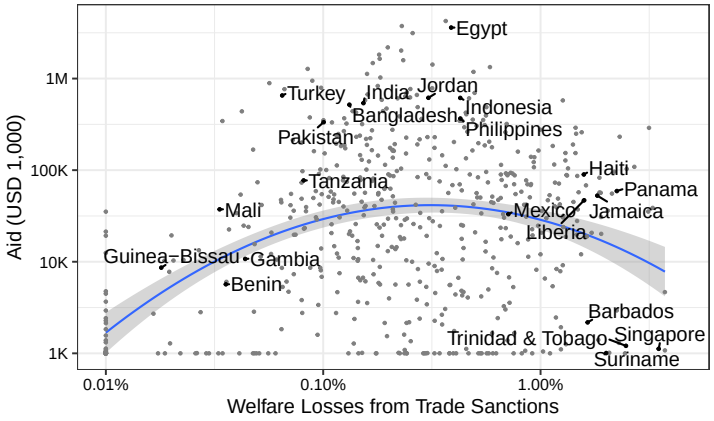
the population of Trinidad and Tobago, but receives more than 20 thousand times as much aid. This is exactly what is predicted by our theory, as we discuss in the paper.

C.4 Details on the Hump Shape

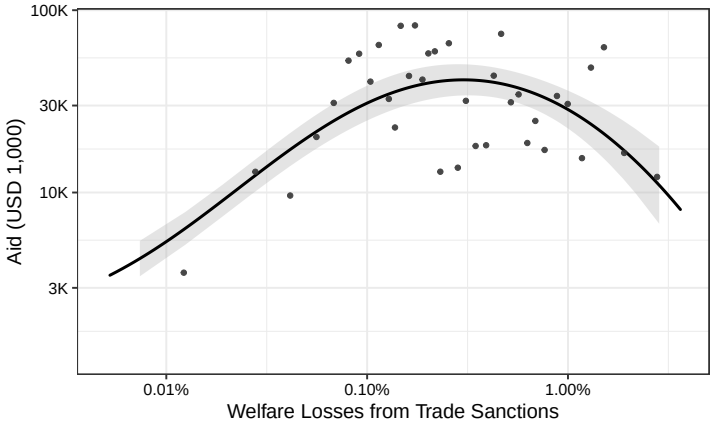
To visualize what drives the hump shape in the data, Figure C.16 plots a two scatter plots with fitted lines. We focus on the U.S., because it has more power from trade than the USSR. Panel (a) shows the relationship between carrots and sticks.[62] In addition, we highlight a number of countries which are both large and small recipients of U.S. aid. This makes clear who the countries at either end of the hump-shape are. On one extreme are countries like Mexico, Panama and Trinidad and Tobago, where the U.S. has lots of power and tends to not spend many resources. On the other hand are countries like Benin or Mali, where the U.S. has basically no economic relationship and also does not give much support (at the time, both nations lean strongly towards the USSR). In the middle are the marginal countries where the U.S. tends to spend most resources. Panel (b) shows the underlying binned scatter plot, which displays a hump shape.

[62]We use a logarithmic scale for the welfare losses from U.S. sanctions to aid the visualization.

Figure C.16: Scatterplots of the Hump-Shape



(a) Scatterplot of Hump Shape



(b) Binscatter Plot

Notes: Panel a) shows the countries underlying Figure C.15, now also using a logarithmic scale for U.S. power. The blue line corresponds to a quadratic fit. We highlight a number of countries for the time period 1975-80. Panel b) shows a binscatter version of the plot with 40 bins.

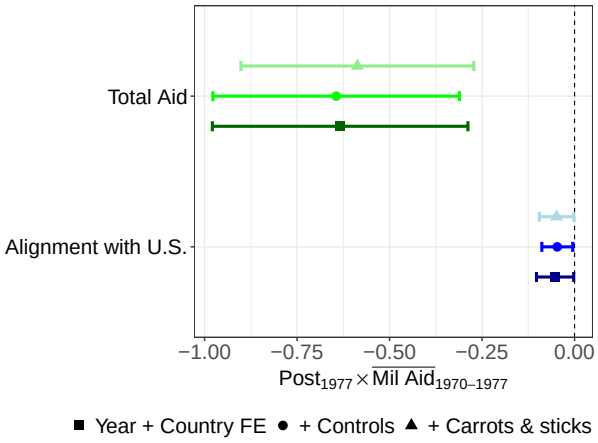
C.5 Details on the Carter Event Study

We use an event-study design to estimate the effects of the Carter aid shock on geopolitical alignment. Formally, compare the geopolitical alignment of countries with differential exposure to the Carter aid shock in the sample of Latin American countries from 1970-85 and estimate the specification

$$Y_{i,t} = \alpha_i + \theta_t + \beta \overline{\text{Aid}}_{i,1970-76} \times (\text{Post } 1976(t)) + \gamma X_{i,t} + \varepsilon_{i,t}. \tag{38}$$

to trace out the effect of military aid on alignment in Latin America starting in 1970 before the Carter administration. Here, $Y_{i,t}$ denotes an outcome (the logarithm of aid or political alignment), $\overline{\text{Aid}}_{i,1970-76}$ denotes the average of U.S. military aid per capita from the period 1970-76 and Post $1976(t)$ is an indicator variable that takes on a value of one for years greater than 1976. The exposure measure across countries is shown in Figure C.18. Consistent with the historical narrative, the most exposed countries

Figure C.17: Effects of Carter Aid Cuts on Geopolitical Alignment



Notes: This figure shows the estimates of β in the event study (38) across different specifications. The effects on aid are shown in green, while the effects on political alignment are in blue. Whiskers indicate 90% confidence intervals using standard errors clustered by country.

in our data are Bolivia and Uruguay, countries like Mexico or Brazil are less exposed.

Figure C.17 plots the resulting coefficients on the post dummies. The cuts reduce aid by around 60% in the affected countries. Political alignment also reacts, and alignment with the U.S. drops by around 0.05. Interpreting the effect on alignment as the reduced form and the effect on aid as the first stage, we find an elasticity of alignment to aid of around $0.05/0.6 \approx 0.08$, roughly 2-3 times the effects we identify using our main instrumental variables. Figure C.18 provides additional details on the event study. Panel (a) plots the exposure variable for the event study, while Panels (b) and (c) plot the dynamic event study graphs using overall aid, military aid and economic aid as outcomes. Importantly, they show that there are no clear pre-trends for foreign aid or political alignment.

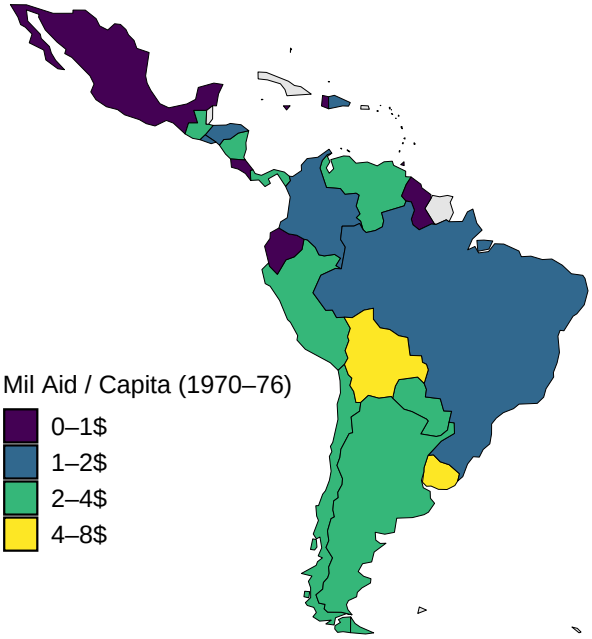
C.6 Details on Spillovers

We study spillovers of carrots and sticks following Moretti et al. (2025). Concretely, we estimate the regression equation

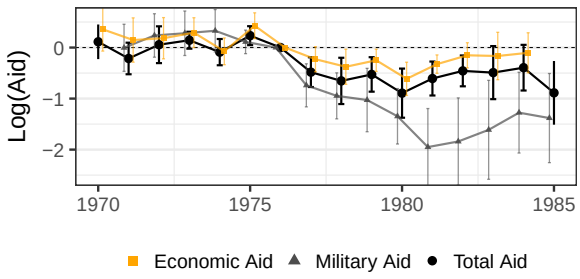
$$\begin{aligned}\log \frac{a_{i,t}}{1-a_{i,t}} = {} & \beta \log(c_{i,t}) + \beta^* \log(c^*_{i,t}) + \phi(\text{Power}_{i,t} - \text{Power}^*_{i,t}) \\ & + \beta_{\text{Spill}} \sum_{j \neq i} d_{i,j,t} \log(c_{j,t}) + \beta^*_{\text{Spill}} \sum_{j \neq i} d_{i,j,t} \log(c^*_{j,t}) \\ & + \phi_{\text{Spill}} \sum_{j \neq i} d_{i,j,t} (\text{Power}_{j,t} - \text{Power}^*_{j,t}) + \theta_t + \alpha_i + \gamma \mathbf{X}_{i,t} + \varepsilon_{i,t}.\end{aligned} \tag{39}$$

The coefficients $\beta_{\text{Spill}}, \beta^*_{\text{Spill}}, \phi_{\text{Spill}}$ correspond the spillover effects of alignment in a country from carrots and sticks to other countries. For country i, carrots and sticks in other countries j are weighted by weights $d_{i,j,t}$ which are given by the share of country j in the total trade of country i (for economic spillovers) and by the inverse

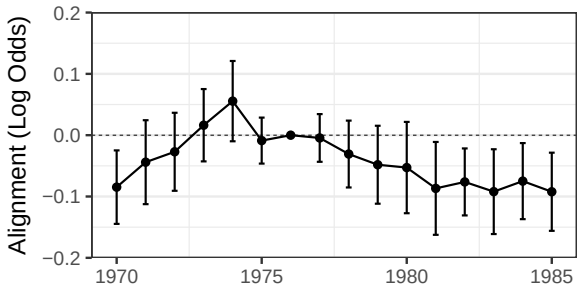
Figure C.18: Additional Figures: Carter Event Study



(a) Average Aid in Latin America 1970-76



(b) Reaction of Aid



(c) Reaction of Alignment

Notes: This figure shows additional information on the event study. Panel a) plots the treatment intensity, i.e. average military aid per capita across Latin American countries in the pre-period. Panels b) and c) show the coefficients in dynamic event study as in (38), which interacts the treatment dummy with year dummies. Panel (b) shows both overall aid as well as military and economic aid as outcomes. Whiskers indicate 90% confidence intervals using standard errors clustered by country.

of the distance to country j for the geographic spillovers. In both cases, we normalize the weights to sum to one. We instrument the direct effects, but not the spillovers as in Moretti et al. (2025).

We report the results in Table C.11 for the spillovers through trade exposure and in Table C.12 for the geographic spillovers. In both cases we find only weak evidence of spillovers. For spillovers through trade, we find suggestive evidence that spillovers are positive: More aid from the U.S. to countries that are economically close also leads to more alignment in the country itself, the same effects hold for aid from the USSR and power stemmed from trade. However, spillover effects are small compared to the direct effects. The geographic spillovers are similarly small; geographic spillovers from trade appear to be negative. Increasing U.S. power in geographically close countries is associated with countries aligning away from the U.S..

Table C.11: Spillovers Based on Trade

	Log Odds Ratio: Support for US-led order				
	(1)	(2)	(3)	(4)	(5)
US Carrot	0.09**	0.15*	0.09**	0.08	0.17**
	(0.04)	(0.09)	(0.04)	(0.05)	(0.08)
USSR Carrot	-0.13***	-0.12***	-0.15**	-0.16***	-0.19***
	(0.03)	(0.03)	(0.06)	(0.03)	(0.07)
Δ Power	0.05	0.04	0.04	0.11*	0.11*
	(0.03)	(0.03)	(0.03)	(0.07)	(0.06)
U.S. Spillover	0.01	0.01	0.01	0.03	0.03
	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)
USSR Spillover	-0.01	-0.01	-0.01	-0.02	-0.02
	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)
Power Spillover	0.02	0.02	0.02	0.02	0.02
	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)
KP-F		97.72	209.61	9.22	27.57
F-Stat (US Carrot)		97.72			93.85
F-Stat (USSR Carrot)			209.61		174.65
F-Stat (Power)				9.22	14.42
N	2578	2578	2578	1935	1935
Controls + FE	✓	✓	✓	✓	✓

Notes: This table reports estimates based on specification 39, which regresses alignment on U.S. and Soviet aid and power, as well as spillovers from other countries using the instrumental variables described in Section 4.2. Spillovers from other countries are weighted using the share in total trade of country i. Variables are standardized, the outcome is the log-odds ratio of alignment. Controls are as before. Clustered (country) standard errors in parentheses. Significance codes: *** 0.01, ** 0.05, * 0.1.

Table C.12: Spillovers Based on Geography

	Log Odds Ratio: Support for US-led order				
	(1)	(2)	(3)	(4)	(5)
US Carrot	0.09**	0.18*	0.09**	0.08	0.18**
	(0.04)	(0.09)	(0.04)	(0.05)	(0.08)
USSR Carrot	-0.13***	-0.12***	-0.15**	-0.16***	-0.20***
	(0.03)	(0.03)	(0.06)	(0.03)	(0.07)
Δ Power	0.05	0.04	0.05	0.12*	0.11*
	(0.03)	(0.03)	(0.03)	(0.07)	(0.06)
U.S. Spillover	-0.05	-0.04	-0.05	-0.01	0.00
	(0.05)	(0.04)	(0.05)	(0.05)	(0.04)
USSR Spillover	-0.04	-0.04	-0.04	-0.05	-0.06
	(0.05)	(0.04)	(0.05)	(0.05)	(0.05)
Power Spillover	-0.06***	-0.06***	-0.06***	-0.04*	-0.05*
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
KP-F		95.94	210.86	9.26	27.09
F-Stat (US Carrot)		95.94			93.91
F-Stat (USSR Carrot)			210.86		184.94
F-Stat (Power)				9.26	21.58
N	2578	2578	2578	1935	1935
Controls + FE	✓	✓	✓	✓	✓

Notes: This table reports estimates based on specification 39, which regresses alignment on U.S. and Soviet aid and power, as well as spillovers from other countries using the instrumental variables described in Section 4.2. Spillovers from other countries are weighted using the distance to country i. Variables are standardized, the outcome is the log-odds ratio of alignment. Controls are as before. Clustered (country) standard errors in parentheses. Significance codes: *** 0.01, ** 0.05, * 0.1.

D Appendix to Section 5

D.1 Appendix to Section 5.1

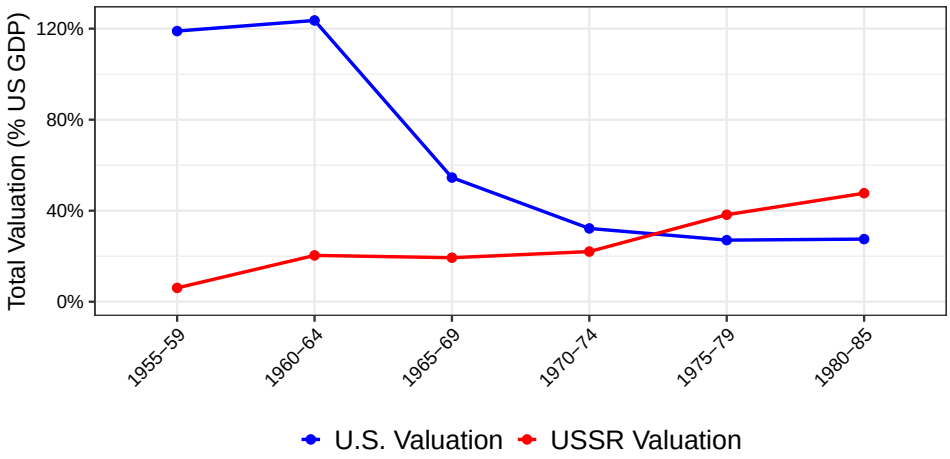
Computation of the Counterfactual Alignment. The computation of the counterfactual alignment $a(c_i = \underline{c})$ uses the following steps

1. Obtain the Soviet valuation v_i^* using (9),

$$v_i^* = \frac{1}{a_i(1-a_i)\beta^*} c_i^*.$$

2. Obtain the alignment $\widetilde{a}_i$ without carrots by subtracting the change induced by

Figure D.19: Implied Total Valuations for Both Hegemons



Notes: This figure presents the implied valuations both hegemons place on the alignment of all non-aligned countries during the Cold War as a percentage of U.S. GDP.

carrots from observed alignment,

$$\log \frac{\widetilde{a}_i}{1-\widetilde{a}_i} = \log \frac{a_i}{1-a_i} - \beta \log c_i + \beta^* \log c_i^*.$$

3. Obtain the Soviet reaction $\underline{c}_i^*$ as the solution to (8) when the U.S. spends $\underline{c}$

$$\frac{\exp\left(\log \widetilde{a}_i/(1-\widetilde{a}_i) + \beta^* \log \underline{c}_i^* + \beta \log \underline{c}\right)}{\left(\exp(\beta^* \log \underline{c}_i^*) + \exp(\log \widetilde{a}_i/(1-\widetilde{a}_i) + \beta \log \underline{c})\right)^2} = \frac{c_i^*}{\beta^* v_i^*}. \tag{40}$$

4. Obtain counterfactual alignment using solution to (40) as $\widetilde{a}_i + \beta \log \underline{c} - \beta^* \log \underline{c}_i^*$.

Details on Geopolitical Valuations. We provide details on the geopolitical importance v_i we construct to compute the returns on foreign aid. Valuations are obtained using (9). Figure D.19 shows the total valuations for winning over all of the non-aligned countries. They are an order of magnitude larger than the actual aid budget of both hegemons and on the order of 20-80% of U.S. GDP. This is because the effects of carrots on geopolitical alignment are relatively modest. The fact that still, hegemons spend considerable resources on foreign countries implies that they value alignment considerably through the lens of our model.

The geopolitical valuation for the U.S. is very high towards the start of the Cold War. At this point, the U.S. is spending a lot on allied countries, where it can only move geopolitical alignment marginally. The valuation for the U.S. decreases together with the U.S. aid budget as the Cold War continues. In contrast, the total Soviet valuation increases throughout the Cold War as Moscow's foreign aid program increases in size.

Next, Table D.13 presents the top-5 most important countries together with their implied geopolitical importance for two time periods at the start and the end of the

Cold War. The valuations align with standard narratives of the Cold War: The key non-aligned countries include states like Egpyt, Turkey or India. The valuations we construct is correlated with the amount of aid a country receives, but the correlation is not perfect and stands at around 70%.

Table D.13: Valuations of Top 5 countries as % of U.S. GDP

US				USSR			
1960-64		1975-79		1960-64		1975-79	
Country	Valuation	Country	Valuation	Country	Valuation	Country	Valuation
Turkey	26.40	Egypt	7.59	Egypt	5.01	Iraq	7.77
India	15.52	Jordan	1.54	Indonesia	3.53	Syria	7.10
Spain	13.96	Bangladesh	1.48	India	3.42	Libya	5.50
Pakistan	9.68	India	1.39	Iraq	2.43	India	2.92
Brazil	5.40	Indonesia	1.31	Afghanistan	2.03	Algeria	1.85

Notes: This table shows the top 5 countries in terms of geopolitical importance for both hegemons in the periods 1960–64 and 1975–79. For each country, we express geopolitical importance as a fraction of the U.S. GDP to compare across the U.S. and the USSR.

Determinants of Geopolitical Valuations. We present different determinants of the geopolitical valuations in Table D.14. We conduct a cross-country regression analysis in which we regress the valuations on different country characteristics using PPML, using variation both within and across countries. We include some standard determinants (GDP and population), strategic determinants (Distance to the U.S. and the USSR), military determinants (military expenditure, distance to war), and economic determinants (iron & steel production, oil production, trade with the U.S., trade with the USSR).[63]

Table D.14 shows that many of these factors are associated with increased geopolitical importance. For instance, valuations are higher for counteries that are closer to the USSR for the U.S. (though the reverse association is not significant for the USSR), and for both hegemons, valuations are higher for countries that are closer to ongoing wars. On the economic side, we find that both hegemons have considerable self-interest and tend to value countries higher if they trade more with them. Within countries, we also find that the U.S. and USSR value countries producing lots of oil, though this relationship is more precisely estimated for the USSR.

Summary Statistics on the Geopolitical Returns. Table D.15 reports summary statistics on all subcomponents of the Geopolitical Returns.

[63]Data on military expenditure and Iron and Steel Production is from the Correlates of War. Trade is computed as a fraction of hegemon GDP. Data on War sites is from Federle et al. (2025), we thank Jonathan Federle for sharing the data.

Table D.14: Determinants of Geopolitical Valuations

	U.S. Valuation			USSR Valuation		
	(1)	(2)	(3)	(4)	(5)	(6)
GDP	-0.19	-0.17	-2.2***	0.21	0.22	-0.11
	(0.12)	(0.11)	(0.56)	(0.24)	(0.22)	(0.56)
Population	0.26**	0.10	5.3***	0.06	0.10	4.5***
	(0.11)	(0.12)	(1.3)	(0.12)	(0.11)	(1.6)
Distance to U.S.	0.58**	0.14		-0.28	-0.22	
	(0.24)	(0.22)		(0.32)	(0.32)	
Distance. to USSR	-0.90***	-0.51**		-0.92***	-1.1***	
	(0.29)	(0.22)		(0.29)	(0.31)	
Distance to War	-0.01	-0.03	-0.04**	-0.10***	-0.11***	-0.08**
	(0.05)	(0.04)	(0.02)	(0.02)	(0.02)	(0.03)
Military Expenditure	-0.06	0.35***	0.02	0.14	-0.04	0.35*
	(0.07)	(0.11)	(0.09)	(0.10)	(0.15)	(0.20)
Iron & Steel Prod.	0.16***	0.16***	-0.08	-0.22***	-0.22***	-0.09
	(0.05)	(0.05)	(0.06)	(0.08)	(0.06)	(0.06)
Oil Prod.	-0.17***	-0.16***	0.19	0.02	0.06	0.27***
	(0.06)	(0.06)	(0.14)	(0.09)	(0.08)	(0.08)
Trade with U.S.	0.49***	0.19**	0.65***			
	(0.10)	(0.08)	(0.21)			
Trade with USSR				0.73***	0.77***	0.35***
				(0.10)	(0.10)	(0.10)
N	2,482	2,482	2,482	2,482	2,482	2,482
Pseudo R^2	0.43453	0.56088	0.77472	0.73233	0.75242	0.90020
Year		✓	✓		✓	✓
Country			✓			✓

Notes: This table shows the results of a cross-country regression using PPML which regresses the U.S. and Soviet valuation on a number of potential determinants. We compute the logarithm and standardize all determinants of valuations, for sources of variables see text. Clustered (country) standard errors in parentheses. Significance codes: *** 0.01, ** 0.05, * 0.1.

Table D.15: Geopolitical Returns on Foreign Aid

	U.S.				USSR			
Measure	Mean	Median	P10	P90	Mean	Median	P10	P90
Return on Aid (%)	500.03%	508.80%	228.72%	750.09%	477.50%	452.25%	166.10%	789.52%
Δa	0.04	0.04	0.02	0.05	0.04	0.04	0.02	0.07
v (% US GDP)	0.80	0.14	0.01	1.59	0.60	0.08	0.00	1.64
c (% US GDP)	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01

Notes: This table reports summary statistics on the geopolitical return on foreign aid across countries, computed using (17). It shows the distribution of returns and all subcomponents.

D.2 Appendix to Section 5.2

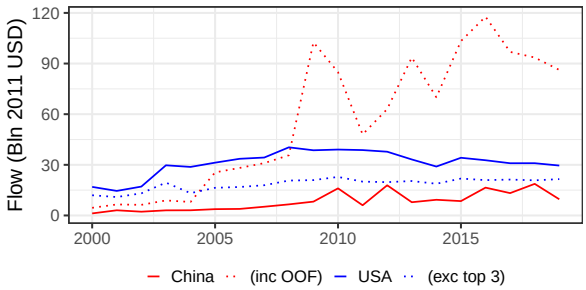
D.2.1 Measurement of Carrots, Sticks and Alignment in Modern Data

We show summary statistics on the measures we construct for the modern U.S.-China competition. In Figure D.20 we show summary statistics on U.S. and Chinese aid, including the level of aid over time and across countries. While China still does not provide as much aid as the U.S., it has caught up in recent years and is now the World's largest non-democratic aid donor (Dreher et al., 2022a). As in the Cold War, Africa and the Middle East continue to be the main battlegrounds in terms of aid competition. In Figure D.21 we show our measure of initial alignment across countries. In U.N. voting, much of the world already appears more aligned with China, especially when it comes to countries in Africa and Asia. Figure D.22 shows the power of the U.S. and China across countries. The most important difference to the Cold War is that U.S. and Chinese power is much more balanced than the power of the U.S. and the Soviet Union. In fact, in many countries, China is already more powerful than the U.S.. Figure D.23 shows the estimates of USAID cuts at the country level by Sandefur and Kenny (2025). Aid cuts are largest in Latin America and Asia, Africa remains somewhat less affected.

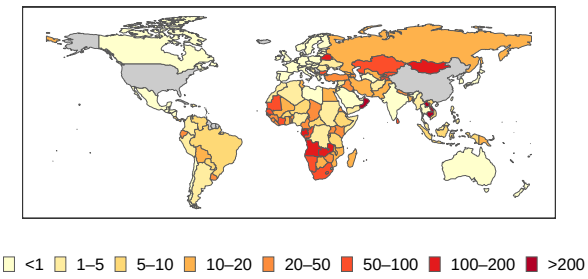
D.2.2 Counterfactuals

Table D.16 shows the key parameters of the calibrated model for every country. Figure D.24 plots the change in geopolitical alignment with the U.S. against the initial geopolitical alignment and aid of the U.S. aid to Chinese aid. Figure D.25 shows how much U.S. power would need to increase to offset the loss of influence induced by a full USAID shutdown.

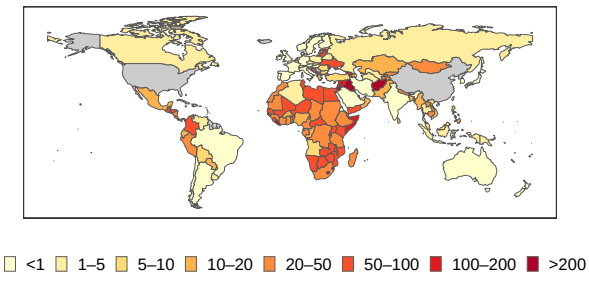
Figure D.20: U.S. and Chinese Carrots



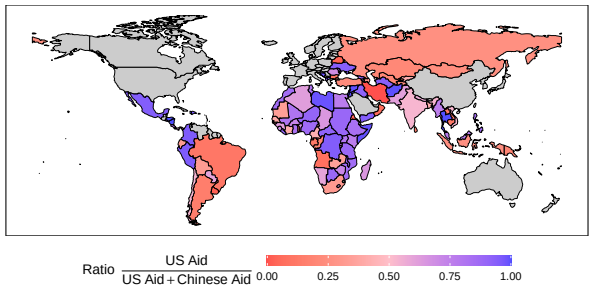
(a) Total U.S. and Chinese Aid



(b) Chinese Aid / Capita



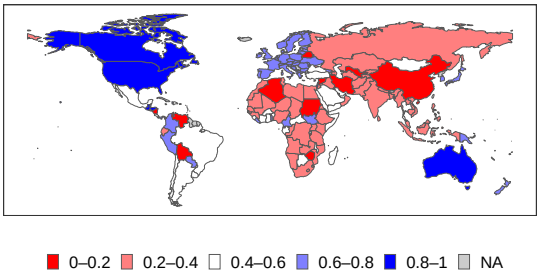
(c) US Aid / Capita



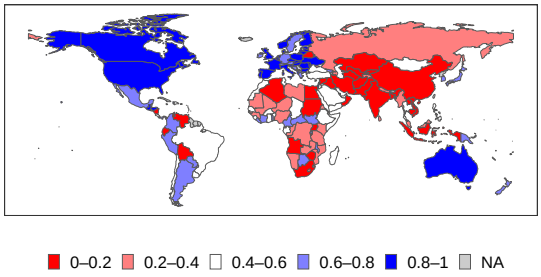
(d) Aid Ratio Across Countries

Notes: This figure shows descriptive statistics on the size and allocation of U.S. and Chinese carrots. Panel (a) plots total U.S. and Chinese aid over time. For China, we also plot the total outflow including when including other official finance; for the U.S: we also plot the total when excluding the top 3 recipients of U.S. official flows over time (Afghanistan, Iraq and Israel). Panel (b) plots Chinese aid from 2015-19 per capita, panel (c) shows U.S. aid. Panel (d) shows the ratio of U.S. carrots over the total (U.S. + China) for those countries in which both are positive.

Figure D.21: Alignment with China and the U.S. (0-1), 2015-19



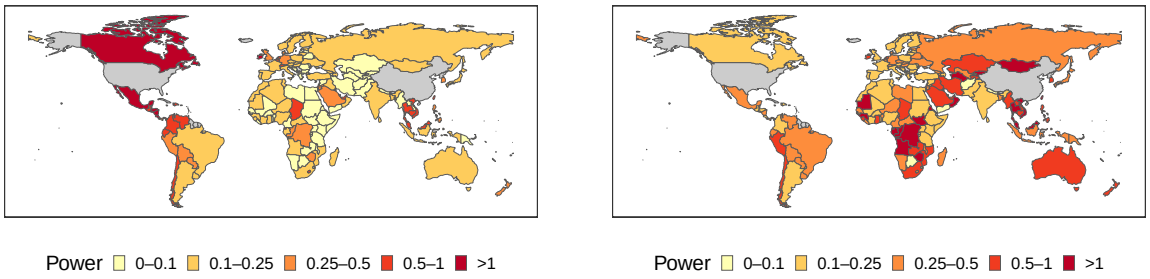
(a) Alignment with U.S. (Ideal Points)



(b) Alignment with U.S. (percentile)

Notes: This figure plots the alignment of different countries between between China (at 0) and the U.S. (at 1). In panel a) we measure alignment using location of a country's Ideal Point between the U.S. and China, panel b) instead uses the (percentile) rank of the ideal point measure.

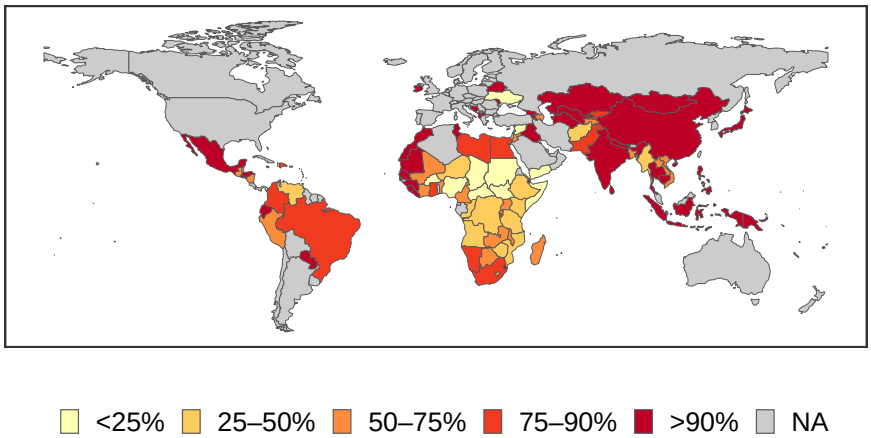
Figure D.22: U.S. and Chinese Power, 2015-19



(a) U.S. Power (b) Chinese Power

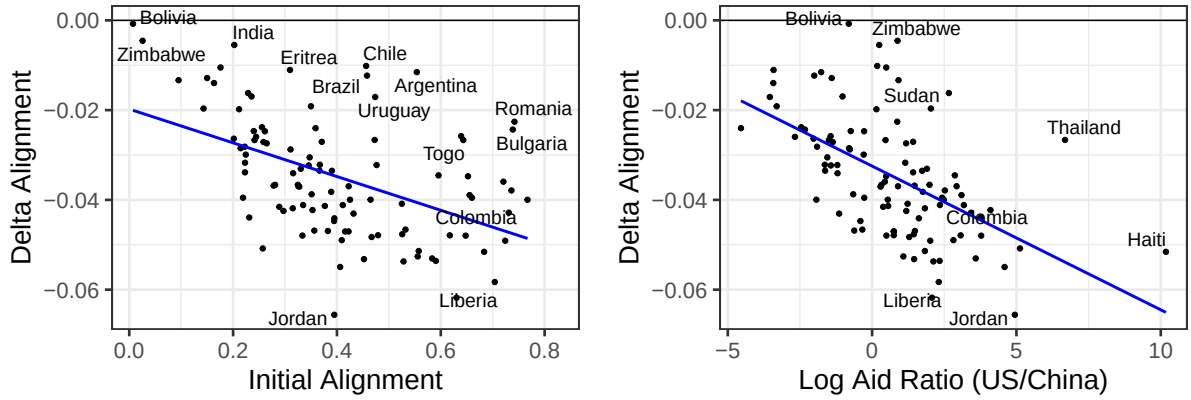
Notes: This figure plots U.S. and Chinese Power across different countries. Power refers to the welfare loss (in %) each country experiences upon trade sanctions from a hegemon, for details see text. Values are averaged over the period 2015-19.

Figure D.23: USAID Cuts at the Country Level



Notes: This map displays estimates of USAID cuts from Sandefur and Kenny (2025) at the country level. For each country, it shows the percentage of total aid that they estimate to be affected by the cut.

Figure D.24: Correlates of Changing Alignment

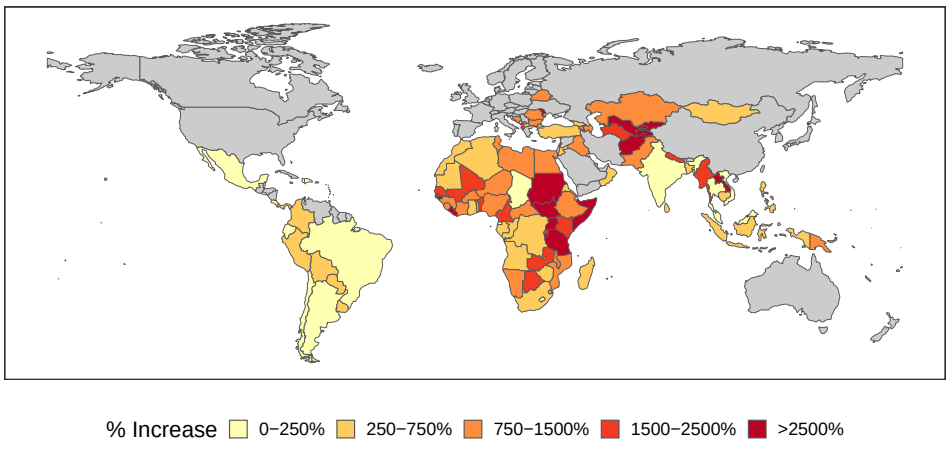


(a) Initial Alignment

(b) Initial Aid

Notes: These Figures plot the change in alignment in the counterfactual from Section 5.2 on the y axis. The x-axis shows the initial geopolitical alignment of the country in Panel (a) and the initial ratio of U.S. to Chinese aid in Panel (b). Each dot refers to a country, the blue line shows a line of best fit.

Figure D.25: % Change in Power to Maintain Alignment after USAID Shutdown



Notes: This figure plots the percent increase in Power (relative to the initial level) required to offset the USAID shutdown across countries.

Table D.16: Summary Statistics – U.S.–China Application

Country	a_i	a_i^{rank}	$\frac{\text{Aid}_{\text{CHN}}}{Pop}$	$\frac{\text{Aid}_{\text{CHN}}^{OOF}}{Pop}$	$\frac{\text{Aid}_{\text{USA}}}{Pop}$	Cut (%)	Power_i	Power_i^*	π_i	v_i^*	Δc_i^* (1)	Δc_i^* (2)	Δc_i^* (3)	Δc_i^* (4)	Δa_i (1)	Δa_i (2)	Δa_i (3)	Δa_i (4)
AFG	0.26	0.19	0.93	0.91	154.59	36%	0.06	0.05	0.22	4.04	-14.46%	-0.96%	-14.47%	-17.52%	-0.05	0	-0.05	-0.04
AGO	0.26	0.18	20.86	174.59	1.83	44%	0.19	1.20	0.30	77.05	-6.42%	-0.99%	-6.42%	-8.13%	-0.02	0	-0.02	-0.02
ALB	0.74	0.89	0.64	0.64	7.98	100%	0.07	0.24	0.72	0.22	8.2%	8.2%	8.2%	15.36%	-0.04	-0.04	-0.04	-0.02
ARG	0.55	0.62	0.77	319.84	0.13		0.16	0.18	0.57	3.18	0.22%		0.45%	0.85%	-0.01		-0.01	-0.01
ARM	0.47	0.56	3.09	3.10	11.22	96%	0.10	0.31	0.46	0.86	-2.28%	-1.12%	-2.28%	1.35%	-0.05	-0.03	-0.05	-0.05
AZE	0.31	0.25	4.96	17.10	2.32	52%	0.10	0.19	0.32	5.27	-5.51%	-1.01%	-5.48%	-7.08%	-0.03	-0.01	-0.03	-0.02
BDI	0.10	0.05	2.23	2.56	5.45	82%	0.03	0.08	0.09	6.55	-12.84%	-4.78%	-12.83%	-14.09%	-0.01	0	-0.01	-0.01
BEN	0.42	0.51	5.48	13.46	11.57	58%	0.07	0.28	0.42	6.05	-3.93%	-0.54%	-3.91%	-0.74%	-0.05	-0.01	-0.05	-0.05
BFA	0.42	0.51	1.39	2.17	3.50	18%	0.10	0.16	0.42	2.63	-3.03%	-0.24%	-2.99%	-0.31%	-0.04	0	-0.04	-0.04
BGD	0.26	0.20	2.65	13.15	1.99	56%	0.12	0.26	0.27	50.96	-6.5%	-1.42%	-6.44%	-7.92%	-0.02	-0.01	-0.02	-0.02
BGR	0.74	0.91	13.74	20.21	1.33		0.09	0.23	0.76	11.67	5.7%		5.7%	10.66%	-0.02		-0.02	-0.01
BIH	0.65	0.69	0.31	54.17	13.45	100%	0.09	0.15	0.62	0.11	4.66%	4.66%	5.22%	6.41%	-0.05	-0.05	-0.05	-0.05
BLR	0.16	0.07	29.08	90.49	0.95	100%	0.06	0.30	0.19	46.77	-7.04%	-7.04%	-7.03%	-8.79%	-0.01	-0.01	-0.01	-0.01
BOL	0.01	0.03	2.45	27.63	1.11		0.26	0.35	0.01	88.15	-10.39%		-10.32%	-10.03%	0.00		0.00	0.00
BRA	0.46	0.55	1.11	24.73	0.15	77%	0.23	0.31	0.48	21.32	-0.64%	-0.44%	-0.49%	0.25%	-0.01	-0.01	-0.01	-0.01
BWA	0.53	0.61	2.30	2.24	18.67	68%	0.08	0.08	0.51	0.52	-0.02%	0.11%	-0.02%	3.47%	-0.05	-0.01	-0.05	-0.05
CAF	0.59	0.65	1.88	3.23	19.79	12%	0.11	0.37	0.58	0.87	2.73%	-0.01%	2.77%	5.36%	-0.05	0	-0.05	-0.05
CHL	0.46	0.54	0.09	41.63	0.11		0.53	0.81	0.47	0.16	-1.99%		-0.41%	-1.31%	-0.01		-0.01	-0.01
CIV	0.53	0.61	11.90	24.82	8.48	67%	0.12	0.19	0.54	29.21	0.31%	0.2%	0.32%	3.45%	-0.05	-0.01	-0.05	-0.05
CMR	0.66	0.71	7.14	33.02	5.35	59%	0.07	0.37	0.67	18.18	4.92%	0.99%	4.94%	6.68%	-0.04	-0.01	-0.04	-0.04
COD	0.33	0.27	0.35	11.12	6.34	34%	0.42	1.03	0.32	3.07	-6.97%	-1%	-6.5%	-8.57%	-0.04	0	-0.04	-0.03
COG	0.35	0.32	12.32	19.68	2.92	41%	0.28	1.68	0.41	6.73	-4.89%	-0.59%	-4.88%	-5.57%	-0.03	0	-0.03	-0.03
COL	0.62	0.66	0.53	3.10	11.51	82%	0.51	0.23	0.58	2.50	3.46%	1.05%	3.74%	5.29%	-0.05	-0.01	-0.05	-0.05
CRI	0.53	0.59	1.31	1.31	4.48		1.11	0.21	0.48	0.60	0.02%		0.02%	2.3%	-0.04		-0.04	-0.04
DOM	0.41	0.47	0.25	0.25	6.05	77%	0.96	0.13	0.35	0.24	-4.39%	-1.65%	-4.38%	-2.33%	-0.04	-0.01	-0.04	-0.04
DZA	0.18	0.07	0.22	0.22	0.36		0.14	0.22	0.18	1.47	-5.52%		-5.52%	-6.88%	-0.01		-0.01	0.00
ECU	0.24	0.16	5.31	50.83	2.54	98%	0.58	0.26	0.24	11.39	-7.41%	-6.09%	-7.38%	-9.33%	-0.02	-0.02	-0.02	-0.02
EGY	0.22	0.13	3.55	34.51	11.50	84%	0.09	0.12	0.22	44.84	-10.78%	-3.62%	-10.73%	-13.76%	-0.03	-0.01	-0.03	-0.02
ERI	0.31	0.24	5.05	93.63	0.17		0.05	1.43	0.38	1.88	-2.06%		-2.03%	-2.75%	-0.01		-0.01	-0.01
ETH	0.40	0.45	1.87	10.85	9.46	30%	0.09	0.20	0.39	16.96	-4.78%	-0.37%	-4.7%	-2.71%	-0.04	0	-0.04	-0.05
GAB	0.43	0.52	34.02	65.87	4.93		0.15	1.14	0.48	6.52	-3.11%		-3.1%	-0.03%	-0.04		-0.04	-0.04
GEO	0.72	0.78	3.83	6.25	28.69	100%	0.21	0.34	0.71	1.66	9.76%	9.76%	9.78%	12.9%	-0.05	-0.05	-0.05	-0.04
GHA	0.53	0.60	2.16	20.96	9.54	79%	0.19	0.73	0.53	5.84	-0.01%	0.13%	0.06%	2.9%	-0.05	-0.01	-0.05	-0.05
GIN	0.32	0.27	4.26	30.39	6.15	100%	0.11	1.48	0.37	5.86	-6.51%	-6.51%	-6.48%	-8.27%	-0.04	-0.04	-0.04	-0.03
GMB	0.37	0.38	15.39	15.31	2.98	100%	0.03	0.44	0.40	3.42	-4.35%	-4.35%	-4.35%	-3.98%	-0.03	-0.03	-0.03	-0.03
GNB	0.35	0.33	11.07	11.14	2.27		0.03	0.13	0.36	1.93	-4.53%		-4.53%	-5.06%	-0.03		-0.03	-0.03

GNQ	0.36	0.37	76.56	432.98	0.91		0.89	1.55	0.42	9.81	-3.2%		-3.2%	-3.04%	-0.02		-0.02	-0.02
HTI	0.68	0.71	0.00	0.00	27.75	50%	1.10	0.12	0.60	0.00	-6.82%	-12.75%	-6.87%	-5.43%	-0.05	-0.01	-0.05	-0.05
IDN	0.24	0.15	2.00	16.66	0.71	98%	0.13	0.38	0.25	67.31	-5.23%	-4.76%	-5.15%	-6.65%	-0.02	-0.02	-0.02	-0.01
IND	0.20	0.09	0.07	0.19	0.08	94%	0.18	0.18	0.20	12.71	-4.11%	-3.91%	-2.88%	-4.86%	-0.01	0	-0.01	0.00
IRQ	0.22	0.11	4.85	15.09	54.08	93%	0.17	0.67	0.22	24.47	-13.92%	-5.33%	-13.9%	-18.11%	-0.04	-0.02	-0.04	-0.02
JAM	0.48	0.59	4.89	40.41	10.38	73%	1.07	0.18	0.44	1.24	-1.76%	-0.29%	-1.72%	2.44%	-0.05	-0.01	-0.05	-0.05
JOR	0.39	0.45	0.96	32.85	136.93	61%	0.40	0.34	0.35	0.95	-7.75%	-0.92%	-7.57%	-5.09%	-0.07	-0.01	-0.07	-0.07
KAZ	0.26	0.19	11.64	125.88	3.02	100%	0.08	0.56	0.28	25.46	-7.23%	-7.23%	-7.21%	-8.88%	-0.03	-0.03	-0.03	-0.02
KEN	0.30	0.23	5.86	21.84	19.33	46%	0.06	0.16	0.29	29.61	-9.15%	-0.93%	-9.12%	-11.41%	-0.04	0	-0.04	-0.04
KGZ	0.22	0.13	10.90	22.00	8.05	78%	0.04	1.23	0.26	8.94	-10%	-2.95%	-9.99%	-12.68%	-0.03	-0.01	-0.03	-0.02
KHM	0.20	0.08	48.34	67.18	6.45	98%	0.52	0.90	0.22	108.81	-10.23%	-7.57%	-10.22%	-13.59%	-0.03	-0.02	-0.03	-0.01
LAO	0.22	0.11	40.66	289.68	6.06	72%	0.03	0.97	0.26	38.25	-9.49%	-2.48%	-9.49%	-12.54%	-0.03	-0.01	-0.03	-0.02
LBN	0.23	0.15	2.09	9.95	89.41	29%	0.11	0.11	0.21	1.67	-14.46%	-0.74%	-14.39%	-17.84%	-0.04	0	-0.04	-0.03
LBR	0.70	0.73	6.76	6.78	69.81	98%	0.04	0.26	0.69	3.55	9.76%	5.51%	9.76%	11.18%	-0.06	-0.03	-0.06	-0.06
LBY	0.35	0.35	0.17	0.17	10.10	84%	0.09	0.43	0.33	0.11	-7.17%	-2.93%	-7.16%	-7.16%	-0.04	-0.01	-0.04	-0.04
LKA	0.37	0.39	12.93	49.30	2.51	100%	0.23	0.23	0.38	27.72	-4.14%	-4.14%	-4.13%	-3.62%	-0.03	-0.03	-0.03	-0.03
LSO	0.33	0.29	16.09	16.19	26.53	57%	0.87	0.32	0.31	3.40	-8.23%	-1.03%	-8.23%	-9.77%	-0.05	-0.01	-0.05	-0.04
MAR	0.39	0.43	0.81	2.53	4.74	100%	0.19	0.17	0.37	2.76	-4.4%	-4.4%	-4.26%	-3.24%	-0.04	-0.04	-0.04	-0.04
MDA	0.77	0.95	1.27	1.29	15.48	100%	0.05	0.18	0.75	0.46	10.91%	10.91%	10.92%	21.12%	-0.04	-0.04	-0.04	-0.01
MDG	0.46	0.55	2.42	3.32	4.35	54%	0.23	0.44	0.47	5.65	-1.85%	-0.29%	-1.83%	1.01%	-0.04	-0.01	-0.04	-0.04
MEX	0.60	0.65	0.14	1.66	2.41	100%	2.53	0.26	0.48	1.65	1.11%	1.11%	2.15%	2.83%	-0.03	-0.03	-0.03	-0.03
MKD	0.73	0.79	0.47	18.15	14.30	100%	0.17	0.22	0.71	0.11	8.76%	8.76%	9.14%	11.84%	-0.04	-0.04	-0.04	-0.04
MLI	0.28	0.21	2.42	2.47	10.74	66%	0.06	0.22	0.27	5.42	-8.89%	-1.78%	-8.89%	-10.97%	-0.04	-0.01	-0.04	-0.03
MMR	0.26	0.21	0.90	3.61	2.94	34%	0.04	0.85	0.28	5.62	-7.21%	-0.88%	-7.06%	-8.68%	-0.03	0	-0.03	-0.02
MNG	0.43	0.53	21.61	626.21	6.92	100%	0.17	4.02	0.59	6.51	-3.15%	-3.15%	-3.14%	0.15%	-0.04	-0.04	-0.04	-0.04
MOZ	0.31	0.25	2.27	14.56	14.14	47%	0.12	0.52	0.31	7.01	-8.08%	-0.92%	-8.01%	-10.2%	-0.04	0	-0.04	-0.04
MRT	0.35	0.35	12.52	18.59	6.52	100%	0.22	1.22	0.39	4.96	-5.73%	-5.73%	-5.73%	-5.88%	-0.04	-0.04	-0.04	-0.04
MUS	0.35	0.34	13.33	53.02	0.49		0.21	0.36	0.38	1.72	-2.7%		-2.69%	-2.86%	-0.02		-0.02	-0.02
MWI	0.56	0.63	2.35	2.76	14.58	64%	0.10	0.26	0.55	4.25	1.25%	0.32%	1.26%	4.55%	-0.05	-0.01	-0.05	-0.05
MYS	0.37	0.39	0.32	68.67	1.28		0.58	1.26	0.39	1.02	-3.84%		-3.31%	-3.33%	-0.03		-0.03	-0.03
NAM	0.29	0.23	12.70	13.09	18.92	85%	0.09	0.42	0.30	3.56	-9.39%	-2.9%	-9.39%	-11.58%	-0.04	-0.01	-0.04	-0.03
NER	0.33	0.30	1.07	10.08	10.33	34%	0.14	0.28	0.32	2.41	-7.03%	-0.66%	-6.88%	-8.2%	-0.04	0	-0.04	-0.04
NGA	0.33	0.29	0.52	4.64	3.59	23%	0.11	0.24	0.32	10.45	-5.89%	-0.64%	-5.6%	-7.1%	-0.03	0	-0.03	-0.03
NPL	0.33	0.28	4.73	5.90	6.33	100%	0.06	0.09	0.33	14.07	-6.46%	-6.46%	-6.45%	-7.91%	-0.04	-0.04	-0.04	-0.03
OMN	0.24	0.17	44.43	240.91	2.98		0.20	1.29	0.30	25.01	-7.56%		-7.55%	-9.33%	-0.03		-0.03	-0.02
PAK	0.24	0.17	2.20	46.71	3.49	85%	0.09	0.21	0.24	57.26	-8.01%	-3.45%	-7.93%	-9.93%	-0.03	-0.01	-0.03	-0.02
PAN	0.72	0.75	3.47	17.83	5.31		0.42	0.25	0.71	1.64	7.18%		7.23%	8.47%	-0.04		-0.04	-0.03
PER	0.66	0.70	0.23	9.97	4.95	69%	0.45	0.58	0.64	0.72	3.96%	0.54%	4.69%	5.6%	-0.04	-0.01	-0.04	-0.04
PHL	0.39	0.43	0.46	7.53	2.64	95%	0.30	0.68	0.39	4.72	-3.93%	-2.69%	-3.59%	-2.76%	-0.03	-0.02	-0.03	-0.03
PNG	0.64	0.67	3.93	18.94	0.96	100%	0.05	0.47	0.67	3.86	2.78%	2.78%	2.82%	3.58%	-0.03	-0.03	-0.03	-0.02
PRY	0.65	0.69	1.87	1.82	2.95	100%	0.34	0.33	0.65	1.33	4.04%	4.04%	4.04%	5.38%	-0.03	-0.03	-0.03	-0.03

ROU	0.74	0.93	0.45	0.76	1.08		0.06	0.13	0.74	1.07	5.06%		5.22%	9.94%	-0.02		-0.02	-0.01
RWA	0.56	0.63	5.56	5.60	16.63	65%	0.06	0.18	0.55	6.19	1.22%	0.36%	1.22%	4.37%	-0.05	-0.01	-0.05	-0.05
SDN	0.14	0.05	0.79	0.80	6.10	8%	0.01	0.20	0.14	6.08	-11.97%	-0.43%	-11.97%	-14.38%	-0.02	0	-0.02	-0.01
SEN	0.39	0.44	15.58	25.10	10.23	100%	0.06	0.26	0.41	23.40	-4.8%	-4.8%	-4.79%	-3.17%	-0.04	-0.04	-0.04	-0.05
SLE	0.42	0.48	5.48	26.77	12.00	100%	0.13	0.56	0.43	3.93	-4.21%	-4.21%	-4.18%	-1.79%	-0.05	-0.05	-0.05	-0.05
SLV	0.45	0.53	4.85	4.86	20.83	100%	1.27	0.22	0.40	2.85	-3.24%	-3.24%	-3.24%	0.23%	-0.05	-0.05	-0.05	-0.05
SOM	0.41	0.46	0.34	0.34	33.08	22%	0.03	0.21	0.37	0.45	-6.03%	-0.67%	-6.02%	-3.68%	-0.05	0	-0.05	-0.06
SSD	0.63	0.67	7.04	46.57	57.54	8%	0.05	3.28	0.72	8.86	5.24%	0.05%	5.27%	7.32%	-0.06	0	-0.06	-0.06
TCD	0.38	0.41	4.14	4.34	7.56	8%	0.71	0.57	0.37	6.16	-5.12%	-0.12%	-5.11%	-4.11%	-0.04	0	-0.04	-0.04
TGO	0.64	0.68	5.11	6.12	1.09		0.07	0.22	0.66	4.06	2.99%		2.99%	3.88%	-0.03		-0.03	-0.03
THA	0.47	0.57	0.00	2.95	0.91	100%	0.51	1.05	0.47	0.01	-14.13%	-14.13%	-0.93%	-12.31%	-0.03	-0.03	-0.03	-0.03
TJK	0.32	0.26	15.21	27.97	4.68	69%	0.02	0.51	0.34	14.60	-6.37%	-1.55%	-6.36%	-7.96%	-0.03	-0.01	-0.03	-0.03
TKM	0.23	0.14	0.04	0.05	0.64	100%	0.03	1.88	0.27	0.03	-7.86%	-7.86%	-7.8%	-9.36%	-0.02	-0.02	-0.02	-0.01
TLS	0.58	0.64	0.51	0.51	18.36	100%	0.06	0.36	0.56	0.06	2.14%	2.14%	2.14%	4.74%	-0.05	-0.05	-0.05	-0.05
TUN	0.38	0.42	3.32	3.33	14.61	100%	0.14	0.20	0.37	3.77	-5.66%	-5.66%	-5.66%	-4.25%	-0.05	-0.05	-0.05	-0.05
TUR	0.48	0.58	5.91	28.18	1.76		0.13	0.15	0.49	44.57	-1.06%		-1.03%	1.66%	-0.03		-0.03	-0.03
TZA	0.28	0.22	1.36	2.38	10.04	38%	0.02	0.20	0.27	8.29	-8.74%	-0.88%	-8.68%	-10.69%	-0.04	0	-0.04	-0.03
UGA	0.22	0.12	4.21	8.24	17.06	66%	0.02	0.12	0.22	21.28	-11.54%	-2.16%	-11.52%	-14.9%	-0.03	-0.01	-0.03	-0.02
URY	0.47	0.57	9.81	10.40	0.28		0.16	0.39	0.51	3.20	-0.5%		-0.49%	0.88%	-0.02		-0.02	-0.02
UZB	0.15	0.06	3.65	23.75	0.91	100%	0.03	0.43	0.16	21.37	-7.23%	-7.23%	-7.19%	-8.84%	-0.01	-0.01	-0.01	-0.01
VNM	0.21	0.09	1.34	18.76	1.55	65%	0.85	1.95	0.24	17.54	-7.22%	-2.17%	-7.1%	-9.7%	-0.02	-0.01	-0.02	-0.01
YEM	0.41	0.47	0.95	0.95	15.70	15%	0.00	0.00	0.39	2.71	-4.85%	-0.29%	-4.85%	-2.61%	-0.05	0	-0.05	-0.05
ZAF	0.21	0.10	16.48	44.13	7.47	89%	0.17	0.52	0.23	130.49	-10.15%	-4.38%	-10.14%	-13.43%	-0.03	-0.01	-0.03	-0.01
ZMB	0.36	0.36	33.69	95.60	17.97	59%	0.06	0.63	0.38	59.10	-6.82%	-0.94%	-6.82%	-6.69%	-0.05	-0.01	-0.05	-0.05
ZWE	0.03	0.04	5.96	23.80	14.51	35%	0.40	2.55	0.03	81.15	-17.32%	-1.45%	-17.29%	-16.9%	0.00	0	0.00	-0.01

[63]This table shows the parameters across every country in the sample for the U.S.-China Counterfactual. Column (2) shows the measure of geopolitical alignment, column (3) shows the same measure defined as the percentile rank between the U.S. and China. Columns (4)-(6) show U.S. and Chinese aid per capita, Column (7) shows the cut of U.S. Aid as reported in Sandefur and Kenny (2025). Columns (8)-(9) show initial geopolitical preferences of foreign countries and China. The next columns show the Chinese reaction under the four scenarios described in the main text; the final columns show the reaction of geopolitical alignment. Scenario (1) corresponds to the baseline scenario, a full shutdown of USAID. In scenario (2) we instead use the aid cuts as reported by Sandefur and Kenny (2025). Scenario (3) defines Chinese aid using OOF, scenario (4) measures the initial preference π using the rank in the voting distribution between the U.S. and China.

References for Appendix

Arkolakis, Costas, Arnaud Costinot, and Andrés Rodríguez-Clare (2012). "New trade models, same old gains?" *American Economic Review* 102.1, pp. 94–130.

Beck, Thorsten, George Clarke, Alberto Groff, Philip Keefer, and Patrick Walsh (2001). "New Tools in Comparative Political Economy: The Database of Political Institutions". *The World Bank Economic Review* 15.1, pp. 165–176.

Edwards, Sebastian (2007). "Establishing credibility: the role of foreign advisors in Chile's 1955-1958 Stabilization Program". In: *The decline of Latin American economies: growth, institutions, and crises*. University of Chicago Press, pp. 291–332.

Federle, Johannes, Andreas Meier, Gernot Muller, Wolfgang Mutschler, and Moritz Schularick (2025). "The Price of War".

Felbermayr, Gabriel, Aleksandra Kirilakha, Constantinos Syropoulos, Erdal Yalcin, and Yoto V Yotov (2020). "The global sanctions data base". *European Economic Review* 129, p. 103561.

Gibson, Ruth M, Paul H Wise, Joseph L Dieleman, Yoto V Yotov, Aleksandra Kirilakha, Gary L Darmstadt, Eran Bendavid, Constantinos Syropoulos, Michele Barry, and Sebastien Bradley (2025). "The impact of aid sanctions on maternal and child mortality, 1990–2019: a panel analysis". *The Lancet Global Health* 13.5, e820–e830.

Gleditsch, Nils Petter, Peter Wallensteen, Mikael Eriksson, Margareta Sollenberg, and Håvard Strand (2002). "Armed conflict 1946-2001: A new dataset". *Journal of peace research* 39.5, pp. 615–637.

"Ibáñez's Second Presidency, 1952–58" (1994). In: *Chile: A Country Study*. Ed. by Rex A. Hudson. 3rd ed. Library of Congress, Federal Research Division; Research completed March 1994. Washington, DC: U.S. Government Printing Office.

Ignatenko, Anna, Ahmad Lashkaripour, Luca Macedoni, and Ina Simonovska (2025). "Making America great again? The economic impacts of Liberation Day tariffs". *Journal of International Economics* 157, p. 104138.

İşçi, Onur, Samuel J Hirst, and Orhun Bayraktar (2024). "'Let the black sea unite Us': the 1967 Soviet-Turkish industrial agreement and Ankara's cold war rapprochement with Moscow". *Southeast European and Black Sea Studies*, pp. 1–17.

Levchenko, Andrei A and Jing Zhang (2014). "Ricardian productivity differences and the gains from trade". *European Economic Review* 65, pp. 45–65.

Moyer, Jonathan D, Alanna Markle, Collin Meisel, and Adam Szymanski-Burgos (2024). "Relative National Power (Power) Codebook".

Powell, Jonathan M and Clayton L Thyne (2011). "Global instances of coups from 1950 to 2010: A new dataset". *Journal of peace research* 48.2, pp. 249–259.

Roodman, David, Morten Ørregaard Nielsen, James G MacKinnon, and Matthew D Webb (2019). "Fast and wild: Bootstrap inference in Stata using boottest". *The Stata Journal* 19.1, pp. 4–60.

Taffet, Jeffrey (2012). Foreign aid as foreign policy: The alliance for progress in Latin America. Routledge.

Wesseler, Nicolas (Aug. 2025). "Trade Reliance and the Success of Economic Sanctions".