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ABSTRACT

HEGEMONIC GLOBALIZATION

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How do shifts in the global balance of power shape the world economy? We propose a theory of alignment-based "hegemonic globalization", built on two central premises: countries differ in their preferences over policies (such as the rule of law or regulatory frameworks) and trade between any two countries increases with the degree of alignment in these policies. Hegemons promote policy alignment and thereby facilitate deeper trade integration. A unipolar world, dominated by a single hegemon, tends to support globalization. However, the transition to a multipolar world can trigger fragmentation, which is particularly costly for the declining hegemon and its closest allies. To test the theory, we use international treaties as a proxy for alignment and compile a novel "Global Treaties Database", covering 77,000 agreements signed between 1800 and 2020. Consistent with the theory, we find that hegemons account for a disproportionate share of global treaty activity and that treaty-signing is a leading indicator of increasing bilateral trade.

Keywords: Hegemon, globalization, trade integration, international coercion, international treaties, cooperation, multipolar world

JEL classification: F02, F15, F50, F51, F55, F60, P45

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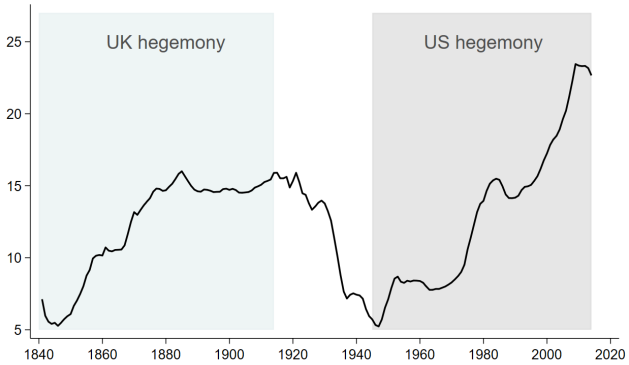
1 Introduction

How does the global balance of power influence patterns of economic integration? History offers suggestive evidence that shifts in geopolitical dominance are closely intertwined with the ebb and flow of globalization. Over the past two centuries, the world economy has experienced two major waves of trade and financial integration: in the late 19th century and in the late 20th and early 21st centuries (see Figure 13). Both periods were marked by the presence of a dominant hegemon—Britain during the *Pax Britannica* and the United States during the *Pax Americana*. In contrast, the global economy fractured during the interwar years of the 1920s and 1930s, a time characterized by multipolar instability and the absence of a clear global leader. Today, the world appears to be entering a new phase of deglobalization, shaped by rising geopolitical tensions and the reemergence of great power rivalry.

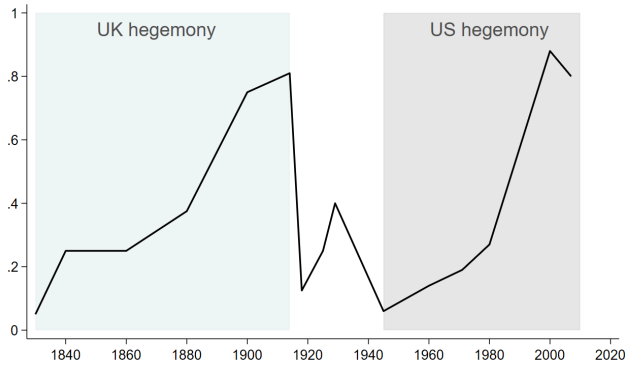
We are not the first to notice a relationship between geopolitical order and economic openness. Most notably, Kindleberger (1973) introduced the concept of "hegemonic stability," which posits that a stable and open global economy requires the leadership of a dominant power. Yet this perspective raises fundamental questions: How exactly does the presence of a hegemon support globalization? Does a shift from a unipolar to a multipolar world undermine global integration? If so, through what mechanisms? And who stands to gain or lose from such a transition? In this paper, we develop a new theoretical framework and assemble a new database covering 200 years of international treaties to explore these questions.

Figure 1: Global trade and financial integration, 1840–2015

(a) Global exports as % of global GDP



(b) Global capital mobility index



Note: Panel (a) uses data from TradeHist, showing the ratio of aggregate global exports to world GDP (Fouquin and Hugot, 2016). Panel (b) builds on the capital mobility index from (Obstfeld et al., 2005).

The theory rests on two core premises. First, countries differ in their preferences over policies. We think of policies in a broad sense, including forms of government (e.g., democracy vs. autocracy), regulatory standards, licensing regimes, currency choices, taxation systems, governance structures, and military alliances. Second, the gains from trade between any two countries increase with the degree of policy alignment, meaning the similarity in their chosen policies. This captures the notion that when two countries align their policies they reduce the cost of cross-border transactions between them. Thus, we think of alignment as reducing or removing impediments to international trade, i.e., as reducing "border effects."

We study the role of hegemons in this world. Hegemons are defined by size: they are attractive economic partners, and this appeal enables them to influence the behavior of other countries. This is in line with Gunitskiy (2017), who defines a hegemon as *a leading power, or a state that comprises a "pole" in the international system... The salient characteristic of a pole is that it is not merely a major power, but a leading state with the capacity to impose regimes, influence other great powers, and inspire institutional imitators...* According to this view, there can be more than one hegemon at any point in time, and hegemony should be understood as a relative rather than an absolute concept.

We first analyze the *unipolar* world, i.e., a world with a single hegemon. Three key results emerge. First, the equilibrium choice of policies reflects the balance between heterogeneity in country preferences and the economic gains from alignment. Second, the emergence of a hegemon increases these economic gains, prompting alignment in policies and increasing trade integration. A sufficiently large hegemon facilitates the transition from a fragmented economy, in which each country chooses its preferred policy, to a globalized economy, in which all countries choose a common policy that is aligned with the preferences of the hegemon. In this sense, the model gives rise to "hegemonic globalization." Third, globalization increases trade and welfare on average, but not everyone benefits. In particular, countries with preferences that are very different from those of the hegemon stand to lose the most. Nonetheless, globalization still arises in equilibrium if these countries find it optimal to align with the hegemon once everyone else has done so.

We then explore a *multipolar* world with an "incumbent" and a "rising" hegemon. The first key question is whether the rising hegemon prefers globalization or fragmentation. The answer depends on the size of the incumbent and on the degree of heterogeneity in preferences. The second key question is whether the rising hegemon can influence the equilibrium in accordance to its preferences. When the rising hegemon is small, it cannot influence the policies of other countries and the analysis is as in the case of a single hegemon. Once the rising hegemon

is large enough, it may strengthen globalization by aligning with the incumbent or weaken it by choosing its preferred policy. We characterize the conditions under which the transition to a multipolar world leads to more globalization or more fragmentation, and show that the unraveling of globalization in the latter case reduces global welfare.

The analysis so far assumes that the hegemon does not use any form of coercion, although in reality it often seems that hegemons try to actively influence the choices of other countries. We introduce coercion by allowing the hegemon to threaten not to trade with any country that does not align with it. A first result is that the use of coercion leads to the formation of "blocs." When deciding whether or not to use coercion, the hegemon trades off higher gains from trade with countries within its bloc – those that fully align with the hegemon – against lower gains from trade with countries outside its bloc – those that do not align with the hegemon. For this trade-off to favor the use of coercion, the hegemon must be neither too small – in which case the bloc it may attract is too small – nor too large – in which case coercion is unnecesary. We also show that coercion may lead to "excessive" globalization, in the sense that it reduces global welfare. In the multipolar world, coercion may help keep the rising hegemon in line while it is small, but we show that – if heterogeneity in preferences is strong enough – it eventually deviates regardless of the incumbent' s threats.

To identify evidence of hegemonic globalization in the data, we focus on two central empirical implications of the theory. First, hegemons promote political alignment among other countries. Second, alignment between any two countries increases trade flows—not only bilaterally, but also with other members of the same bloc.

We proxy alignment between countries by the number of international treaties they both sign. To do this, we collect data on the near-universe of international treaties between 1800 and 2020, based on multinational and country-specific treaty sources such as the United Nations Treaty Collection. The resulting "Global Treaty Database" contains 71,000 bilateral and 6,000 multilateral treaties and is the first comprehensive, global, 200-year record of international agreements. We use treaty titles and descriptions to categorize them into seven economic (e.g. trade, taxation, migration, and infrastructure) and non-economic (e.g. border issues, military, and education) areas, building on Miles and Posner (2008).

Conceptually, treaties are a natural measure of alignment because they establish binding commitments that align state behaviors and policies. Since at least the Congress of Vienna of 1815, treaties have been a fundamental instrument for international cooperation and policy alignment (Bull, 1977). Multilateral treaties aim to synchronize policies in areas such as labor, health, climate, banking or trade. Bilateral treaties have the same purpose but focus on align-

ment across a pair of countries. A good example of this is the flurry of bilateral and multilateral treaties signed by China in the wake of its post-1978 'reform and opening up' policy. Our treaty data shows that the country not only resumed its diplomatic relations with the US, but also committed to synchronize its policies and intensify its economic and scientific exchanges.

Empirically, treaties offer important advantages relative to other proxies of alignment previously used in the literature, such as military alliances and UN voting patterns (see also (Broner et al., 2025) and Appendix B.3). Most importantly, treaties show considerable variation both in history and today, and they span a wide range of policy domains and forms of cooperation, thus providing a comprehensive and nuanced measure of alignment.

A first look at the treaty data reveals a series of interesting facts. First, there has been a steady increase in international treaty making between 1800 and 2020. Second, this increase is interspersed with few periods of sharp declines in treaty making. We currently appear to be in the midst of one such period, which began in the early 2000s and is proportionally comparable to the collapses experienced during WW1 and WW2. Third, the majority of international treaties are on economic issues, such as trade, investment, transportation or taxation. After WW2, in particular, economic treaties account for 65% of the sample.

We find support for the two key empirical implications of the theory. First, we show evidence consistent with the prediction that hegemons generate alignment. Hegemons are disproportionately more likely to sign treaties.[1] Moreover, we draw on a few historical examples to document that treaty-making shifts towards rising hegemons: in the late 19th century, South America reorients its treaty-making away from the UK and to the US; towards the end of the Cold War, developing countries reorient their treaty-making away from the USSR and to the US; in recent decades, much of the world reorients its treaty-making away from the US and towards China.

Second, we use trade gravity regressions to show that countries that sign more treaties with each other also trade more bilaterally. This finding holds both for economic and non-economic treaties and for the historic and modern sample. We show that treaties are a predictor (leading indicator) of future trade flows, and that main episodes of economic re-integration, such as in Eastern Europe after 1990, where preceded by a strong rise in treaty-making. These results are consistent with our theoretical prediction that alignment increases bilateral trade flows. In addition, we show that two countries that sign more treaties with the same hegemon trade more with each other than their direct bilateral treaty links would predict. This is again consistent with our theory, which predicts both direct and indirect trade effects of alignment.

[1]To measure hegemonic power, we use the Global Power Index (GPI) of Moyer et al. (2024). This index combines various economic, military, technological, and diplomatic indicators to obtain a measure of the share of global power that is controlled by each country.

Related literature: hegemony and globalization

Our paper complements a growing body of work studying the role of hegemonic countries in the world economy. A large part of this literature has been concerned with the forces that drive the emergence and persistence of a global reserve currency, in particular the dominant role of the US Dollar in trade and financial markets (Ilzetzki et al., 2019; Farhi and Maggiori, 2018, 2019; Gourinchas et al., 2019; Maggiori et al., 2019; Gopinath et al., 2020; Mukhin, 2022; Coppola et al., 2023). Recent work has focused more specifically on "geoeconomics" and bloc formation, analyzing how countries can use their market or enforcement power to affect the policies of others or to safeguard payments in international markets (Itskhoki and Mukhin, 2022; Clayton et al., 2024a,b; Camboni and Porcellacchia, 2023; Bianchi and Sosa-Padilla, 2024).

Our work is also closely related to the trade literature that analyzes the drivers of bilateral trade flows, the size and drivers of border effects, and the relationship between trade and international relations. Important examples of this work include Findlay and O'Rourke (2007); Martin et al. (2008); Mitchener and Weidenmier (2008); Head et al. (2010); Gokmen et al. (2020); Kleinman et al. (2024); Neri-Laine (2023); Thoenig (2024). Like us, some of this work emphasizes the positive correlation between alignment and trade. Kleinman et al. (2024), for instance, show that countries that become more economically dependent on a trade partner also realign politically towards that trade partner. Our theory naturally complements their findings, although we stress the role played by hegemons. Specifically, hegemons foster policy alignment among countries and, by doing so, they lead to the formation of trade blocs: namely, countries that align themselves with the hegemon do not just increase their bilateral trade with the hegemon but also with other countries that align themselves with the hegemon.

Formally, our paper is perhaps closest to Alesina and Spolaore (1997); Alesina et al. (2000) and Gancia et al. (2020, 2022), which analyze the endogenous formation of countries. Their work emphasizes the trade-off between the benefits of large countries, due to higher trade and economies of scale, and the costs of large countries, due to the presence of heterogeneous preferences regarding public goods. Our framework shares this tension between sustaining higher trade through policies that are costly in a world of heterogeneous preferences, but it does not rely on increasing returns. Instead, we emphasize the importance of choosing similar policies to mitigate border effects and boost the gains from trade.

Finally, our paper is also related to an influential literature in economic history, political science, and the "world system" school of sociology that analyzed the relation between hegemony and economic openness during the 1960s and 1970s, against the backdrop of the Cold War (e.g. Gilpin, 1981; Kindleberger, 1986; Braudel, 1984; Wallerstein, 1989). The concept of

"hegemonic stability" by Kindleberger (1973), in particular, was further developed by Gilpin (1978) and Krasner (1976) who stressed that hegemons support open markets and stability out of self-interest and not altruism. A hegemonic power with a large, efficient economy is bound to benefit from integration, which is why it is willing to uphold integration by using military and political power. Although this literature was highly influential, it has made few advances recently in part due to its lack of formalization (Lake, 1993).

The paper is organized as follows. Section 2 develops a model of hegemonic globalization. Section 3 derives basic results on alignment and globalization. Section 4 extends the framework to allow for coercion. Sections 5 and 6 contain the empirical analysis and Section 7 concludes.

2 A model of hegemonic globalization

This section develops a model of hegemonic globalization build around two central premises. First, countries have heterogeneous preferences over policies, such as the type of government or industry standards and regulations. Second, the gains from trade between any two countries increase in the similarity of the policies that they adopt. We refer to the similarity in the policies chosen by any two countries as their alignment. We analyze how the presence of a hegemon affects equilibrium outcomes.

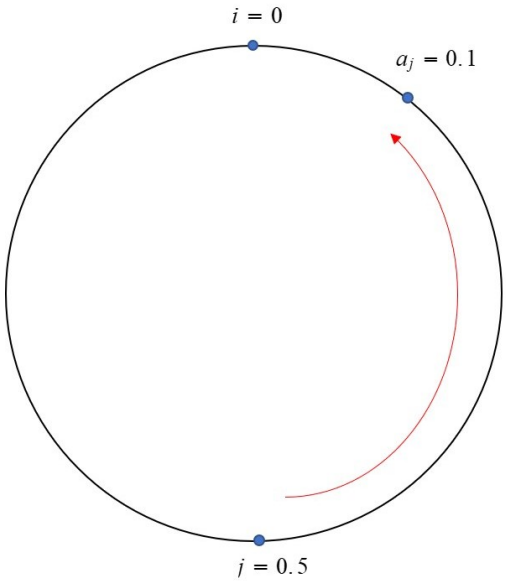
2.1 Setup

The world lasts for two periods, $t \in \{0, 1\}$ and it is composed of a set of countries located on a circle of length 1. Countries are composed of regions. Each region produces a differentiated good and is populated by a representative agent. There is a set I of small countries with total mass one, plus a finite set H of large countries or "hegemons." Small countries are composed of one region each, are uniformly distributed over the circle, and are indexed by their location, $i \in (-0.5, 0.5]$. Hegemons are also indexed by their location, $i \in (-0.5, 0.5]$, but they are composed of a positive mass of regions. Let us denote the mass of regions that make up each hegemon $i \in H$ by $\eta_i > 0$. We use (i, r) to denote region r in country $i \in I \cup H$. For small countries $i \in I$, which have one region, $r = 0$; for hegemons $i \in H$, $r \in [0, \eta_i]$. We use h_n to denote the location of the n^{th} largest country in H.

All agents in a country share the same preferences. At $t = 0$, the government of each country $i \in I \cup H$ adopts a policy $a_i \in (-0.5, 0.5]$ to maximize total welfare in the country. Policies have both a direct and an indirect effect. They have a direct effect because residents of each country value policies that are consistent with their own, heterogeneous preferences. The preferred

policy of residents of country $i \in I \cup H$ is equal to i, and their utility falls with distance $d(a_i, i)$. Policies also have an indirect effect because the potential gains of trade between any two countries, $i, j \in I \cup H$, is decreasing in the distance $d(a_i, a_j)$, as explained below. Figure 2 illustrates the case of two countries, $i = 0$ and $j = 0.5$, where $a_j = 0.1$.

Figure 2: Preferences and policies



Although the model can in principle accommodate many hegemons, we focus throughout on the case in which there are at most two hegemons. We allow hegemons to choose their policies early.[2] This makes it possible for them to act strategically and influence the choice of others. In case two hegemons choose their policies early, we assume that policies are decided in order of size (i.e., larger hegemons decide first).

At $t = 1$, production, trade, and consumption take place. Each region specializes in a differentiated good, and there is a continuum of varieties $z \in [0, 1]$ of each good. In particular, each region receives an endowment ω of each variety of its differentiated good. We will solve throughout for symmetric equilibria within regions, in which all residents of a given region have the same consumption.[3] Letting $c_{ir,jsz}$ denote the consumption of variety z of good (j, s) by residents of region (i, r), the consumption aggregator of region (i, r) is given by

[2]This could be motivated assuming that countries can pay a positive cost to choose their policy at an early stage. Small countries would never pay this cost since they cannot affect the policies of other countries.

[3]This is inconsequential for individual utilities given linearity in preferences, but it simplifies the notation.

$$c_{ir} = \int_{j \in I} \int_{0}^{1} u\left(c_{ir,j0z}\right) \cdot dz \cdot dj + \sum_{j \in H} \int_{0}^{\eta_j} \int_{0}^{1} u\left(c_{ir,jsz}\right) \cdot dz \cdot ds,$$

where utility is subject to satiation. In particular,

$$u\left(c_{ir,jsz}\right) = c_{ir,jsz} + T \cdot \min\{c_{ir,jsz}, 1\} \tag{1}$$

for each variety z of each good (j, s). Equation 1 says that the first unit of any variety consumed by a resident of region (i, r) has a marginal utility of $1 + T$. Beyond this satiation point, the marginal utility falls to 1. This is a simple way to capture love of variety.

As mentioned earlier, distance in policies between any two countries affects the gains of trade between them. In particular, we assume that region (i, r) can costlessly import varieties $[0, 1 - \beta \cdot d(a_i, a_j)]$ of good (j, s), while varieties $(1 - \beta \cdot d(a_i, a_j), 1]$ cannot be imported at all. Note that regions within the same country can costlessly trade all varieties. We interpret $d(a_i, a_j)$ as measuring the extent of border effects that make goods from country j incompatible or costly to consume in country i.

Utility depends on both consumption and the distance between a country's policy and its political preference. The utility of a resident of region (i, r) is

$$U_{ir} = c_{ir} - \alpha \cdot d\left(a_i, i\right)$$

where $\alpha \cdot d\left(a_i, i\right)$ denotes the disutility of choosing $a_i \neq i$. Thus, the utility of residents of region (i, r) depends on the consumption aggregator c_{ir} and on the distance between country i's adopted and preferred policies, $d\left(a_i, i\right)$. The parameter α modulates the intensity of preferences over policies, and is the key determinant of preference heterogeneity.

A central feature of our framework is the choice of country policies a_i, which affect utility both directly and indirectly. We have made two key assumptions in this regard. The first assumption is that countries have preferences over policies: in particular, the preferred policy of all residents of country i is $a_i = i$, and deviations from i are costly. Countries have heterogeneous preferences, and countries with similar indices have similar preferences. We interpret country i's disutility of setting $a_i \neq i$ as literally reflecting its preferences, e.g. over democracy vs. autocracy as a form of government, which capture cultural norms or heterogeneous preferences over the environment, health, or security issues. However, it can also be interpreted as a form

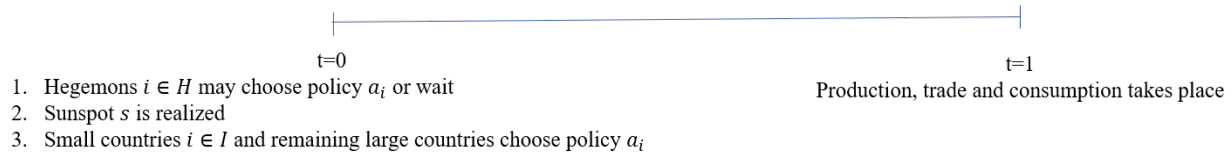
of hysterisis, e.g. because it is costly for country i to change broad policies relative to the staus quo.

The second assumption is that the gains from trade between any two regions (i, r) and (j, s) are increasing in the similarity or alignment of the policies adopted by their respective countries. Alignment, in particular, captures the adoption of policies or actions that reduce or remove non-tariff barriers that limit trade in goods across borders. Examples include alignment in regulations, standards, licensing requirements, currencies, governance structures (e.g., democracy vs. autocracy), military alliances (e.g., NATO), or membership in specific international organizations, all of which have been shown to be associated with higher trade.[4] Intuitively, it is easier for residents of a country to do business with agents located in countries with similar policies, where the environment is more compatible with own practices and also easier to predict and understand.

The notion that similarity in policies increases gains from trade gives rise to strategic complementarities in the choice of policies. This may lead to multiple equilibria. We assume that, whenever there are multiple equilibria, policies are coordinated by a sunspot $s \in [0, 1]$ that is revealed before small countries choose their policies.

Figure 3 depicts the timeline of events in the baseline model.

Figure 3: Timeline



We make three parametric assumptions that we maintain throughout the paper:

A1. $\omega > 1 + \sum_{i \in H} \eta_i$

A2. $\alpha \geq \beta \cdot T$

A3. $\beta < 2$

Assumption A1 implies that the endowment of each variety z of each region (j, s) is sufficiently high to potentially satisfy $c_{ir,jsz} = 1$ for all regions (i, r). Assumption A2 places a lower bound

[4]This captures well-established empirical regularities. For instance, is has been shown that democracies and military allies trade more with one another (Mansfield et al., 2000; Yu, 2010; Neri-Laine, 2023), that the harmonization of standards and product regulations increases trade (Chen and Mattoo, 2008; Schmidt and Steingress, 2022; Fiankor and Shingal, 2025), as does the adoption of a common currency (Rose, 2000; Glick and Rose, 2016), and that common financial regulation fosters asset trade (Kalemli-Ozcan et al., 2010).

on how costly it is for countries to deviate from their preferred policy: this is useful to rule out certain forms of multiplicity. Finally, assumption A3 guarantees that a positive measure of varieties is traded between any two regions, no matter how large the distance between the policies of their respective countries.

2.2 Equilibrium policies and gains from trade

Given the linearity of preferences, optimal consumption may be indeterminate for some relative prices. Whenever there is an indeterminacy, we break the tie in favor of the consumption that minimizes trade.

We solve the equilibrium by backward induction. First, we determine optimal consumption choices $\{c_{ir,jsz}\}$ at $t = 1$ as a function of the set of policies $\{a_i\}$, for $i, j \in I \cup H$. We then solve for optimal policies at $t = 0$.

A key simplifying feature of the model is that all varieties of all goods must have the same price in all regions where they can be consumed. This follows from assumption A1 and the symmetry of trade costs. Intuitively, in equilibrium all the regions consume at least one unit of all the varieties they can consume and, thus, the marginal rate of substitution equals 1 for all pairs of varieties. See Appendix A for more details.

Even though equilibrium relative prices are uniquely determined, consumption is not. However, all equilibrium allocations yield the same gains from trade and utility. For concreteness, we focus throughout on the equilibrium that minimizes trade.

The following proposition summarizes this discussion:

Proposition 1 *Given a set of policies $\{a_i\}_{i \in I \cup H}$, equilibrium consumption of variety z of good (j, s) in region (i, r), for $i, j \in I \cup H$, is as follows:*

- *If $(j, s) \neq (i, r)$,*

$$c_{ir,jsz} = \begin{cases} 1 & \text{if } z \leq 1 - \beta \cdot d\left(a_i, a_j\right) \\ 0 & \text{otherwise} \end{cases}$$

- *If $(j, s) = (i, r)$,*

$$c_{ir,irz} = \omega - \int_{j \in I} \mathbb{I}_{[z \leq 1 - \beta \cdot d(a_i, a_j)]} \cdot dj - \sum_{j \in H} \mathbb{I}_{[z \leq 1 - \beta \cdot d(a_i, a_j)]} \cdot \eta_j$$

where $\mathbb{I}$ is the indicator function.

The consumption aggregator of region (i,r) equals

$$c_{ir} = \omega + \int_{j \in I} T \cdot (1 - \beta \cdot d(a_i, a_j)) \cdot dj + \sum_{j \in H} T \cdot (1 - \beta \cdot d(a_i, a_j)) \cdot \eta_j \tag{2}$$

Proposition 1 characterizes consumption aggregators as a function of the set of policies: note that all regions in a given country have the same aggregator in equilibrium. Taking this into account, we now characterize the problem of governments at $t = 0$, when they choose their policies. Given policies $\{a_j\}_{j \neq i}$, the utility of a resident of country i can be expressed as

$$U_i(a_i, \{a_j\}_{j \neq i}) = \omega + \int_{j \in I} T \cdot (1 - \beta \cdot d(a_i, a_j)) \cdot dj + \sum_{j \in H} T \cdot (1 - \beta \cdot d(a_i, a_j)) \cdot \eta_j - \alpha \cdot d(a_i, i)$$

where we have replaced c_{ir} with its equilibrium value in Equation 2. The trade-off faced by the government of country i is clear. On the one hand, there are gains from setting a_i close to the policies of other countries, thereby increasing the gains from trading with the rest of the world. On the other hand, doing so is costly if it entails setting a_i far from the country's own preferences as captured by i.

We are left with a final issue: as mentioned earlier, large countries may have an incentive to choose their policies early in order to influence the behavior of others. We capture this by using $\bar{a}_i$ to denote large country i's early choice of policy, where we use the notation $\bar{a}_i = W$ if country i decides to wait and choose its policy simultaneously with the small countries.[5]

Definition 1 *An equilibrium is characterized by a set of early policies by large countries $\{\bar{a}^*_{h_n}\}_{h_n \in H}$ and policies by all countries $\{a^*_i\}_{i \in I \cup H}$, such that*

$$\bar{a}^*_{h_n} = \arg\max_{\bar{a}_{h_n} \in (-0.5, 0.5] \cup W} E\left[U_{h_n} \left| \bar{a}_{h_n}, \{\bar{a}^*_{h_m}\}_{m<n}\right.\right]$$

for all $h_n \in H$ and

$$a^*_i = \begin{cases} \bar{a}^*_i & \text{if } i \in H \text{ and } \bar{a}^*_i \neq W \\ \arg\max_{a_i} U_i(a_i, \{a^*_j\}_{j \neq i}) & \text{otherwise} \end{cases}$$

for all $i \in I \cup H$.

[5] Waiting may be beneficial because, in the presence of multiple equilibria, there is value in waiting to observe the sunspot s.

3 Alignment and globalization

A key aspect of our framework is the relationship between convergence in policies, i.e., alignment, and globalization. When countries align with each other, the share of varieties they can trade increases and so do their grains from trade. But countries' incentives to align in equilibrium are influenced by the presence of hegemons, as we show next.

3.1 The unipolar world

In this section we assume that the world has a single hegemon U, indexed by $h_U = 0$. In this unipolar world, there are potentially two equilibria: "fragmentation," in which each country sets its preferred policy $a_i = i$, and "globalization," in which all countries align themselves with the hegemon.[6] If both equilibria exist, we assume that globalization is played with probability $p \in (0, 1)$.

Proposition 2 *Consider a world with a single hegemon U of size η_U, indexed by $h_U = 0$. There can exist two robust equilibria, fragmentation, in which each country $i \in I \cup H$ sets $a_i^* = i$, and alignment, in which all countries $i \in I \cup H$ set $a_i^* = 0$:*

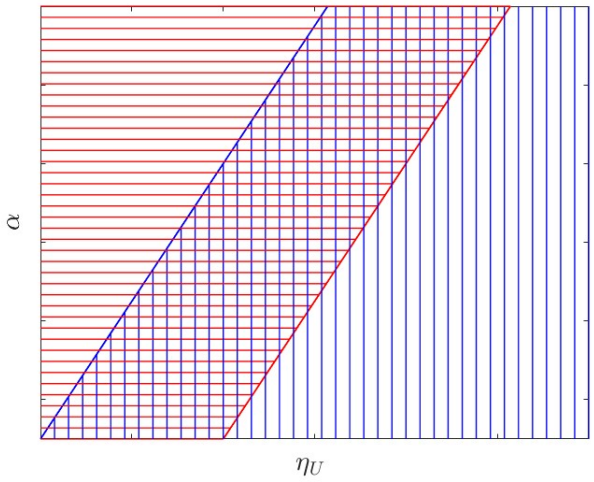
1. *The fragmentation equilibrium exists if and only if $\eta_U \leq \frac{\alpha}{\beta \cdot T}$.*
2. *The globalization equilibrium exists if and only if $\eta_U \geq \frac{\alpha}{\beta \cdot T} - 1$.*

Proposition 2 shows that the fragmentation equilibrium exists as long as the cross-country heterogeneity in preferences, as captured by α, is large relative to the gains of trade of a closer alignment with the hegemon, as captured by η_U and $\beta \cdot T$. The red area in Figure 4 depicts the region of existence of the fragmentation equilibrium in the (η_U, α)-space given assumptions A1-A3. The globalization equilibrium exists instead whenever the cross-country heterogeneity in preferences, as captured by α, is small relative to the gains of trade of a closer alignment with *all* other countries, as captured by $(\eta_U + 1) \cdot \beta \cdot T$. The blue area in Figure 4 depicts the region of existence of the globalization equilibrium in the (η_U, α)-space.

As Figure 4 shows, the existence of the two equilibria depends crucially on η_U. When η_U is small, only the fragmentation equilibrium exists; as η_U increases, there is a region of multiplicity

[6] In addition, there can exist an intermediate equilibrium in which some countries align with the hegemon while other countries set their preferred policy. However, this equilibrium is not robust in the sense that it would unravel if a small mass of countries were to change their policies. For a formal definition of our notion of robustness, which is closely related to the concept of fault-tolerant equilibria (e.g. Gradwohl and Reingold 2014 GEB), see the Appendix.

Figure 4: Fragmentation and globalization equilibria in the unipolar world



Note: The figure depicts existence of fragmentation (red) and globalization (blue) equilibria in the (η_U, α)-space.

as the globalization equilibrium becomes possible; eventually, once η_U is large enough, the fragmentation equilibrium disappears and only the globalization equilibrium remains.

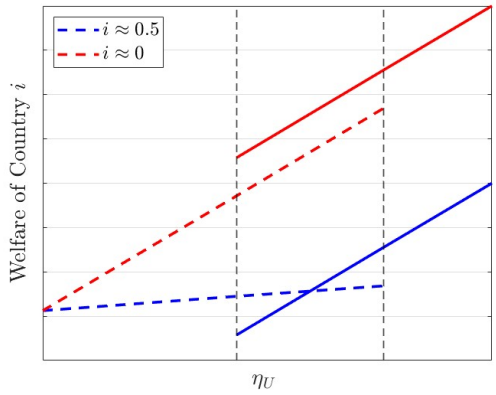
Panel (a) of Figure 5 depicts welfare for the countries that are closest to and farthest from the hegemon as a function of η_U. There are two forces that affect welfare as η_U increases. The first is that, conditional on policies, bilateral gains from trade with the hegemon rise for all countries: this is true both in the fragmented equilibrium (solid line) and in the globalization equilibrium (dashed line). The second effect results from the transition from the fragmentation to the globalization equilibrium. From the perspective of any given country i, this alignment may or may not be beneficial. For countries close to the hegemon, $i \approx 0$, alignment increases gains from trade with all other countries and does not entail any disutility in terms of the policy that is chosen. For countries far from the hegemon, $i \approx 0.5$, alignment also increases gains from trade with all other countries but entails a disutility in terms of the policy that is chosen.

This discussion implies that, as depicted in Panel (a) of Figure 5, not all countries necessarily benefit from the transition to a globalized world. When η_U becomes large enough for the globalization equilibrium to exist, country $i \approx 0$ experiences a welfare gain but country $i \approx 0.5$ suffers a welfare loss. How can globalization be an equilibrium even if some countries prefer fragmentation? The reason is that, although some countries may suffer a disutility from alignment with the hegemon, they still find it individually optimal to align with the hegemon given that all other countries are aligning as well. In other words, countries with preferences very different from those of the hegemon are hurt when all other countries align with the

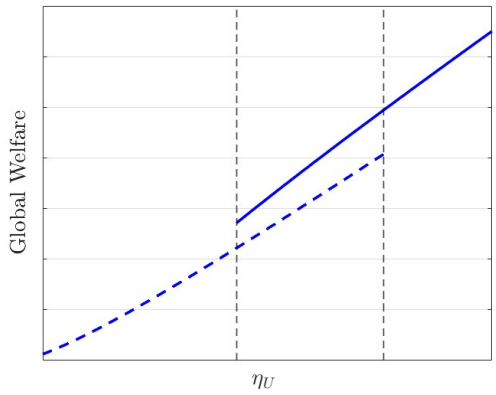
hegemon, and these losses may be only partially compensated when they themselves align.

Figure 5: Welfare and size of hegemon in the unipolar world

(a) Country welfare and hegemon size



(b) Global welfare and hegemon size



Note: Panel (a) depicts the welfare of countries $i \approx 0$ and $i \approx 0.5$, while Panel (b) depicts global welfare per region. Dashed (solid) lines represent the fragmentation (globalization) equilibrium.

Even though globalization may hurt some countries, it always raises global welfare. This is illustrated in Panel (b) of Figure 5, which depicts global per region welfare as a function of η_U. An implication is that, as Lemma 1 shows, equilibrium alignment and globalization are inefficiently low. In particular, there are parameter values for which fragmentation is an equilibrium even though globalization would entail higher global welfare, but the opposite is never true. The intuition for this result is that alignment entails a positive externality, because when one country aligns with another both countries' gains from trade increase.

Lemma 1 *If* $\eta_U \in \left(\frac{1}{2} \cdot \left(\frac{\alpha}{\beta \cdot T} - 1\right), \frac{\alpha}{\beta \cdot T}\right]$*, the fragmentation equilibrium exists even though globalization would yield higher global welfare. Instead, whenever globalization is an equilibrium it yields higher global welfare than fragmentation.*

This section has derived three key results. First, equilibrium alignment – and thus gains from trade – results from the balance between heterogeneity in preferences and the strength of complementarity in policies. Second, the emergence of a hegemon increases the relative strength of complementarities, prompting alignment and increasing trade. A large hegemon thus facilitates the transition from a fragmented economy, in which each country chooses its preferred policy, to a globalized economy, in which all countries align with the hegemon. Third, this transition increases trade and raises global welfare, but some countries may be hurt. In particular, countries with preferences very different from those of the hegemon stand to lose the

most. Although these countries would prefer to remain in a fragmented world, they reluctantly align with the hegemon if all other countries do so.

3.2 The multipolar world

In this section we study a world with two hegemons. We assume that, in addition to the "incumbent" hegemon U at $h_U = 0$, there is a "rising" hegemon C, indexed by $h_C = 0.5$. We assume that $\eta_U > \eta_C$.

A key difference relative to the previous analysis is that now the ability of hegemons to move early becomes relevant. Incumbent U always sets $\bar{a}_U = 0$, which rules out the outcome in which countries $i \in I$ set $a_i = 0.5$ to align with C. Thus, the potential set of robust equilibria is as before: fragmentation, in which each country sets its preferred policy $a_i = i$, and globalization, in which all countries set $a_i = 0$, including C. Whenever both equilibria are possible, we assume that globalization is played with probability $p \in (0, 1)$.

Whether globalization or fragmentation takes place depends, on the one hand, on which of the two outcomes C prefers and, on the other, on whether C has the ability to influence the equilibrium set. Globalization is preferred by C when the gains of trade with U – as captured by η_U, β and T – are high relative to the cost of aligning with U – as captured by α. The size of C determines its influence on the equilibrium set. If η_C is large enough C can, by setting $\bar{a}_C = 0$ or $\bar{a}_C = 0.5$, respectively guarantee globalization or fragmentation. If η_C is small, C prefers to wait to observe the sunspot and coordinate its policy with countries $i \in I$. Proposition 3 formalizes this discussion.

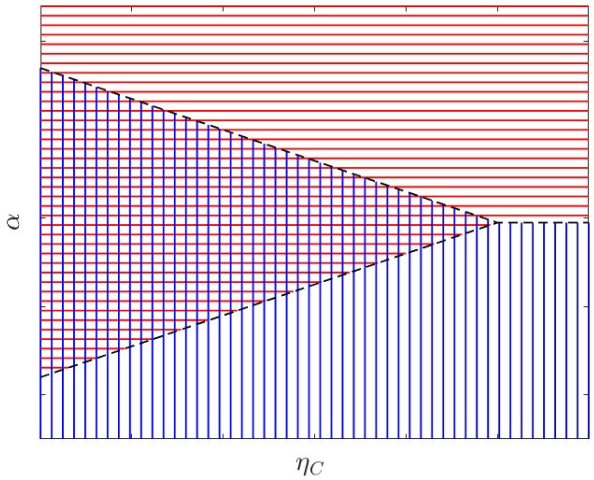
Proposition 3 *Consider a world with two hegemons, U and C, indexed by $h_U = 0$ and $h_C = 0.5$, with sizes η_U and η_C where $\eta_U > \eta_C$. There can exist two robust equilibria, fragmentation, in which each country $i \in I \cup H$ sets $a_i^* = i$, and globalization, in which all countries $i \in I \cup H$ set $a_i^* = 0$.*

1. *If $\eta_U \leq \frac{\alpha}{\beta \cdot T} - \frac{1}{2}$, then:*
   - *(a) If $\eta_C \leq 1 + \eta_U - \frac{\alpha}{\beta \cdot T}$, there are multiple equilibria, fragmentation and globalization.*
   - *(b) If $\eta_C > 1 + \eta_U - \frac{\alpha}{\beta \cdot T}$, the unique equilibrium is fragmentation.*
2. *If $\eta_U > \frac{\alpha}{\beta \cdot T} - \frac{1}{2}$, then:*
   - *(a) If $\eta_C \leq \frac{\alpha}{\beta \cdot T} - \eta_U$, there are multiple equilibria, fragmentation and globalization.*
   - *(b) If $\eta_C > \frac{\alpha}{\beta \cdot T} - \eta_U$, the unique equilibrium is globalization.*

Figure 6 provides a graphical illustration of Proposition 3. The figure is drawn for a given value of η_U.[7] The horizontal dashed line depicts the critical value of α at which $\eta_U = \frac{\alpha}{\beta \cdot T} - \frac{1}{2}$. Above this critical value of α, C prefers fragmentation to globalization: this corresponds to case 1 in Proposition 3. Below this critical value of α, C prefers globalization to fragmentation: this corresponds to case 2 in Proposition 3. The figure shows that, as η_C rises, C is increasingly able to guarantee its preferred outcome by choosing its policy early, before countries $i \in I$. As a consequence, the region of multiplicity is reduced, in favor of globalization if C's gains from trade with U are high relative to the cost of aligning with U, but in favor of fragmentation otherwise.

The welfare implications of changes in η_C are illustrated in Figure 7. Panels (a) and (b) depict the case in which α is relatively small, so that when the rising incumbent is larger it guarantees globalization. This benefits all countries, regardless of whether they are close to 0 or to 0.5 (Panel (a)), and thus raises global welfare per region (Panel (b)). Panels (c) and (d) depict instead the case in which α is high, so that when the rising hegemon is large it guarantees fragmentation. The transition to fragmentation benefits countries close to the rising hegemon but hurts those that are close to the incumbent hegemon (Panel (c)), but it reduces global welfare per region (Panel (d)).

Figure 6: Fragmentation and globalization equilibria in the multipolar world



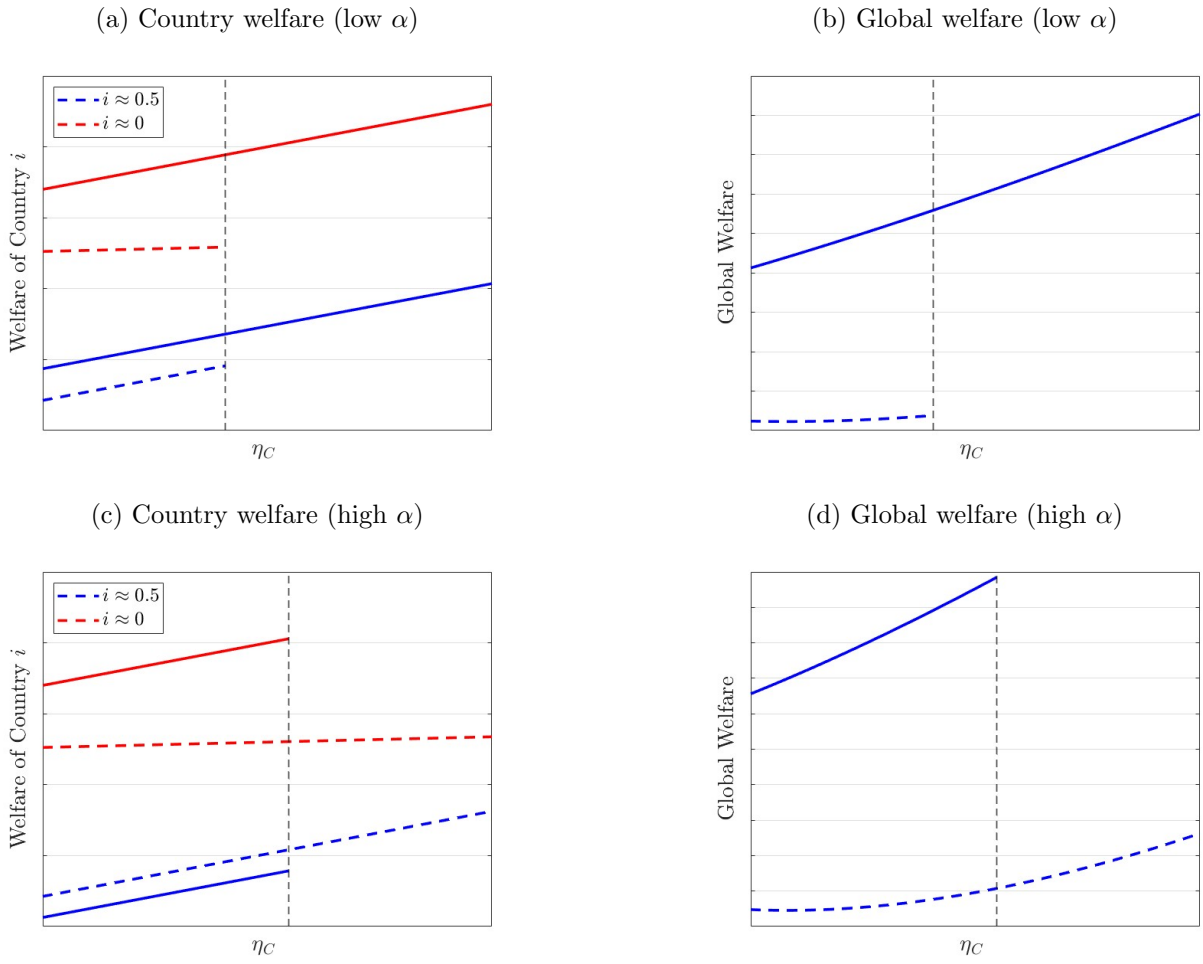
Note: The figure depicts existence of fragmentation (red) and globalization (blue) equilibria in the (η_C, α)-space, for a given value of η_U.

An important feature of this example is that, located at $h_C = 0.5$, the rising hegemon C is as

[7]Note that, despite the existence of multiple equilibria, the thresholds in Proposition 3 and thus Figure 6 are independent of the probability $p \in (0, 1)$ with which the globalization equilibrium is played.

different as possible from the incumbent hegemon U. This is why it may induce fragmentation once it is large enough. Results would be different if the rising hegemon were similar to U. Consider for instance the opposite case in which $h_C \approx 0$. This would be akin to having a hegemon of size $\eta_U + \eta_C$ in Figure 4 since, intutively, U and C would be "naturally aligned." Therefore, in this case, an increase in η_C could only strengthen globalization. Ultimately, whether a rising hegemon strengthens of weakens globalization depends on how different its preferences are relative to those of the incumbent hegemon.[8]

Figure 7: Welfare and size of the rising hegemon in the multipolar world



Note: Panels (a) and (c) depict the welfare of countries $i \approx 0$ and $i \approx 0.5$ as a function of the size of the rising hegemon η_C, while Panels (b) and (d) depict global welfare per region. Dashed (solid) lines correspond to the fragmentation (globalization) equilibrium.

[8]This example can account for the observation that the growth of the US during Pax Britannica did not have negative effects on globalization and likely strengthened it. The analysis of this section suggests that the ultimate effects of China's rise may be quite different.

4 The role of coercion

Thus far, we have assumed that the only barrier to trade between two countries arises from their misalignment in policies. In this section, we examine whether our results are robust to the possibility of imposing additional trade impediments as a means of coercion. Specifically, we consider the case where countries may refuse to engage in trade in order to pressure others into political alignment.

We modify the model in two dimensions. First, we assume that – at $t = 1$ – countries can only trade with their "trading partners." Countries i and j are trading partners if they both establish and maintain trading links with each other at $t = 0$. In particular, after policies have been chosen, there are two stages in which links are created and destroyed. In the first stage, countries choose which links to create (possibly contingent on policies) at zero cost. In the second "sanction" stage, countries choose which links to break (possibly contingent on policies and links created), also at zero cost. Countries i and j are trading partners if they both create a link with each other in the first stage and neither of them breaks it in the second stage. In this case, they can trade varieties $z \in [0, 1 - \beta \cdot d(a_i, a_j)]$ of each of their goods. If countries i and j are not trading partners, they cannot trade at all. Note that this assumption does not by itself affect our previous analysis since, regardless of the policies chosen, it is weakly dominant for any country to establish and maintain links with all other countries.[9] But things change once we allow countries to use trade as a vehicle for coercion.

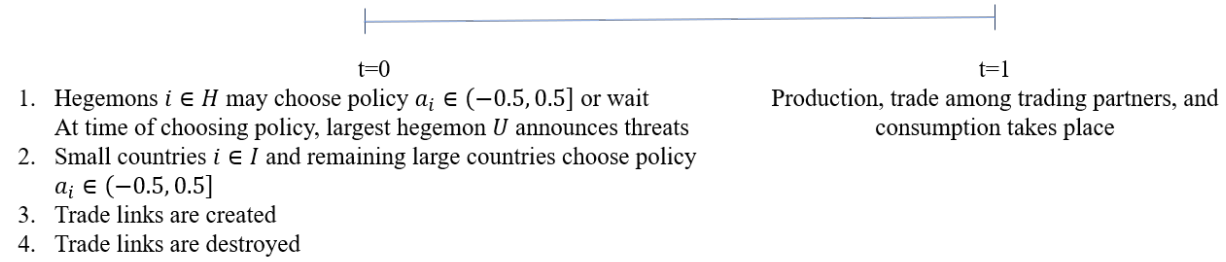
Second, we assume that, at the beginning of $t = 0$, the largest hegemon U can – in addition to choosing its policy a_U early – commit to cut its trade link with any country i that sets $a_i \neq a_U$ or that is linked – either directly or indirectly through a chain of trading partners – with a country i' with $a_{i'} \neq a_U$. We refer to this as hegemon U making a "threat." Note that if U threatens, it is not enough for countries to align themselves perfectly with U and its "trading bloc;" they must also refrain from establishing trade links with any other countries not in U's trading bloc. This implies that trade restrictions cannot by bypassed via third countries.[10]

The timeline of the model with coercion is depicted in Figure 8. To analyze the effects of coercion, we focus first on the unipolar world before returning to the multipolar world.

[9] To avoid unappealing no-trade equilibria, we assume that countries establish and maintain links whenever they are indifferent.

[10] Note that threats are non-discriminatory, in the sense that either all countries are threatened in the same way or none are.

Figure 8: Timeline



4.1 Coercion in the unipolar world

Consider first the unipolar economy, in which there is a unique hegemon U, indexed by $h_U = 0$. The following proposition characterizes the equilibrium in the event that this hegemon decides to make a threat.

Proposition 4 *Suppose that hegemon U chooses policy $a_U = 0$ and threatens to sever trade links with any country i that sets $a_i \neq 0$ or that is linked directly or indirectly with any country i' that sets $a_{i'} \neq 0$. In all robust equilibria, a policy μ of small countries $i \in I$ closest to the hegemon set $a_i = 0$ and trade only with each other and with the hegemon. The remaining fraction $1 - \mu$ of small countries $i \in I$ set $a_i = i$ and trade only among themselves. Moreover,*

1. *An equilibrium with $\mu = 0$ exists if and only if $\eta_U \leq 1 - \frac{\beta}{4}$.*
2. *An equilibrium with $\mu = 1$ exists if and only if $\eta_U \geq \frac{\alpha}{2T} - 1$.*
3. *If $\alpha \geq (4 - \beta) \cdot T$, there are thresholds $\underline{\eta}_U \leq 1 - \frac{\beta}{4}$ and $\bar{\eta}_U \geq \frac{\alpha}{2T} - 1$ such that, for $\eta_U \in \left(\underline{\eta}_U, \bar{\eta}_U\right)$, there exists an equilibrium with $\mu^* \in (0, 1)$ that is implicitly defined by*

$$\mu^* \equiv \{\mu \in (0,1) : g(\mu^*) = 0, g'(\mu^*) < 0\}$$

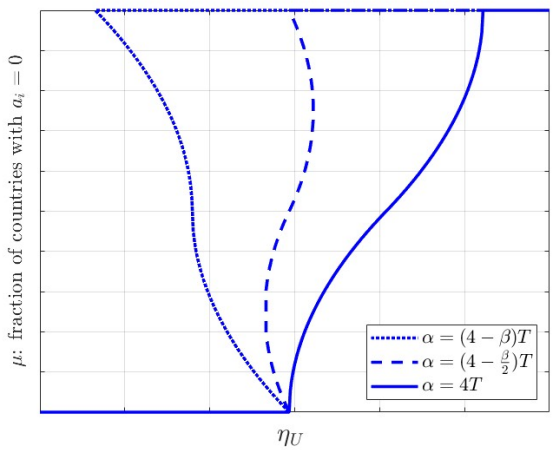
where

$$g(\mu) \equiv \begin{cases} (\eta_U + \mu) \cdot T - (1 - \mu) \cdot T + \frac{\beta}{4} \cdot T - \beta \cdot \frac{\mu^2}{2} \cdot T - \alpha \cdot \frac{\mu}{2} & \text{if } \mu \leq \frac{1}{2} \\ (\eta_U + \mu) \cdot T - (1 - \mu) \cdot T + \beta \cdot \frac{(1-\mu)^2}{2} \cdot T - \alpha \cdot \frac{\mu}{2} & \text{if } \mu > \frac{1}{2} \end{cases} . \quad (3)$$

Proposition 4 is depicted in Figure 9, which shows the share of countries μ that align with the hegemon as a function of its size for different values of α. When α is sufficiently high, the equilibrium under coercion is unique and the share of countries μ that align with the hegemon is increasing in η_U. As α declines, strategic complementarities become relatively stronger and

multiple equilibria arise. In particular, for $\alpha < (4-\beta)\cdot T$, there may be equilibria where none, all, or an intermediate share of countries align with the hegemon's "bloc" depending on what others do.

Figure 9: Alignment under coercion



Note: The figure depicts, for different values of α, the share of countries that align with the hegemon in the event of coercion.

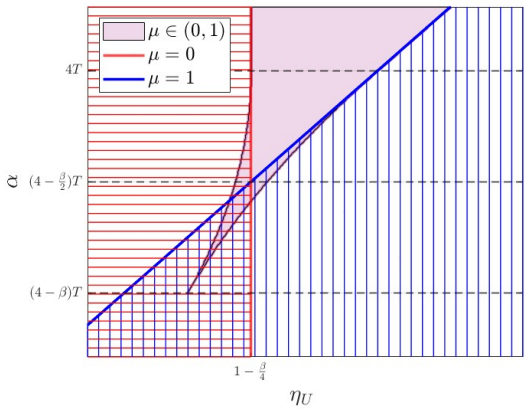
Panel (a) of Figure 10 depicts the set of equilibria, conditional on coercion by U, in the (η_U, α)-space. For any given level of α, the expected share of countries that aligns with the hegemon weakly increases with η_U.[11] For $\alpha > 4\cdot T$, the equilibrium is unique. When $\alpha \in \left((4-\frac{\beta}{2})\cdot T, 4\cdot T\right)$, there are at most two equilibria but $\mu = 0$ and $\mu = 1$ cannot both exist for the same set of parameters. When $\alpha \in \left((4-\beta)\cdot T, (4-\frac{\beta}{2})\cdot T\right)$, all types of multiplicity are possible. Finally, for $\alpha < (4-\beta)\cdot T$ there is no equilibrium with $\mu \in (0,1)$.

To determine whether to threaten or not, the hegemon compares its welfare in both scenarios. Coercion increases gains from trade along the intensive margin but reduces them along the extensive margin. By increasing the share of countries that align with the hegemon, it raises gains from trade with these countries. By eliminating trade with those countries that do not align with the hegemon, it destroys all gains from trade with these countries. The net effect may be positive or negative for the hegemon, depending on the share of countries that align with it.

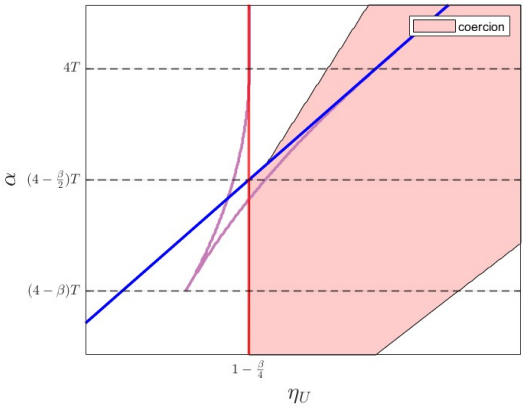
[11] As in all models with multiple equilibria, there are assumptions on equilibrium selection under which such a statement may not be true (e.g., the globalization equilibrium is not played if the intermediate equilibrium with $\mu \in (0,1)$ exists). The statement is true for "reasonable" assumptions, such as the case in which all equilibria that exist are played with the same probability.

Figure 10: Equilibria under coercion

(a) Equilibria conditional on coercion



(b) Hegemon coercion in equilibrium



Note: Panel (a) depicts the share μ of countries that align with the hegemon in equilibrium conditional on coercion. The shaded area in Panel (b) depicts the equilibrium use of coercion by the hegemon.

Proposition 5 *Let μ denote the share of small countries $i \in I$ that align with the hegemon if it threatens, and p denote the probability that the globalization equilibrium is played if it does not threaten. Then, the hegemon threatens if and only if*

$$E[\mu] > p + (1-p) \cdot \left(1 - \frac{\beta}{4}\right). \tag{4}$$

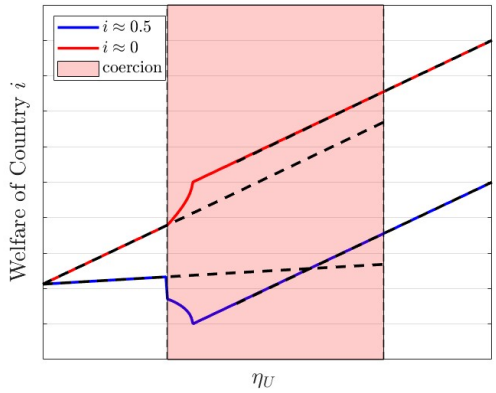
The benefits of coercion depend on the hegemon's expected gains from trade within its bloc when it threatens relative to the hegemon's expected gains from trade with all countries when it does not. Both expectations depend on the respective sets of equilibria, which are in turn affected by the size of the hegemon η_U: this makes comparative statics exercises less general than in the baseline case without coercion.

Panel (b) of Figure 10 shows the hegemon's use of coercion in the (η_U, α)-space under the assumption that, in case of multiplicity, all equilibria are played with the same probability. In this case, both sides of Equation 4 are increasing in η_U, so that the benefits of coercion may not be monotonic in the size of the hegemon. When η_U is relatively small, $E[\mu]$ is small and the expected gains from trade under coercion are lower than even those in the fragmented equilibrium. When η_U is sufficiently large, only the globalization equilibrium exists in the absence of threats and coercion is not necessary. Thus, it is for intermediate values of η_U that coercion is likely to be used.

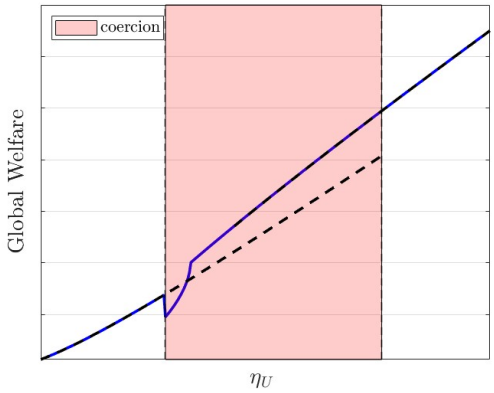
Panel (a) of Figure 11 depicts the welfare of countries closest and farthest from the hegemon

Figure 11: Welfare and size of hegemon

(a) Country welfare and hegemon size



(b) Global welfare and hegemon size



Note: Panel (a) depicts the welfare of countries $i \approx 0$ and $i \approx 0.5$, while Panel (b) depicts global welfare per region. Solid and dashed lines depict welfare in the model with coercion and in the baseline model, respectively. The shaded area indicates the use of coercion in equilibrium.

as a function of η_U, both with and without coercion.[12] By using coercion, the hegemon achieves alignment at a smaller size. This is beneficial for countries similar to the hegemon, but may hurt countries very different from the hegemon. Panel (b) of Figure 11 depicts global per region welfare with and without coercion. The key result is that, unlike the case without coercion, there can be excessive globalization when the hegemon can coerce. In particular, coercion is used by the hegemon to prompt globalization when η_U is still relatively small, so that the losses to countries that are far from the hegemon exceed the gains to countries that are close to the hegemon.

4.2 Coercion in a multipolar world: An example

We now extend the analysis of coercion to the case of two hegemons. As in Section 3.2, we assume that there is an incumbent hegemon U at $h_U = 0$ and a rising hegemon C at $h_C = 0.5$. We assume that $\eta_U > \eta_C$, so that only the incumbent hegemon can use coercion.

We have already discussed why comparative statics exercises are complicated in the presence of coercion. This is even more so in the multipolar world, where C's choice to move early or not interacts with the U's choice of whether to use coercion. We therefore focus on an insightful example to illustrate how a rising hegemon may lead at some point to the use of coercion by the incumbent and to the segmentation of global trade along bloc lines.

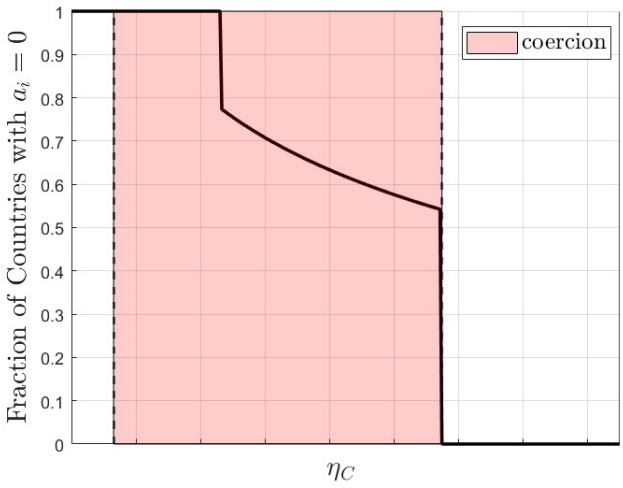
Suppose η_U is relatively high, so that without coercion the fragmentation and globalization

[12]The figure is for the case $\alpha = 4 \cdot T$, in which the equilibrium under coercion is unique.

equilibria co-exist. Suppose moreover that, in case of multiplicity, the globalization equilibrium is played with probability $p \approx 1$. Figure 12 depicts the share of countries $i \in I$ that set $a_i = 0$ in equilibrium as a function of η_C, while Figure 13 depicts the welfare of countries closest and farthest from U as well as global welfare.

When η_C is small, U does not use coercion because globalization is highly likely without it. In this region, as Figure 12 shows, all countries $i \in I$ set $a_i = 0$ and so does C. At some point, C is large enough to find deviation tempting: in the absence of coercion, it would in fact deviate and set $a_C = 0.5$ early because – by doing so – it would attract sufficiently many countries from the incumbent's bloc. Anticipating this, U resorts to coercion to prevent C from leaving the bloc, thereby preserving globalization. This is why, in Figures 12 and 13, there is no discontinuity in welfare and no change in the share of countries $i \in I$ that set $a_i = 0$ when U starts using coercion.

Figure 12: Size of incumbent hegemon's bloc and size of rising hegemon



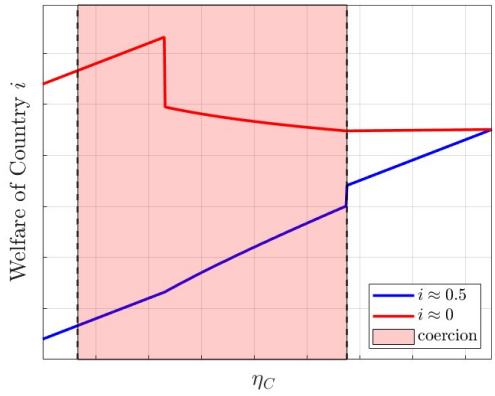
Note: The figure depicts the share of countries that align with the incumbent hegemon. The shaded area indicates the use of coercion in equilibrium.

Once η_C is large enough, deviating becomes attractive for C even if U applies coercion. By setting $a_C = 0.5$ early, C attracts enough countries from the incumbent's bloc to compensate for the lack of trade with the bloc itself. This is why, as Figure 12 shows, the fraction of countries $i \in I$ that set $a_i = 0$ falls discretely. C and the countries close to it benefit slightly from the deviation, whereas – as depicted in Panel (a) of Figure 13 – U and the countries close to it suffer significantly from the partial unraveling of the trading bloc. Panel (b) of Figure 13 shows that the overall effect on global welfare is also negative. As C grows further, U continues to

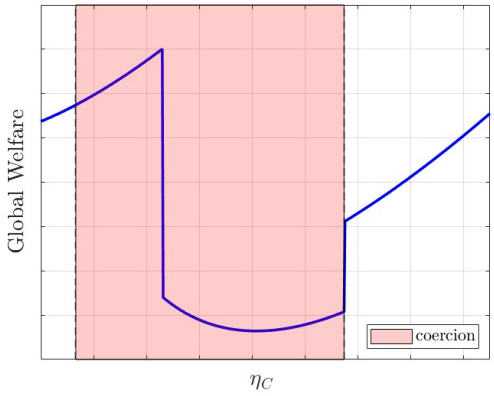
use coercion to preserve what is left of its bloc. In spite of this, the bloc shrinks gradually until C becomes so large that coercion is no longer attractive for U. At this point, the incumbent's bloc unravels fully and gives way to fragmentation, in which all countries trade with each other but trade flows are low.

Figure 13: Welfare and size of rising hegemon

(a) Country welfare



(b) Global welfare per region



Note: Panel (a) depicts the welfare of countries $i \approx 0$ and $i \approx 0.5$, while Panel (b) depicts global welfare per region. The shaded area indicates the use of coercion in equilibrium.

This section conveys three key messages. First, the use of coercion makes it possible for the hegemon to influence the global equilibrium in its own benefit and makes globalization more likely. However, as shown in Section 4.1, globalization sustained through coercion may reduce global welfare. Second, coercion fosters the formation of blocs. Without coercion, equilibrium results in either full fragmentation or full globalization. However, coercion introduces "intermediate" equilibria, where some countries form blocs and trade intensely within them, while others follow their preferred strategies and trade only with non-members.[13] Third, if a rising hegemon prefers fragmentation, it will ultimately achieve this outcome despite the use of coercion by the incumbent. While still relatively small, the rising hegemon initially aligns with the incumbent, "playing along." The incumbent can prolong this phase through coercion. However, once the rising hegemon is sufficiently large, it deviates and pursues policies that better align with its own preferences.[14]

[13]This resonates well with the recent evidence of Gopinath et al. (2025), who document that world trade appears to be fragmenting along bloc lines: while trade within blocs appears to be rising, trade between blocs appears to be falling.

[14]In this regard, the theory reflects the widely held view that China, while still a rising power, opted to operate within the Western-led international order to facilitate its growth. However, having attained significant economic and geopolitical influence, it is now positioned to challenge the very rules it once followed. As stated

5 Measuring alignment: The Global Treaty Database

We have developed a theoretical framework to study the interplay between hegemonic power and globalization. The key mechanism in the theory is that hegemons create incentives for other countries to align with them, and this alignment increases trade. We now bring this core idea to the data.

To do so, we propose to use international treaties as a new measure of political and economic alignment. Treaties help to reduce transaction costs between states and serve as a signal to synchronize their policies (Simmons, 2010). Moreover, treaties are the key pillar of international law and have long been seen as the primary coordination device of states to create what is called an "international order" (Bull, 1977).

To date, however, there is no comprehensive dataset of international treaty-making that would allow studying the role of hegemony and alignment in the long run. Most existing work focuses on specific treaty types such as trade agreements or military alliances or goes back only a few decades. In this section, we describe how we construct a new, broad-based database of treaties spanning more than 200 years and the entire globe. Based on that, Section 6, uses treaties as a measure of alignment and explores the relation between hegemonic power, alignment and trade.

5.1 A global database of 77,000 treaties

We construct a new "Global Treaties Database," which contains international treaties signed between sovereign countries and other international entities between 1800 and 2020. In line with the standard approach in international law, we adopt a generic definition of the term "treaty" that includes international agreements as well as acts, charters, declarations, conventions and protocols, i.e. all legal instruments that fulfill the formal criteria of a treaty.[15]

Our aim is to create the first comprehensive global 200-year database of international treaties and their characteristics. Our quantitative approach builds on and adds to the very rich qualitative literature on treaties in law, history, and political science (e.g. Hollis (2012); Shaffer and Ginsburg (2012)). By coding the full sample of treaties across domains and back to 1800,

by Jones and Yeo (2022): " For two decades, China sought to profit from key arrangements of the global political and economic order. Now... China seeks to subvert these long-standing arrangements... It has also started to propose new arrangements under Chinese diplomatic leadership, starting to seek a role as an ordering power."

[15]According to the United Nations, "treaty" is as a generic term widely used to describe a binding agreement in international law concluded between international entities. Specifically "In order to speak of a 'treaty' in the generic sense, an instrument has to meet various criteria. First of all, it has to be a binding instrument, which means that the contracting parties intended to create legal rights and duties. Secondly, the instrument must be concluded by states or international organizations with treaty-making power. Thirdly, it has to be governed by international law. Finally the engagement has to be in writing." See definitional details here.

we significantly extend previous data collections that focus on specific treaty types, such as military, trade, or human rights agreements, or on specific periods and countries (e.g. Mitchell (2003); Gibler (2009); Simmons (2009); Keene (2012); Acharya et al. (2023)). We begin in 1800 because this marks the beginning of a new era of more formalized international diplomacy and the consequent rise of treaty-making (Keene (2012)).

In a first step, we collected and combined information on international treaties from a wide range of archival collections and pre-existing datasets. We have tried to be as comprehensive as possible, maximizing coverage of state entities and years and using – for each historical period – the most reliable, established sources of bilateral and multilateral treaties. To digitize the treaty information in a coherent format, we relied on both manual coding and on automated methods such as scraping and OCR recognition. Our main data sources are listed below.

To create a final, consolidated database, we focus on sovereign, independent countries. Consequently, we exclude approximately 3,000 treaties signed by minor, non-sovereign entities such as tribes or villages, as well as 821 treaties signed by colonies. We also limit our scope to "original treaties" as defined by the UN, thus excluding more than 16,000 "subsequent agreements," which typically contain minor changes to existing treaties such as editing individual clauses. Furthermore, we exclude approximately 2,000 treaties due to missing essential details, such as date, participants, or title. To avoid double counting when merging treaty data from various sources, we adopt a fuzzy merge technique and double-checked the matching results manually for thousands of treaties.[16]

5.2 Main sources

Pre-1917 period (1800-1917). For this period we use several sources. For multilateral treaties we primarily rely on the "Multilateral Agreement and Treaty Record Set" (MARTS), a comprehensive series compiled by Denemark and Hoffmann (2008). We include 527 multilateral treaties from this source. A second key source on multilateral treaties is the online database "Oxford Historical Treaties." This database largely builds on a digitized version of Clive Parry's monumental 234-volume "Consolidated Treaty Series," edited between 1969 and 1980. From this collection, we incorporate 1,100 multilateral treaties.

For bilateral treaties, we also rely importantly on this high-quality source (Oxford's digitized Clive Parry collection), adding a total of 8,010 treaties. In addition, we use country-specific

[16]We matched treaty titles and country names across different sources, accounting for variations in formatting or terminology. We set the matching threshold at 0.6—a relatively loose parameter to minimize the risk of having false negative that may lead to double counting — while ensuring a perfect match for the treaty year and category.

sources for the two main hegemons of the time, the UK and the US. In the case of the UK, we build on the United Kingdom Treaties Library, which is hosted by the British and Irish Legal Information Institute, which adds an additional 1,066 UK treaties. For the US, we use the data compiled by Charles Bevans, hosted by the Library of Congress, which covers bilateral and multilateral agreements signed by the US between 1776 and 1984. This adds an additional 379 US treaties.

Furthermore, we also draw from two comprehensive datasets on historical trade agreements by Pahre (2007) and Ptashkina (2022). Although these datasets have a significant overlap with our other sources, they add another 114 treaties to our database (see Appendix B2 for details).

In total, for the pre-WW1 period, our final database contains 9,754 treaties, of which 8,373 are bilateral and 1,381 are multilateral.

Interwar and WW2 (1918-1944). For this period, we primarily rely on the League of Nations Treaty Series, the most comprehensive collection of treaties and international agreements registered with and published by the League of Nations Secretariat between 1918 and 1944, spanning over 200 volumes. The registration of international treaties was binding for member countries, and regulated in Article 18 of the Covenant of the League of Nations.[17] The best digitized version of this data is provided by the World Legal Information Institute. We systematically extract key details from the text of the listed treaties, in particular treaty titles, relevant dates, and parties involved. We obtain a total of 4,335 bilateral and multilateral treaties from this source, including treaties signed by countries that were not members of the League of Nations or never ratified their membership, such as the United States.

We supplement this dataset with 966 treaties from other sources. Specifically, we add 326 treaties from the US treaty collection by Bevans (see above), 587 from the United Kingdom Treaties Library (see above), and 27 treaties signed by China obtained from China's Ministry of Foreign Affairs (ChinaLaw collection). We further add 11 multilateral treaties from the MARTS database and 15 treaties from the historical trade agreement collections by Pahre (2007) and Ptashkina (2022).

In total, for the interwar and WW2 period, our final database contains 5,265 treaties, of which 4,902 are bilateral and 363 multilateral.

Post-WW2 (1945-2020). Our primary source for this period is the United Nations Treaty Series (UNTS), which comprises 2,500 volumes of treaties. This is in principle a census of all

[17]The Article states: "Every treaty or international engagement entered into hereafter by any Member of the League shall be forthwith registered with the Secretariat and shall as soon as possible be published by it. No such treaty or international engagement shall be binding until so registered."

modern international treaties, because Article 102 of the United Nations Charter mandates that all international treaties by UN member states need to be registered with the UN Secretariat.[18]. The UNTS treaty data is rich in detail and freely accessible. We gather 56,960 bilateral and multilateral treaties from this source.

We cross-check and supplement the UN data with national treaty collections using fuzzy merge. For the US, we incorporate 2,013 treaties from the post-1944 period, obtained from the Bevans collection (covering 1945–1949) and from additional treaty collections hosted in the Library of Congress. Other key sources include United States Treaties and Other International Agreements (UST), which spans 1950 to 1984, and the more recent Treaties and Other International Acts Series (TIAS), which covers treaties from 1985 onward. For the UK, we add 2,309 treaties obtained from the United Kingdom Treaties Library. Finally, we add 916 treaties for China, obtained from China's Ministry of Foreign Affairs (ChinaLaw).

In total, for the pots-1945 period, the final database contains 61,830 treaties, of which 57,565 are bilateral and 4,265 multilateral.

5.3 Final database and treaty classification

The final database comprises 76,849 treaties, including 70,840 bilateral treaties and 6,009 multilateral treaties. More than 80% of the treaties were signed after WW2 (61,840), reflecting the significant expansion of international agreements in the post-war era. The dominant type of treaty is an "agreement" (66.78%), followed by "conventions" (11.90%), "other types"[19] (9.73%), "treaties" (6.18%), "exchange of notes" (2.18%), "protocols" (2.08%), "acts" (0.81%), "charters" (0.22%), "rules" (0.07%), and "constitutions" (0.05%).

To classify treaties by topic, we follow the categories proposed in Miles and Posner (2008) but include additional subject terms from the World Legal Information Institute and the UNTS database. This approach results in 22 categories - 9 economic and 13 non-economic (see Table 1). The economic categories include "Trade," "Investments, Expropriation, Investment Arbitration," "Labor Migration & Remittances," "Lending & Financing," "Development Aid," "Telecommunication," "Transportation & Infrastructure," "Postal Services," "Patents, Trademarks, Innovation, Inventions," and "Taxation."

[18]The Article says: "1. Every treaty and every international agreement entered into by any Member of the United Nations after the present Charter comes into force shall as soon as possible be registered with the Secretariat and published by it. 2. No party to any such treaty or international agreement which has not been registered in accordance with the provisions of paragraph 1 of this Article may invoke that treaty or agreement before any organ of the United Nations."

[19]This category includes unspecified legal documents, as well as memoranda of understanding, declarations, and similar agreements.

We use ChatGPT4 turbo and OpenAI's API to classify treaties. The classification is based on the treaty title, subject terms, treaty descriptions, and keywords gathered in the treaty collections and databases we use. Each category is first listed and explained in a GPT prompt with examples.[20] To increase accuracy, we ask the model to assign only one out of the 22 subject categories per treaty and to select "other" in case of uncertainty.[21]

Table 1 shows the results. In the full sample, economic treaties clearly outnumber non-economic ones (46,325 vs. 30,524, respectively). Four out of the top five treaty categories refer to economic issues, including finance, trade, development aid, and transportation and infrastructure. This dominance of economic treaties is mainly driven by the post-WW2 sample.

Table 1: Treaty categories and topics

Category	Frequency	Share (%)
Lending & Financing	16,446	21.40
Trade	7,555	9.83
Development Aid	6,110	7.95
Diplomacy & Consular Relations	6,017	7.83
Transportation & Infrastructure	5,831	7.59
Education & Science	3,624	4.72
Cross-Border Legal Disputes, Civil & Criminal	3,479	4.53
Military Alliances & Peace Treaties	3,397	4.42
Taxation	3,223	4.19
Telecommunication & Postal Services	2,739	3.56
Territory & Borders	2,268	2.95
Culture & Heritage	2,125	2.77
Investments, Expropriation, Investment Arbitration	2,061	2.68
Environment, Climate & Animal Protection	1,830	2.38
Labor Migration & Remittances	1,652	2.15
Terrorism & Extradition	1,608	2.09
Nuclear Energy, Weapons & Non-Proliferation	1,438	1.87
Health Care	1,046	1.36
Patents, Trademarks, Innovation, Inventions	708	0.92
Human Rights	561	0.73
Outer Space	360	0.47
Refugees & Asylum	206	0.27
Other	2,565	3.34
Total	76,849	100.00

[20] The classification inputs depend on the treaty source. For example, for treaties from the UN Treaty Series, we let ChatGPT4 interpret treaty categories based on both the title and subject terms. For treaties retrieved from the Oxford Historical Treaty database and for UK treaties we use the title alone because they are very extensive and provide sufficient information for the GPT model. For a small subset of treaties, such as the 2,804 ones from the US Library of Congress, we lack treaty titles and therefore use detailed treaty descriptions.

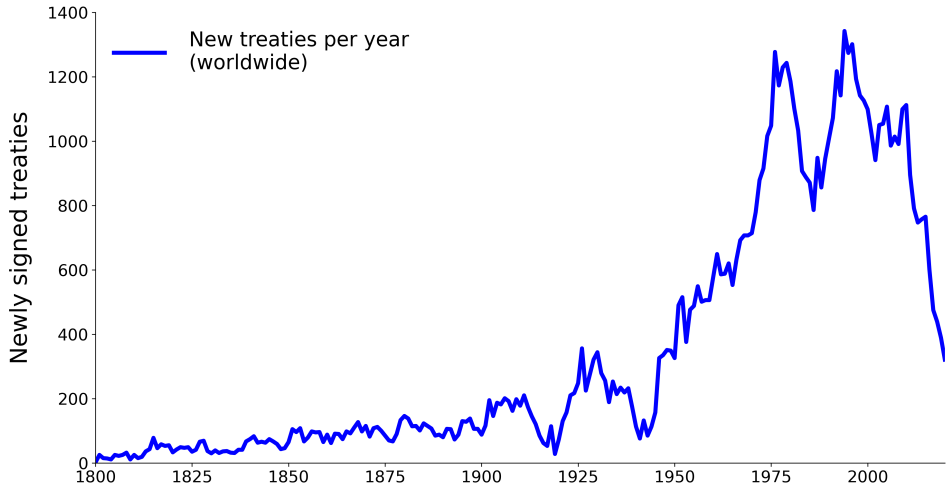
[21] Allowing the model to assign two or more categories increases the probability of misclassification. To further increase accuracy and to reduce the likelihood of hallucinations, we set $Temperature = 0$, which instructs GPT to keep interpretations to a minimum.

5.4 A first look at the data

Figure 14 shows the number of treaties signed per year and worldwide. Treaty-signing exhibits a strong upward trend both during the "Pax Britannica" and the "Pax Americana." During the 19th century, the number of new treaties signed increased from less than 5 per year prior to the British victory in Waterloo in 1815, to about 80 per year in the 1870s and almost 200 per year prior to WW1. After two collapses during WW1 and WW2, treaty-signing grew rapidly from the 1950s onward, peaking in the 1970s and 1990s.[22] These trends are broadly similar for bilateral and multilateral treaties, as shown in Appendix Figure A2.

In addition to the rise in the number of treaties, the data reveal a significant increase in the *share* of countries participating in treaty-making. Appendix Figure A1 illustrates this trend: the share of sovereigns engaged in international treaties grew from less than 30% in the 1830s to approximately 70% before WW1, and reaching nearly 100% after WW2. The patterns do not differ significantly if we add treaties signed by colonies, and we continue to focus on sovereigns in the remainder of the analysis.

Figure 14: Global trend: number of newly signed treaties per year



Note: Number of newly signed treaties per year.

[22]The peak of the 1970s occurs during the US presidency of Jimmy Carter and follows a decade in which global cooperation on a wide range of issues intensified, especially on economics (Ferguson et al. 2010). Our data show this peak to be driven by treaties for trade liberalization, capital account opening (with an ensuing lending boom), and treaties to foster cooperation on health, the environment and human rights. After a decline during the 1980s (the decade of Reagan, Thatcher, and the developing country debt crisis) treaty-making sees another peak in the 1990s. This second peak is driven by treaties of Eastern European and other developing countries who integrate into the "Western" economic and political order, as well as more trade-related treaties.

A striking fact that emerges from Figure 14 is the notable drop in international treaty signing after 2001. This decline is sharp and comparable to the collapse experienced during WW1 and WW2. To check whether the drop is a statistical artifact, e.g. due to lags in reporting, we carefully scrutinized the UN data and benchmarked it with national sources. We find similarly steep declines in treaty activity when using data from the UK, US, and China, as well as when using data from widely cited databases on trade agreements. We also find that multilateral treaty-making had already begun its decline before 2001 and has now fallen to its lowest level since WW2. In fact, the number of new multilateral treaties signed today is lower than in the early 19th century (see Appendix Figure A2).

The data confirm a trend that legal scholars and political scientists have long presumed: that multilateral cooperation and the role of international law have declined over the past two decades (e.g. Cooley and Nexon, 2020). Goldsmith and Posner (2021, p. 10), for example, state that *"international law moves in cycles, with periods of enthusiasm and advance followed by periods of decay and retrenchment. [...] The post-Cold War enthusiasm for international law has now collapsed as well."* To the best of our knowledge, we are the first to provide representative evidence supporting these widespread claims.

The recent fall in treaty signing also has a natural interpretation through the lens of our theory: countries are becoming less aligned with each other as the world becomes increasingly multipolar.

6 Hegemonic globalization in the data

We now use our new treaties database to test the central implication of the theory: namely, hegemons foster alignment, which in turn fosters trade. To do so, we first discuss what constitutes a hegemon in the data. We then turn to the empirical relations between hegemons and alignment, and between alignment and trade.

6.1 Measuring hegemony

A hegemon is typically defined as a major power that can exert influence in global affairs. As stated above, for instance, Gunitskiy (2017) defines a hegemon as "a leading power, or a state that comprises a "pole" in the international system. The salient characteristic of a "pole" is that it is not merely a major power, but a leading state with the capacity to impose regimes, influence other great powers, and inspire institutional imitators." This definition is in line with leading thinkers on international relations, like Gilpin (1981), Keohane (1984), and Nye (2011).

The United Kingdom, for example, was the world's dominant hegemon in the 19th century, although it was rivaled by France and the rising powers of Germany and the US, who exerted growing hegemonic power in their spheres of influence. During the Cold War period (1946-1990) there is broad consensus that the United States was the predominant hegemonic power, but the period is also characterized by intense rivalry with a second "pole" - the Soviet Union. In recent decades, the US remains the main hegemonic power, although China's power and influence has been growing quickly.

Empirically, the most useful proxy of hegemonic power for our purposes is the "Global Power Index" (GPI) of Moyer et al. (2024), which measures relative national power on a scale from 0 (no global power) to 100 (complete global power by a single state). This measure has two main advantages relative to other indices of international power. First it is very comprehensive in its coverage, with an annual global panel covering up to 188 countries between 1816 and 2022. Second, it is conceptually broad and well-suited to capture shifts in hegemonic power over time. In particular, the GPI builds on much richer data than older, more established measures like the "Composite Index of National Capability (CINC)" by the Correlates of War Project, which was developed in the 1960s. The CINC focuses solely on raw material power as captured, for example, by the number of soldiers or steel production, and is therefore less useful to measure power in the post-industrial age (see Heim and Miller (2020)).[23] In contrast, the GPI combines 21 sub-indicators that capture not just the material capabilities of a state and its demography, but also the size of its economy (GDP), its technological capacity (R&D expenditures), its fiscal capacity (government revenues), and the scope of its diplomatic networks.

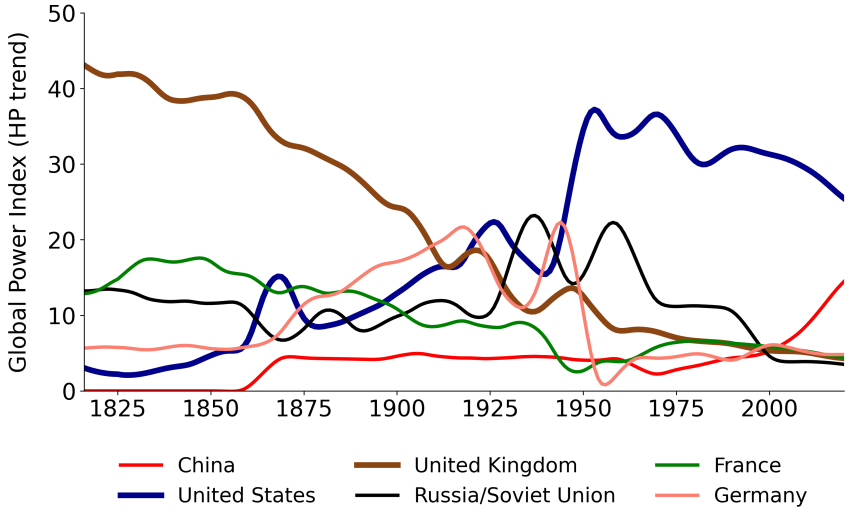
Figure 15 shows the long-run trends in the global distribution of power according to the GPI data. To remove short-term fluctuations in the national power time series, e.g. due to wars, we separate cycle from trend using the Hodrick-Prescott filter.[24] The figure only shows countries that have exceeded 10% of global power according to the GPI at some point since 1815, as this will be the threshold that we use to define a hegemon.[25]

[23]Specifically, the CINC uses six indicators: (1) total population, (2) urban population, (3) military personnel, (4) military expenditures, (5) primary energy consumption, and (6) iron and steel production (see Singer (1988)). Due to its focus on heavy industry and demography, the CINC ranks China as by far the biggest global power as of 2018, having surpassed the US already in the 1990s. This result is at odds with much of the literature and debate in international relations.

[24]We set the filtered parameter at 6.25 given that the GPI data is anual.

[25]This choice is inspired by the methodological paper of Moyer et al. (2024), who use a 9% threshold to define "major powers." Moreover, the evolution of hegemons over time that emerges from using the 10% threshold coincides with the rise and fall of great powers as identified by Gunitskiy (2017).

Figure 15: Share of global power, 1815-2020



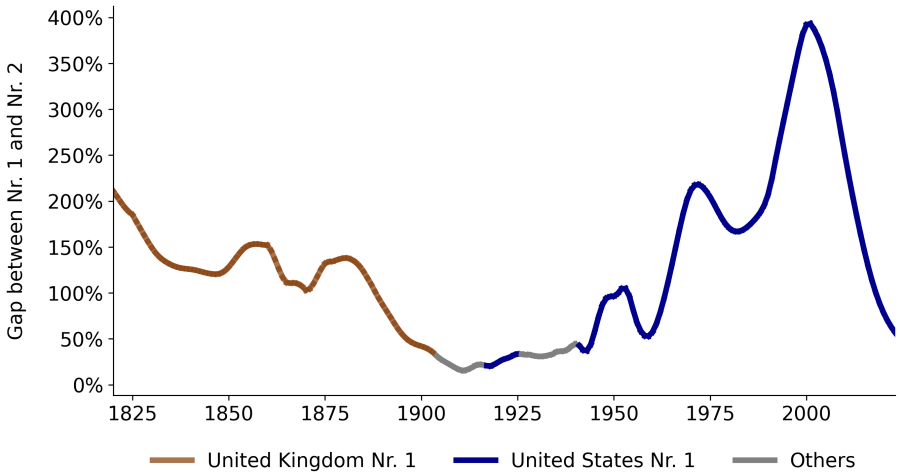
Note: Data from Moyer et al. (2024) Global Power Index Database. HP-filtered trends in country-level power indices. over time.

According to the GPI data, the UK was by far the most powerful nation during the early and mid-19th century, but its relative power decreased gradually over the course of the century. In the early 20th century, the UK was surpassed in its relative power, first by Germany and then by the US. More generally, the period between 1900 and 1945 can be characterized by a lack of hegemonic dominance, with five countries having roughly similar national power (Germany, France, UK, US, and the Soviet Union). This changes markedly after the end of WW2, when the US quickly rises to become the world's main hegemonic power. The Soviet Union ranked second between 1945 and the 1980s. China, in turn, has experienced a rapid rise in relative power since the 1990s, and has now reached a level comparable to that of the Soviet Union in the early 1950s.

A different way of illustrating the evolution of hegemonic power over time is illustrated in Figure 16, which depicts the percentage difference in the GPI index between the first and second most powerful countries. In the 19th century, this distance exceeds 100%, indicating that the United Kingdom was more than twice as powerful as the second-ranked country. This dominance quickly eroded in the late 19th century as the UK's share of global power declined and Germany's grew. The United States, in turn, became increasingly dominant in the decades following WWII, its GPI exceeding that of the Soviet Union by 100% to 200%. This gap widened even further in the 1990s after the collapse of the Soviet Union, reaching a record value of 400%. This trend in US power has been sharply reversed thereafter, due mostly to

the rise of China. By 2022, the power gap between the United States and China has narrowed to less than 100%, thus approaching the levels of the interwar years. From this perspective, therefore, the data suggests that the world is becoming increasingly multipolar, similar to how it was in the interwar years.

Figure 16: Hegemonic dominance - GPI gap between 1st and 2nd most powerful countries



Note: Difference in GPI between first and second most powerful countries. A 100% difference indicates that the GPI of the most powerful country is twice as high as that of the second.

6.2 Do hegemons foster alignment?

To address this question, we use treaty-signing as a measure of alignment. In particular, we assume that when two countries sign a large number of treaties they become more aligned with one another.[26] Throughout, we consider both bilateral and multilateral treaties. To properly capture multilateral treaties in a dyadic (country to country) data format, we follow previous research and treat each multilateral treaty as a network of multiple bilateral treaties. Thus, if countries A, B and C sign a multilateral treaty, we impute three bilateral treaties corresponding to country pairs A-B, A-C and B-C.

To provide some preliminary evidence that treaties are a reasonable measure of alignment, we focus first on three salient historical periods of hegemonic realignment. The first is the rise of the US relative to the UK between the 1870s and the 1900s. The second is the decline of

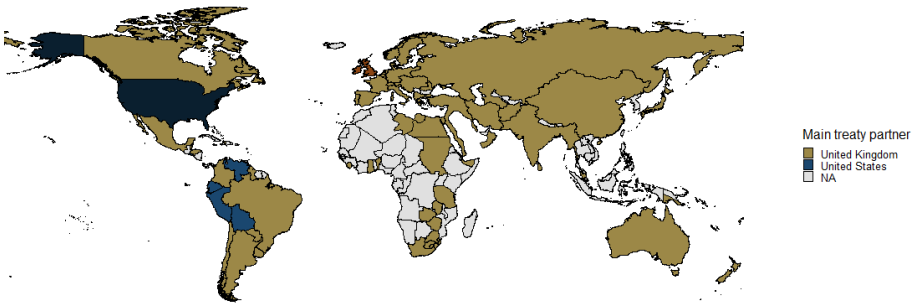
[26]The most widely used measures of international alignment are military alliances (see e.g. Eichengreen et al. (2019) and similarity in UN voting (see e.g. Gopinath et al. (2025); Kleinman et al. (2024)). These measures have many appealing features but also significant weaknesses. Both military alliances and UN voting capture a narrow set of relations between countries. Moreover, military alliances are few in number, and UN voting only starts in 1945. See (Broner et al., 2025) for a more detailed discussion of these measures.

the Soviet Union relative to the US between the 1950s and the 1980s. The third is the rise of China relative to the US between the 1990s and the 2010s. The maps in Figures 17 to 19 respectively provide an overview of alignment during each of these historical periods. In particular, alignment is computed by counting the number of treaties that each country signs with the two leading hegemons during the selected decades. The color of a country in each map indicates the hegemon with which the country signs more treaties.[27]

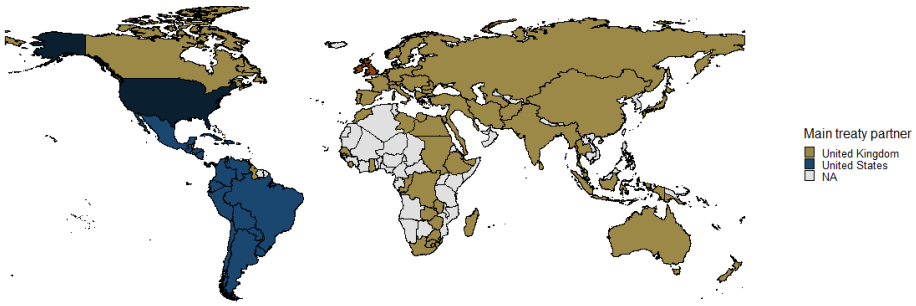
Figure 17 depicts alignment with the US and the UK in the 1870s and 1900s. During this period, the US grew substantially and reached the UK's level of GPI. At the same time, many countries – particularly in South America – began signing more treaties with the US than with the UK, as reflected in the figure.

Figure 17: Global treaty alignment – US vs. UK

Panel A: 1870-1879



Panel B: 1900-1909



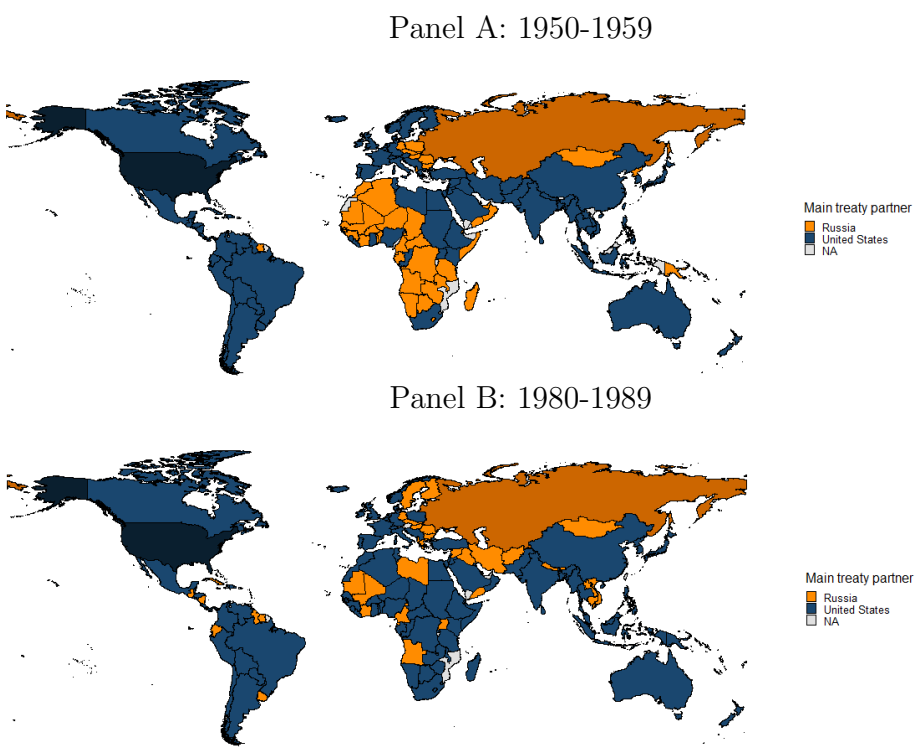
Notes: We capture alignment by comparing the number of treaties a country signs with the US and UK, respectively. Countries are colored in brown if they signed more treaties with the UK and blue if they signed more with the US. "NA" in case no treaties were signed in that decade (mostly colonies).

Figure 18 traces treaty-based alignment during the Cold War. In the 1950s, the Soviet Union and the United States roughly divided the world between them. Most African and Eastern

[27]In the few cases where a country has signed the same number of treaties with both hegemons in a decade, we use the last (most recent) treaty to assign alignment.

European countries signed more treaties with the Soviet Union, while Latin America, the British Commonwealth, and most Western European countries aligned themselves with the US. By the 1980s, as the Soviet Union's relative position weakened, many countries – particularly in Africa – redirected their alignment and started signing more treaties with the US than with the Soviet Union. Some countries did appear to strengthen their alignment with the Soviet Union, such as revolutionary Iran, Iraq, post-war Vietnam, as well as Finland and Sweden.

Figure 18: Global treaty alignment – US vs. Soviet Union



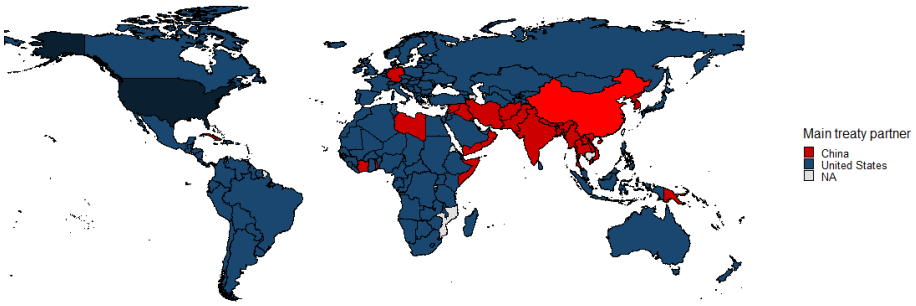
Notes: We capture alignment by comparing the number of treaties a country signs with the US and the Soviet Union, respectively. Countries are colored in orange if they signed more treaties with the Soviet Union and blue if they signed more with the US. "NA" in case no treaties were signed in that decade.

Figure 19 documents the shift in global treaty-signing patterns over the past few decades. As can be seen, according to this measure, most of the world aligned itself with the US in the 1990s. Within just 20 years, however, the predominant color of the map flips from blue to red, as the growth of China is accompanied by a relative increase in its treaty-signing, especially with the so-called Global South. In the Appendix, we provide additional suggestive evidence that treaty-signing is a good proxy for alignment.[28]

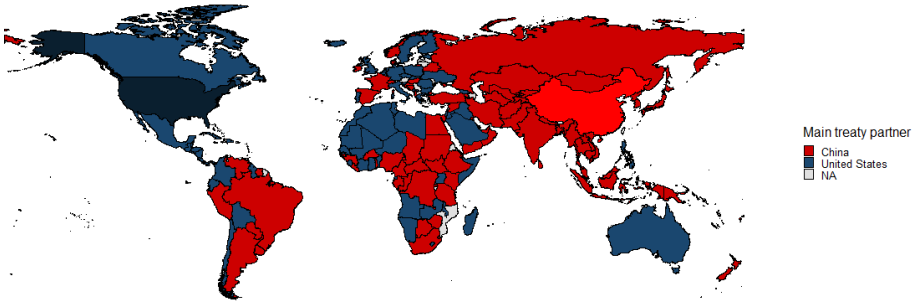
[28]Appendix Figure A6 shows that countries that signed many treaties with the US after WW2 typically signed fewer treaties with China and Russia, both of which are regarded as US rivals (Panel A). In contrast, the

Figure 19: Global treaty alignment – US vs. China

Panel A: 1990-1999



Panel B: 2010-2019



Notes: We capture alignment by comparing the number of treaties a country signs with the US and China, respectively. Countries are colored in red if they signed more treaties with China and blue if they signed more with the US. "NA" in case no treaties were signed in that decade.

Table 2 shows more systematically that hegemons appear to induce alignment as measured through treaty-signing. We regress a country's share in the global number of international treaties signed per decade on country variables that capture its hegemonic power. More specifically, we use the GPI described in the previous section (HP trend) as well as binary variables derived from it: "Hegemony dummy 1" is a dummy variable that takes the value of 1 whenever a country's GPI trend index exceeds 0.1 (i.e., the GPI threshold for "major power"), and zero otherwise. "Hegemony dummy 2" takes the value of 1 only for the country with the highest GPI (i.e., the most powerful country). We also show results using the continuous GPI measure. To account for classic gravity forces, we include each country's shares of global population and GDP as controls. [29]

correlation of treaties signed with the US and the UK is positive and statistically significant, at a time where these countries were considered close allies.

[29]GDP and population data is obtained from TradeHist.

Table 2: Hegemonic power and treaty-making

	(1)	(2)	(3)
Hegemony dummy 1	5.337***		
	(1.799)		
Hegemony dummy 2		8.246***	
		(2.673)	
Global Power Index			0.310***
(HP trend value)			(0.120)
Population share	0.223	0.430***	0.322*
(% of world)	(0.162)	(0.161)	(0.172)
Export share	0.117	0.140	0.042
(% of world exports)	(0.168)	(0.118)	(0.150)
R-squared	0.73	0.74	0.73
Observations	1496	1496	1496
Country-FE	Y	Y	Y
Time-FE	Y	Y	Y

Note: The dependent variable measures each country's share of newly signed treaties worldwide per decade. The hegemony dummy in Column (1) is equal to one for countries with a Global Power Index (GPI) above 10 (as measured in Figure 15). The hegemony dummy in Column (2) is equal to 1 only for the largest hegemonic power according to the GPI. Column (3) uses the continuous GPI measure. All the columns include country and year fixed effects.

The regression results confirm that hegemonic power and treaty-signing are closely related. Hegemons sign a disproportionate share of treaties, even after controlling for their economic and demographic weight as well as country and time fixed effects. The coefficients of the dummy variables in Columns 1 and 2 indicate that hegemonic status increases a country's share of global treaties by 5 to 8 percentage points. This is sizable given that even the largest powers only account for 10-25 percent of all global treaties signed per decade. The GPI coefficient in Column 3, in turn, suggests that a one percentage point increase in GPI is associated with a 0.3 percentage point increase in the share of global treaties signed. Appendix Table A2 shows additional results (without fixed effects).

6.3 Alignment and trade

Having shown that countries disproportionately align with hegemons, we now show that alignment is in turn associated with higher trade flows.

Here, a caveat is in order: as is usually the case in this type of analysis, we can establish correlation but not causality. A positive correlation between alignment and trade may come about because countries trade more when they align with each other, or because countries are more likely to align when their bilateral gains from trade are large. Both directions are at work

in the theory, and they are plausibly at work in the data as well. We do find a significant link between past treaty signing and current trade flows, even in a demanding specification with country-year and country-pair fixed effects. In addition, following Yotov et al. (2017), we test for reverse causality by regressing *future* treaty formation on current trade flows and find no significant relationship (Table 4). While indicative, we nevertheless advise caution in interpreting the results as causal rather than correlational.

We study the empirical link between alignment and trade by combining our treaty data with bilateral trade data between 1830 and 2020 and using a gravity framework following Santos Silva and Tenreyro (2006) and Head and Mayer (2014). Specifically, we use the Poisson-pseudo maximum likelihood (PPML) estimator with annual bilateral trade flows in current US dollars (in levels) as dependent variable, and use standard gravity controls and fixed effects.

The long-run trade data comes from the widely used TradeHist dataset, complemented with data from the RICardo datasets to fill coverage gaps in the 19th century and IMF and World Bank[30] data from 2015 until 2020. All trade flows are converted into USD using the exchange rates provided in TradeHist and RICardo. To account for country mergers, border changes, or the break-up of empires, we build on the GeoPolHist dataset, which is a comprehensive record of the evolution of nation states and non-sovereign entities from 1816 to 2022. We focus on sovereign countries only and drop those with a population of less than 1 million (as of 2010).[31] We also drop countries that did not sign a single treaty over the 200 year sample period, which reduces the number of zeros in the dyadic dataset. The variables and their data sources are detailed in Table A1 in the Appendix.

Our main measure of alignment is the number of treaties signed between two countries over the previous 20 years.[32] As an alternative, we also use the number of treaties signed in all previous years, since the beginning of the dataset or since independence, as well as a "perpetual inventory" measure of treaties that takes into account all treaties signed in the past but allows for depreciation over time (at a rate of 5% or 3% per year).

Main regression results

Table 3 shows our main results. The volume of trade between two countries is strongly and significantly associated with the degree of their political alignment, as proxied by the number of treaties signed between them over the preceding 20 years. The coefficient is higher for economic

[30]Bilateral export flows are provided by IMF DOTS, while GDP and population data are sourced from World Bank WDI.

[31]Specifically, we drop 79 small sovereigns.

[32]Our main results are similar if we use 10-, 15- or 30-year periods.

treaties than for non-economic ones, but both are statistically significant (Columns 2 and 3). We also find a significant and positive association between bilateral trade and the stock of treaties signed between two countries in the past (Column 4), even if we allow the stock of past treaties to depreciate at an annual rate of 5% (Column 5). Appendix B.5 shows results for a battery of robustness checks and benchmarking exercises.

Table 3: Treaties and bilateral trade - main gravity model results

Dep. var.: bilateral exports								
	Full sample: 1830–2020						Pre-WW1	Post-WW2
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treaties (newly signed) (sum of past 20 years, log)	0.255*** (0.0822)					0.102*** (0.0272)	0.117*** (0.0366)	0.101*** (0.0280)
Economic treaties (sum of past 20 years, log)		0.276*** (0.0432)						
Other treaties (sum of past 20 years, log)			0.192** (0.0772)					
Treaties stock (total treaties, log)				0.460*** (0.0653)				
Treaties stock (Yearly depreciation 5%, log)					0.379*** (0.108)			
Distance (Log)	-0.698*** (0.0297)	-0.690*** (0.0261)	-0.713*** (0.0290)	-0.670*** (0.0279)	-0.685*** (0.0309)			
Common Language	0.186*** (0.0604)	0.163*** (0.0605)	0.184*** (0.0605)	0.153** (0.0607)	0.187*** (0.0604)			
Common Border	0.530*** (0.0616)	0.528*** (0.0594)	0.536*** (0.0618)	0.511*** (0.0604)	0.517*** (0.0621)			
Colonial Relationship	2.162*** (0.342)	2.220*** (0.335)	2.157*** (0.345)	2.229*** (0.337)	2.164*** (0.339)			
Country-year FE	Y	Y	Y	Y	Y	Y	Y	Y
Country-pair FE	N	N	N	N	N	Y	Y	Y
Observations	1,198,284	1,198,284	1,198,284	1,198,284	1,198,284	1,191,034	55,210	1,070,746
Pseudo R^2	0.943	0.944	0.943	0.944	0.944	0.988	0.976	0.988

Note: Column (1) presents the baseline model, using the number of newly signed treaties over the past 20 years. Columns (2) and (3) disaggregate treaties into economic and non-economic categories, respectively. Column (4) uses the total stock of treaties, while Column (5) applies a 5% annual depreciation rate to the treaty stock between countries, thus assuming a treaty lifespan of 20 years. Columns (7) and (8) show results for the pre-WW1 and post-WW2 eras. All specifications include exporter-year and importer-year fixed effects, while in Columns (6)–(8) we additionally include country-pair fixed effects.

The size of the estimated treaty coefficient is economically large. Based on Column 1, a 1% increase in the number of treaties signed between two countries in the recent past is associated with an increase of 0.255% in bilateral trade. However, this interpretation is not always intuitive, as a 1% increase in treaties corresponds to very different absolute changes for different pairs of countries. For instance, Canada signed 97 treaties in 2010, so that a 1% increase translates to roughly one additional treaty. In contrast, Qatar signed only 20 treaties, and would thus

experience a 5% increase from the addition of just one treaty.

A more intuitive approach is to consider a country that moves from the 25th percentile in terms of new treaties signed with the US in 2010 (about 26 treaties in the past 20 years) to the 75th percentile (about 47 treaties) — a shift comparable to moving from Ethiopia to Belgium or Austria in terms of US treaty engagement. Based on the estimated treaty coefficient in Column 1, this shift from the 25th to the 75th percentile in US treaty intensity is associated with a 20.65% increase in bilateral trade with the US.[33] Alternatively, based on the specification in Column 1, a one standard deviation increase in the treaty count is associated with a 40.3% increase in bilateral trade.[34]

Jointly considered, the results of Tables 2 and 3 lend support to the main insights of the theory: namely, hegemons foster aignment, and alignment fosters trade. As mentioned above, however, this correlation does not establish causality. Indeed, through the lens of the theory, the relationship between alignment and trade is bidirectional. Stronger alignment promotes trade flows, but increased trade also creates greater incentives for alignment.

The literature on trade agreements and trade flows has long been concerned with issues of causal identification, particularly the challenge of finding valid instrumental variables. To mitigate concerns that unobserved time-invariant bilateral factors may simultaneously affect both trade agreements (i.e. treaties) and trade volumes, Baier and Bergstrand (2007) suggest incorporating country pair-fixed effects. We do so in Columns 6 to 8. In these specifications, the country-pair fixed effects help reducing omitted variable bias, while the country-time fixed effects account for multilateral resistance terms, as proposed by Anderson and van Wincoop (2003). As shown in Column (6), the treaty coefficient remains positive and significant after adding country-pair fixed effects, although its magnitude decreases. This result also holds in the pre-WW1 and post-WW2 samples (Columns 7 and 8). Similarly, we use first differences by regressing 10-year changes in bilateral trade on treaties signed during the same period by country pair, thus identifying only off the panel dimension. The results are qualitatively robust (Column 3 in Table A3).

[33]The calculation as follows: the increase from 26 to 47 treaties represents an 81% increase. Given the coefficient from Column 1, which is 0.255, the estimated effect on bilateral exports is computed as $0.81 \times 0.255 = 0.2065$, or 20.65%.

[34]One standard deviation corresponds to approximately a threefold increase in treaty intensity, for instance going from 19 treaties with the US in 2010 (around the bottom 5%) to 52 treaties (approximately the top 10%). The calculation is as follows: first, the coefficient is multiplied by the standard deviation of the logged treaty variable (1.33) so that we compute $0.255 \times 1.33 = 0.34$, which is then exponentiated $e^{0.34} - 1$ to $\approx 40.3\%$. Thus, a one standard deviation increase in treaties leads to a predicted 40.3% increase in bilateral exports under this specification. The same procedure applies to the other columns.

Treaty-signing as a leading indicator of trade growth

In this section we examine whether treaties are a leading or lagging indicator of trade growth. As noted above, it is possible that countries that trade more also decide to sign more treaties later on, so that treaty-making largely follows trade. However, here we show that during major episodes of global trade integration, treaty-making clearly preceded the subsequent growth in trade flows. Moreover, in the gravity model, past treaties significantly predict future trade, while future treaties have no explanatory power for current trade flows.

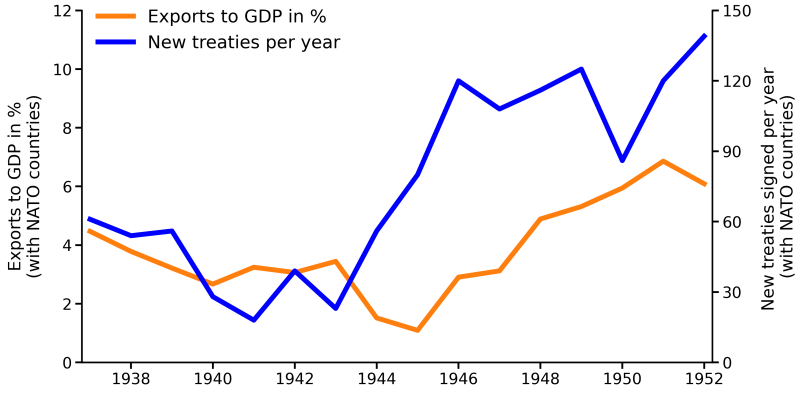
Figure 20 shows the evolution of trade and treaty-making activity during three key historical episodes of economic liberalization: (i) the post-1945 economic reintegration of Western Europe, (ii) the wave of trade liberalization undertaken by developing countries during the 1960s and 1970s, and (iii) the post-1990 economic integration of Eastern Europe following the collapse of the Iron Curtain. In each case, the analysis focuses on export flows and treaties with NATO member states — also commonly referred to as the "Western Bloc" prior to 1990 (US, Canada, Western European countries, as well as Greece and Turkey).

As can be seen, in each of the three episodes, treaty-making took off much earlier than trade flows. Between 1944 and 1949, the number of treaties signed by Western European countries rises from around 30 to almost 120 per year, well above the pre-war level. Export flows, on the other hand, only start to increase after 1947. A similar pattern can be observed for developing countries after 1960. The number of treaties signed with Western countries per year more than doubles between 1965 and 1975, while exports remain stagnant. Trade only begins to grow in the mid-1970s, when the number of treaties was already close to its peak. In addition, we find that the economic (re)integration of Eastern Europe after 1990 was preceded by a boom in treaty-making with Western countries, with annual treaties signed more than quadrupling by 1993.

Table 4 provides further evidence on the question. We regress current bilateral trade flows on past and future treaty-signing between countries. As can be seen, lagged treaties (those signed 10 to 20 years earlier) show the largest coefficient. In contrast, future treaty-making (those signed in the coming 10 years) is not significantly correlated with trade flows today. Methodologically, this exercise follows Yotov et al. (2017), who recommend regressing the future number of preferential trade agreements (several years ahead) on current trade flows as a test for reverse causality. Overall, the results suggest that alignment via treaties is a leading indicator of bilateral trade growth, with trade integration often preceded by a surge in treaty-signing.

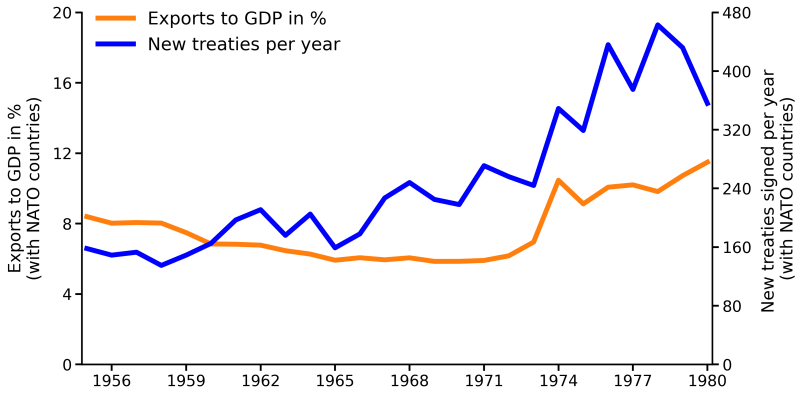
Figure 20: Treaties as a leading indicator of trade flows – selected historical episodes

Panel A: Western Europe after WW2



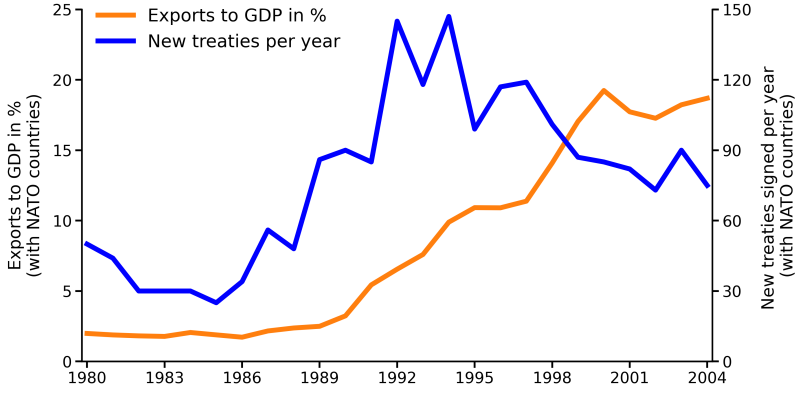
Note: The sample includes Germany, France, United Kingdom, Italy, Spain, Portugal, the Netherlands, Belgium, Austria, and Switzerland. We consider trade and treaties towards NATO members only (as of 1990).

Panel B: Developing countries in the 1960s and 70s



Note: The sample includes 127 developing countries based on the World Bank classification. We consider trade and treaties towards NATO members only (as of 1990).

Panel C: Eastern Europe around 1990



Note: The sample includes Albania, Bulgaria, Czechia and Slovakia (Czechoslovakia pre-1990), Estonia, Hungary, Latvia, Lithuania, Moldova, Poland, Romania, Ukraine, Russia, as well as Yugoslavia until 1992 and its follow-up states afterwards. We consider trade and treaties towards NATO members only (as of 1990).

Table 4: Treaties as predictor of trade flows

	Dep. var: bilateral exports		
	All years, 1830–2020		By decade
	(1)	(2)	(3)
New Treaties	0.102***		
(sum of past 20 years, log)	(0.0272)		
Lagged Treaties		0.0698***	0.0475***
(sum of 10–20 years ago, log)		(0.0225)	(0.0122)
Treaties		0.0472**	0.0298**
(sum of past 10 years, log)		(0.0208)	(0.0144)
Lead Treaties		0.0190	0.0107
(sum of next 10 years, log)		(0.0131)	(0.0129)
Country-year FE	Y	Y	Y
Country-pair FE	Y	Y	Y
Observations	1,191,034	1,045,188	175,515
Pseudo R^2	0.988	0.988	0.992

Note: Column 1 replicates the baseline Column 6 of Table 3. In Column 2, we include lagged and lead treaty variables, capturing treaties signed in the previous and subsequent decades, respectively. In Column 3 we collapse the data by decade using 10-year intervals for both trade and treaty activity.

Indirect effects of alignment on trade

Finally, we focus on an additional implication of the theory: namely, when a country aligns itself with a hegemon, it also aligns itself with countries that are themselves aligned with the hegemon. Thus, countries that align themselves with an hegemon should trade more, not just with the hegemon, but also with countries that are aligned with the hegemon.

To test this implication, we extend the gravity framework presented above by adding measures of bilateral alignment with the hegemon. The exercise requires sufficient variation in alignment across country pairs and over time, as we want to study the third-country channel predicted by the model. For this reason, we restrict the analysis to the post-WW2 period, when the United States was the dominant hegemon and global treaty activity increased substantially. The pre-WW1 sample, with only about 40 countries and relatively few treaties, does not offer the variation or statistical power to study this mechanism.

The results in Table 5 provide support for the theoretical prediction that alignment fosters

trade both directly and indirectly. In Column 1, we proxy US alignment at any point in time as the number of treaties that countries signed with the US over the preceding 20 years (in logs), while also controlling for country-time and country-pair fixed effects as well as the number of treaties signed between exporter and importer. The positive and significant coefficient on the interaction of the US alignment measures implies that, all else equal, a country that increases its alignment with the US also trades more with countries that are themselves closely aligned with the US. In Column 2, we adopt a similar approach but use a binary indicator for US alignment. Specifically, this dummy equals 1 if the share of a country's treaties signed with the US (US treaties divided by total treaties over the past 20 years) is above the 75$^{\text{th}}$ percentile in the distribution of treaty shares of the country. The interaction term of these US alignment dummies is also significant.

Table 5: Treaties and trade - the role of hegemonic alignment

Dep. var.: bilateral exports; Sample: 1945-2020				
	(1)	(2)	(3)	(4)
US treaties, log sum past 20 years (exporter) × US treaties, log sum past 20 years (importer)	0.024** (0.009)			
US alignment dummy (exporter) × US alignment dummy (importer)		0.040** (0.020)		
US nonalignment dummy (exporter) × US alignment dummy (importer)			-0.048** (0.024)	
US alignment dummy (exporter) × US nonalignment dummy (importer)				-0.037* (0.019)
Treaties between exporter & importer (log, 20 years)	0.153*** (0.049)	0.098*** (0.034)	0.099*** (0.034)	0.099*** (0.034)
Country-year FE	Y	Y	Y	Y
Country-pair FE	Y	Y	Y	Y
Observations	1,070,746	1,070,746	1,070,746	1,070,746
Pseudo R^2	0.988	0.988	0.988	0.988

Note: All regressions include exporter-year, importer-year and country-pair fixed effects and focus on the post-WW2 sample, which offers the necessary variation to test for indirect effects. Column (1) includes an interaction term of the number of treaties that each country (importer and exporter) signed with the US in the preceding 20 years (log). Column (2) interacts dummies for US alignment of each country (exporter and importer). The dummies take the value of 1 if the share of treaties signed with the US is above the 75$^{\text{th}}$ percentile of all country shares in the preceding 20 years. Columns (3) and (4) add a US non-alignment dummy that takes the value of 1 if the share of treaties signed with the US is below the 25$^{\text{th}}$ percentile of all country shares in the preceding 20 years.

Columns 3 and 4 show further variations to explore heterogeneity in alignment effects. We now interact the US alignment dummy with a variable capturing US nonalignment. The non-alignment dummy equals 1 for countries having a US treaty share below the 25$^{\text{th}}$ percentile of the cross-country distribution in a given year, again considering all treaties signed by the

country over the preceding 20 years. We implement this in two ways: in Column 3 we interact the US nonalignment dummy for the exporter with the US alignment dummy for the importer; in Column 4 we reverse this specification. The negative and significant coefficients of the interaction terms in both Columns 3 and 4 suggest that countries with opposite alignment attitudes toward the hegemon trade less.

The results are consistent with the notion of third-country effects. The more closely aligned a country is to the hegemon via treaties, the larger the predicted trade flows with the hegemon and also with other countries aligned with the hegemon. Moreover, the result in Columns 3 and 4 can be seen as evidence for the view that closer US allies trade less with those countries that are distant to the US. Jointly considered, these results also provide further support for the notion that alignment has an effect on trade. Indeed, we can think of countries that increase their alignment with the US as also increasing their alignment to other countries that are themselves aligned with the US: as Table 5 shows, this increased alignment is associated with more bilateral trade, even after controlling for other characteristics of the bilateral relationship.

Robustness and benchmarking

The Appendix provides results for multiple robustness checks, disentangles the effects of treaties by type and topic, and controls for alternative alignment measures such as UN voting.

Table A3 shows that the relationship between alignment and trade is robust to using alternative measures of "treaty alignment." The estimated coefficients are similar when (i) bilateral and multilateral treaties are included separately and when (ii) treaty alignment is measured through a dummy variable rather than through the number of past treaties. In this last case, the dummy variable takes the value of 1 in case two countries have signed one or more treaties in the preceding 20 years. The resulting coefficient is statistically significant and suggests that the signing at least one new treaty between two countries is associated with 7% higher bilateral trade.

Table A4 uses treaty sub-categories rather than the sum of all treaties as in our baseline Table 3. To create the treaty variables by category we follow the classification summarized in Table 1 and then sum all treaties in each category over the preceding 20 years by country pair. The estimated coefficients are larger for economic treaties, particularly those related with trade, transportation & infrastructure. We further show that dropping trade agreements from our own trade-related treaty category yields similar results (Column 1 vs 2 in Panel A). This suggests that the 'secondary' trade treaties we capture have additional explanatory power relative to the classic preferential-trade-agreement dummy used in the literature (see Appendix

B.3 for a longer discussion). Among non-economic treaties, we find various sub-types to have statistically significant and quantitatively large coefficients, e.g. on military alliances in line with (Neri-Laine, 2023).

Table A5 runs horse races between our measures of treaty alignment and other widely used alignment measures, in particular (i) trade agreements, (ii) military alliances, (iii) UN voting overlap, and (iv) a common regime type (deomcracy vs. anocracy vs. autocracy). In all of these cases, we find that our treaty-based measure of alignment remains significant despite adding an alternative measure of alignment. Furthermore, it is reassuring that the estimated coefficient is similar in size across most specifications, e.g. when including both our broader treaty dummy alongside a trade agreement dummy (Columns 2 and 3), a military-alliance dummy (Columns 4 and 5) or a common-regime-type dummy (Columns 8 and 9).

7 Concluding remarks

This paper has developed a novel framework to understand the relationship between hegemonic power and globalization. The theory is built on two key premises: (i) countries have heterogeneous preferences over policies, such as the type of government (democracy vs. autocracy) or industry standards; (ii) trade between any two countries increases in the similarity of their policies. The presence of a hegemon, i.e., a large economy, prompts alignment in policies and facilitates the transition to a globalized world. In contrast, the shift to a multipolar world may cause an unraveling of globalization, which may benefit some countries and harm others.

To test the theory's key insights, we construct the "Global Treaty Database," a novel dataset on the near-universe of international treaties and agreements signed worldwide over the past two centuries. Using the number of treaties signed between any two countries to proxy for the alignment between them, we find broad empirical support for the two key implications of the theory. Namely, hegemons drive a disproportionate share of treaty-signing, and bilateral treaty-signing is significantly associated with higher bilateral trade. Moreover, we document that countries that sign more treaties with a hegemon trade more with other countries that are themselves strongly aligned with the hegemon, and trade less with other countries that are not aligned with the hegemon.

Looking ahead, our findings highlight the importance of evolving global power structures in shaping economic integration between countries. Nevertheless, many questions remain open. For example, in our current framework, the number and size of hegemons are treated as exogenous. In reality, both are likely to be endogenously influenced by trade dynamics. This

suggests that, if existing hegemons are forward-looking, they may have incentives to limit trade with emerging powers in an effort to curb their ascent. Understanding the dynamic interplay between economic integration, growth, and the global distribution of power presents a rich and promising direction for future research.

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A Theoretical Appendix

A.1 Concept of robustness

Our concept of robustness captures the notion that the best response of individual agents should not, on average, be too sensitive to deviations by a small mass of agents from their equilibrium strategies. The following definition formalizes this intuition.

Definition 2 (Robustness) *Let $\{a_i^*\}$ denote an equilibrium of the game. Consider a sequence of "faulty" strategy profiles, where faulty profile n is given by $\{a_i^n\}$ and let ε^n denote the mass of countries for which $a_i^n \neq a_i^*$, i.e. $\varepsilon^n = \int_I \mathbb{I}_{\left[a_i^n \neq a_i^*\right]} \cdot di$. Let the distance between any two profiles $\{a_i\}$ and $\{a_i'\}$ be $\int_I d\left(a_i, a_i'\right) \cdot di$. Let $\{a_i^{*n}\}$ denote the profile of individual best responses to faulty profile n, i.e. $a_i^{*n} = argmax_{a_i} U_i\left(a_i, \{a_j^n\}_{j \neq i}\right)$. Equilibrium $\{a_i^*\}$ is robust if there does not exist any sequence of faulty profiles, with $lim_{n\to\infty}\varepsilon^n = 0$ such that $lim_{n\to\infty} \int_I d\left(a_i^{*n}, a_i^*\right) \cdot di > 0$.*

A.2 Proofs

Proof that all varieties of all goods have the same price. Let p_{jsz} denote the price of variety z of good (j,s) in all regions where it can be consumed. Set variety 0 of good $(0,0)$ as the numeraire, i.e., $p_{000} = 1$. We want to prove that, for all varieties z of all goods (j,s), $p_{jsz} = 1$ in all regions where it can be consumed. (Of course, $p_{jsz} = \infty$ in regions where it cannot be consumed.) Note that, given assumption A3, variety 0 of all goods (j,s) can be consumed in all regions regardless of policies. Conjecture first that there is a variety z of good (j,s) with $p_{jsz} > 1$. Then, residents of all regions (i,r) would set $c_{ir,jsz} \leq 1$. Given assumption A1, market clearing would be violated. Conjecture next that there are some varieties with $p_{jsz} < 1$. Let R denote the set of regions in which any variety with a price lower than one can be consumed, and let $\bar{R}$ denote the rest of the world. In any region (i,r) in R, the consumption of any variety with $p_{jsz} = 1$ would satisfy $c_{ir,jsz} \leq 1$. If $\bar{R}$ were empty, all regions in the world would set $c_{ir,000} \leq 1$ and market clearing would be violated. Thus, conjecture also that $\bar{R}$ is non-empty. Since variety 0 of all goods can be consumed in all regions, every region in R would trade with regions in $\bar{R}$. Moreover, given the symmetry in bilateral trade costs, each region in R would run a trade surplus vis-à-vis the whole of regions in $\bar{R}$, since it would import at most one unit of each variety it can import and it would export more than one unit of the corresponding variety it exports. This implies that regions in R would run, as a whole, a trade surplus vis-à-vis regions in $\bar{R}$. This would not be possible if all regions in $\bar{R}$ satisfy their budget constraint. As a result, R must be empty. ■

Proof of Proposition 2. Since $\alpha > \beta \cdot T$ by assumption A2, the hegemon always sets $a = 0$ in equilibrium. For the globalization equilibrium to exist, no country must have an incentive to deviate. The marginal benefit of choosing an policy a_i farther from 0 equals α, while the marginal cost in terms of reduced gains from trade with the rest of the world equals $(1 + \eta_U) \cdot \beta \cdot T$. Thus, the globalization equilibrium exists if and only if $\eta_U \geq \frac{\alpha}{\beta \cdot T} - 1$. For fragmentation to be an equilibrium, we need to compare country i's marginal cost of deviating and setting a_i closer to 0, which equals α, to its marginal benefit in terms of higher gains from trade with the hegemon, which equals $\eta_U \cdot \beta \cdot T$. Thus, fragmentation can be an equilibrium if and only if $\eta_U \leq \frac{\alpha}{\beta \cdot T}$.

There are other, intermediate equilibria, in which a fraction μ of countries evenly distributed in $(-0.5, 0.5]$ set $a_i = 0$, while the remaining fraction $1 - \mu$ set $a_i = i$, where μ satisfies $(\eta_U + \mu) \cdot \beta \cdot T = \alpha$. Clearly, any such equilibrium is not robust according to Definition 2. Since all countries are indifferent between setting $a_i = 0$ and $a_i = i$, any small perturbation to μ will lead all countries to strictly prefer either $a_i = 0$ or $a_i = i$. ■

Proof of Lemma 1. In the fragmented equilibrium, the average welfare of residents in countries $i \in I$ is given by

$$\omega + \left(1 - \frac{\beta}{4}\right) \cdot (1 + \eta_U) \cdot T$$

while the welfare of residents of the hegemon equals

$$\eta_U \cdot \left[\omega + \left(\eta_U + 1 - \frac{\beta}{4}\right) \cdot T\right]$$

In the globalization equilibrium, the welfare of residents of the average country $i \in I$ is instead equal to

$$\omega + (1 + \eta_U) \cdot T - \frac{\alpha}{4}$$

while the welfare of residents of the hegemon equals

$$\eta_U \cdot [\omega + (\eta_U + 1) \cdot T]$$

Thus, global welfare is higher in the globalization equilibrium if and only if $(1 + 2\eta_U) \cdot \beta \cdot T > \alpha$.
■

Proof of Proposition 3. Note first that C's welfare in the fragmentation and globalization

equilibrium equals

$$\eta_C \cdot \left[\omega + \eta_C \cdot T + \left(1 - \frac{\beta}{4}\right) \cdot T + \left(1 - \frac{\beta}{2}\right) \cdot T \cdot \eta_U\right]$$

and

$$\eta_C \cdot \left[\omega + (1 + \eta_U + eta_C) \cdot T - \frac{\alpha}{2}\right]$$

respectively, so that it prefers fragmentation if and only if $\eta_U \leq \frac{\alpha}{\beta \cdot T} - \frac{1}{2}$.

Suppose that C prefers fragmentation. If C moves early and sets $\bar{a}_C = 0.5$, fragmentation is the unique equilibrium if and only if $(1 + \eta_U - \eta_C) \cdot \beta \cdot T < \alpha$. Therefore, if this condition holds $\bar{a}_C = 0.5$ and the unique equilibrium is fragmentation. If this condition does not hold, there are multiple equilibria regardless of whether C sets $\bar{a}_C = 0.5$ or $\bar{a}_C = W$. If the equilibrium ultimately played is fragmentation, C's welfare is the same regardless of whether it set $\bar{a}_C = 0.5$ or $\bar{a}_C = W$. If the equilibrium ultimately played is globalization, C's welfare is

$$\eta_C \cdot \left[\omega + (1 + \eta_U + \eta_C) \cdot T - \frac{\alpha}{2}\right]$$

if $\bar{a}_C = W$ and

$$\eta_C \cdot \left[\omega + \eta_C \cdot T + \left(1 - \frac{\beta}{2}\right) \cdot (1 + \eta_U)\right]$$

if $\bar{a}_C = 0.5$. It can be verified that setting $\bar{a}_C = W$ is optimal when $(1 + \eta_U) \cdot \beta \cdot T > \alpha$, which holds when $(1 + \eta_U - \eta_C) \cdot \beta \cdot T \geq \alpha$. This proves point 1 of the proposition, and an analogous reasoning can be used to prove point 2. ■

Proof of Proposition 4. Note, from assumption A2 and the proof of Proposition 2, that all countries $i \in I$ that do not align with the hegemon must set $a_i = i$. Note moreover that if country i aligns with the hegemon, any country j with $d(j, 0) < d(i, 0)$ must do so as well. Suppose this is not the case for $i < 0.5$, then – letting μ denote the share of countries that align with the hegemon – it must hold that

$$(\eta_U + \mu) \cdot T - \alpha \cdot i > (1 - \beta \cdot \bar{d}_i) \cdot T \cdot (1 - \mu)$$

where $\bar{d}_i$ denotes the average distance between country i and all countries that do not align for the hegemon. For country j it must instead hold that,

$$(\eta_U + \mu) \cdot T - \alpha \cdot j \leq (1 - \beta \cdot \bar{d}_j) \cdot T \cdot (1 - \mu)$$

Since $\bar{d}_j - \bar{d}_i \leq i - j$, both inequalities cannot hold simultaneously given assumption A2.

To determine the share μ of countries that align themselves with the hegemon, we define the mapping

$$g(\mu) \equiv \begin{cases} (\eta_U + \mu) \cdot T - (1-\mu) \cdot T + \frac{\beta}{4} \cdot T - \beta \cdot \frac{\mu^2}{2} \cdot T - \alpha \cdot \frac{\mu}{2} & \text{if } \mu \leq \frac{1}{2} \\ (\eta_U + \mu) \cdot T - (1-\mu) \cdot T + \beta \cdot \frac{(1-\mu)^2}{2} \cdot T - \alpha \cdot \frac{\mu}{2} & \text{if } \mu > \frac{1}{2} \end{cases}$$

which captures, for a given value of μ, country μ's gain from aligning with the hegemon relative to not doing so. Note that $g(0) < 0 \iff \eta_U \leq 1 - \frac{\beta}{4}$, which proves point 1 of the proposition. Moreover, $g(1) > 0 \iff \eta_U \geq \frac{\alpha}{2T} - 1$, proving point 2 of the proposition. It remains to be shown that there exist interior equilibria, i.e.,

$$\mu^* \equiv \{\mu \in (0,1) : g(\mu^*) = 0, g'(\mu^*) < 0\}$$

where the condition that $g'(\mu^*) < 0$ stems from the requirement that equilibria be stable, i.e., that if μ^* is slightly increased (decreased) has incentives to abandon (join) the hegemon's bloc. A necessary condition $g'(\cdot) < 0$ for some value of μ is that $\alpha \geq (4-\beta) \cdot T$. A necessary condition for $g(\cdot) = 0$ for some value of μ is that η_U not be too high (so as to make $g(\cdot) > 0$ for all values of μ) or too negative (so as to make $g(\cdot) < 0$ for all values of μ). ■

Proof of Proposition 5. The welfare of the residents of thehegemon in any equilibrium with coercion in which a share μ of countries join the hegemon's coalition equals

$$\eta_U \cdot [\omega + (\eta_U + \mu) \cdot T]$$

In the absence of coerction, the hegemon's expected welfare instead equals,

$$\eta_U \cdot \left[\omega + p \cdot (\eta_U + 1) \cdot T + (1-p) \cdot \left[\eta_U + \left(1 - \frac{\beta}{4}\right)\right] \cdot T\right]$$

where p denotes the probability that the globalization equilibrium is played. The result follows from comparing the expected value of the first expression with the second expression. ■

B Empirical Appendix

B.1 Data Preliminaries

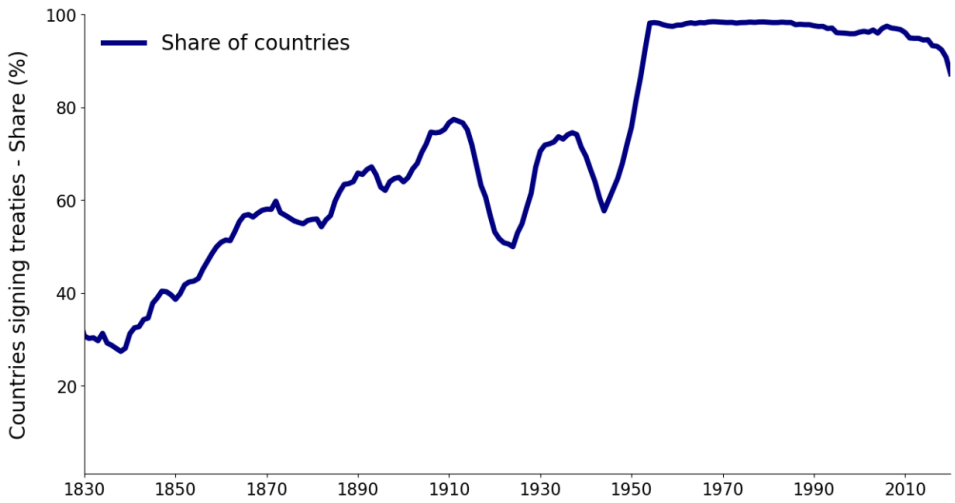
Table A1: Variable definitions and data sources

Variable	Description	Source(s)
Bilateral trade flows (1830–2020)	Export flows in nominal USD terms. Data for 1830–2014 are drawn from TradeHist and RICardo; values for 2015–2020 are sourced from the IMF's Direction of Trade Statistics.	Fouquin and Hugot (2016); Dedinger and Girard (2017); IMF DOTS
GeoPolHist (1830–2020)	Country identifiers and their historical evolution.	Dedinger and Girard (2021)
Global Power Index (GPI) (1830–2020)	Continuous variable ranging from 0 to 100 that represents a state's relative power share. The index is de-trended using an HP filter ($\lambda = 6.25$).	Moyer et al. (2024)
Hegemony dummy 1 (1830–2020)	Binary variable equal to 1 if a country's average de-trended Global Power Index (GPI) exceeds 10 in a given decade, using an HP filter with a smoothing parameter of 6.25.	Moyer et al. (2024)
Hegemony dummy 2 (1830–2020)	Binary variable equal to 1 if a country holds the highest average GPI during a decade.	Moyer et al. (2024)
Population share (1830–2020)	Average share of the global population accounted for by each country over each decade.	Fouquin and Hugot (2016); World Bank WDI
GDP share (1830–2020)	Average share of global GDP contributed by each country per decade.	Fouquin and Hugot (2016); World Bank WDI
Distance (log) (1830–2020)	Logarithmic transformation of the capital distance (in kilometers) between country pairs.	Fouquin and Hugot (2016)
Common language (1830–2020)	Binary variable equal to 1 if both countries in the dyad share an official or primary language.	Fouquin and Hugot (2016)

Variable	Description	Source(s)
Common border (1830–2020)	Binary variable equal to 1 if countries in the dyad share a land border.	Fouquin and Hugot (2016)
Colonial relationship (1830–2020)	Binary variable equal to 1 if one country in the dyad colonized or was colonized by the other.	Fouquin and Hugot (2016)
Trade agreement (1830–2020)	Binary variable equal to 1 if the dyad is part of a Preferential Trade Agreement (PTA).	Dür et al. (2014); Pahre (2007); Ptashkina (2022)
Military Alliance (ATOP) (1830–2020)	Binary variable equal to 1 if the countries share a formal military alliance, as defined by the ATOP dataset.	Leeds et al. (2002)
Co-Voting (UNGA) (1947–2020)	Continuous score reflecting the similarity of voting behavior in the UN General Assembly. Higher values indicate stronger alignment.	Voeten (2013)
Same regime type (1947–2020)	Binary variable equal to 1 if both countries in the dyad share the same regime type (Democracy, Dictatorship, or Hybrid).	Marshall (2020)

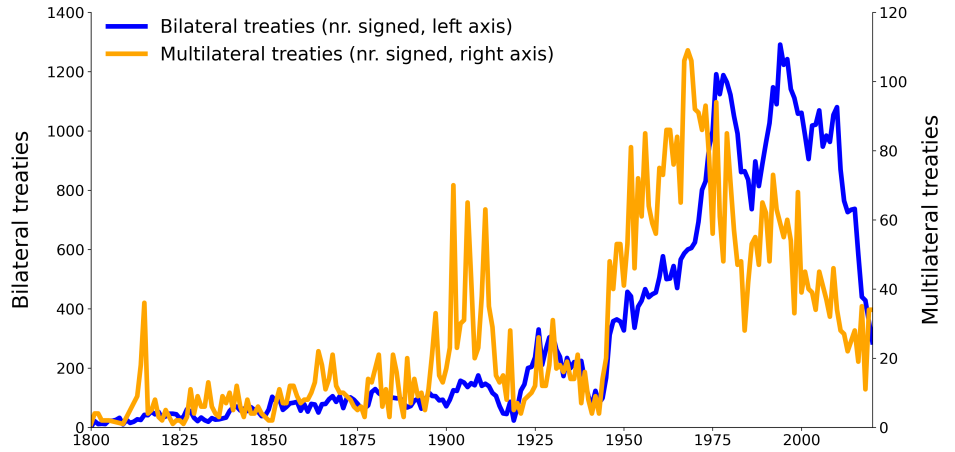
B.2 Additional graphs on treaty-signing over time

Figure A1: Share of countries engaged in treaty-making



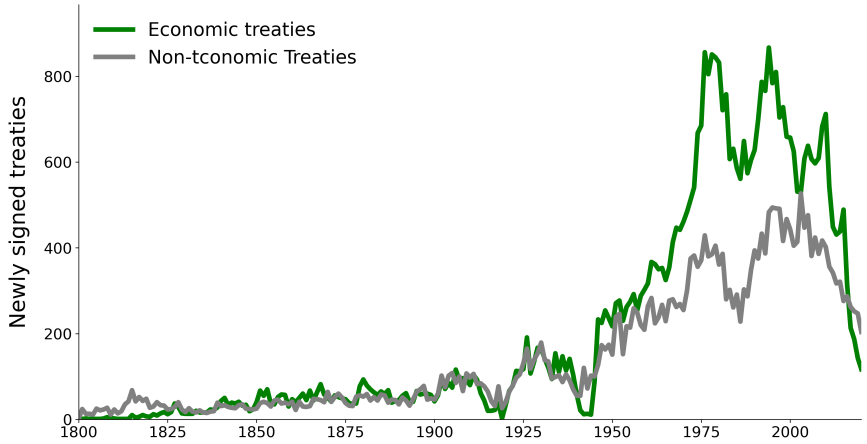
Notes: Percentage of sovereign countries engaged in signing at least one treaty (10-year moving average).

Figure A2: Bilateral vs. multilateral - new treaties per year, 1800-2020



Notes: Number of newly signed treaties per year and worldwide. Multilateral treaties shown in orange, for bilateral we use blue.

Figure A3: Economic vs other - new treaties per year, 1800-2020



Notes: Number of newly signed treaties per year and worldwide. Economic treaties shown in green, for non-economic we use gray.

B.3 Benchmarking the treaty dataset: military agreements, UN voting, and trade agreements

This section benchmarks our global treaty database to the most widely used existing datasets on treaty-making and political alignment. We start with the two classic measures of alignment: (1) military treaties and (2) voting in the UN General Assembly. We then assess the quality of our data extraction and classification approach by checking the overlap with existing, hand-coded datasets of (3) trade agreements.

A key takeaway is that treaties are a useful long-run measure of alignment, as they show considerable variation across space and time and span more than 200 years, thus starting much earlier than UN voting data, which is available only after WW2. The benchmarking exercise shows considerable overlap for military alliances, as countries that are militarily aligned also sign significantly more treaties on non-military issues. There is also a significant positive correlation with UN voting, especially during the Cold War, but the two measures are conceptually rather different (see below). For completeness, in Broner et al. (2025), we use these two established proxies of alignment (UN voting and military alliances) to show complementary evidence indicating that hegemons foster alignment.

Regarding trade agreements, we find an almost perfect overlap with existing datasets. We correctly identified every single one of the 948 trade agreements contained in the widely used DESTA database since 1948. The matching rate was also very high for the historical datasets going back to the early 19th century, as we correctly coded almost all of the trade agreements hand-coded by Ptashkina (2022) (1,278 trade agreements) and Pahre (2007) (1,654 trade agreements). More specifically, these two datasets contained only 123 trade agreements that we did not identify, so we add them to our main dataset ex post for completeness.

The overlap in the coverage of trade agreements is notable, given that we are benchmarking against highly-specialized datasets that have been carefully hand-coded and cross-checked. The result is reassuring that our collection of sources and our ChatGPT-based classification method are producing reliable results. In addition, our dataset adds important new insights. In terms of trade agreements, for example, we identify an additional 5,383 trade-related treaties that are not classical trade agreements according to the GATT definition used in previous data collection efforts. Instead, these treaties cover a broader range of issues that are highly relevant to cross-border trade in specific areas - such as sanitary standards for food exports or visa rules for merchants. We consider these 'secondary' trade agreements to be a valuable complement to the traditional trade agreement dummies that have dominated the literature to date.

B.3.1 Military allies also sign more non-military treaties

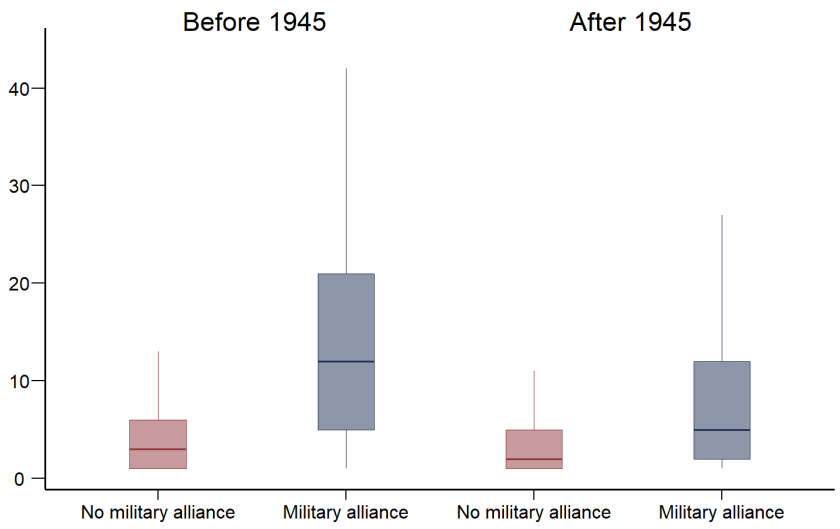
We start by benchmarking treaty intensity with the incidence of military agreements. For this purpose we draw on the much-cited ATOP dataset by Leeds et al. (2002), which provides comprehensive data on military alliance agreements signed by all countries worldwide 1815-2018.[35] We then link the dyadic military alliance data with our dyadic "'share of treaties" variable between countries that we described in the previous section.

Figure A4 shows the resulting histogram of treaty shares for country pairs with and without a military agreement. To account for shifts in military alignment, we distinguish by historical era (pre and post WW2). This means that we collapse both the alliance and the treaty data in two sub-samples: 1800-1945 and 1946-2020. A country pair is coded as having a military alliance if this was the case at any point in these sub-periods (the results are similar if we use narrower time samples).

Countries that are military allies also tend to sign considerably more treaties. This is particularly true in the pre-1945 sample, where the median treaty share is more than three times higher for countries with a military alliance than for countries without. The difference is less pronounced but still large in the post-WW2 era, with military allies signing about twice as many treaties as non-allies. These findings are surprising, but give assurance that treaty-making is a useful alternative to existing measures of country alignment.

[35] ATOP measures military alliances as offense, defense, non-aggression, neutrality, and consultation pacts.

Figure A4: Military alliances and treaty incidence



Note: This figure shows a histogram of the average number of treaties signed between countries in the pre-WW2 or post-WW2 period, respectively. We differentiate between country pairs that had a standing military alliance pre- or post-WW2 (blue) and those that did not (red). Data on military alliances comes from the ATOP database.

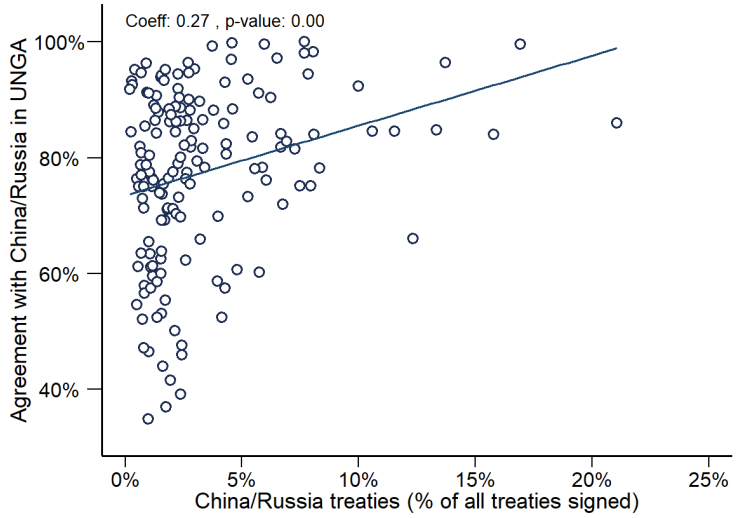
B.3.2 Treaties differ from UN voting

A second, useful and widely used indicator of alignment is joint voting in the United Nations General Assembly (UNGA), as discussed above. We next combine data on joint UN voting as collected by Bailey et al. (2017), with our measure of bilateral treaty shares.

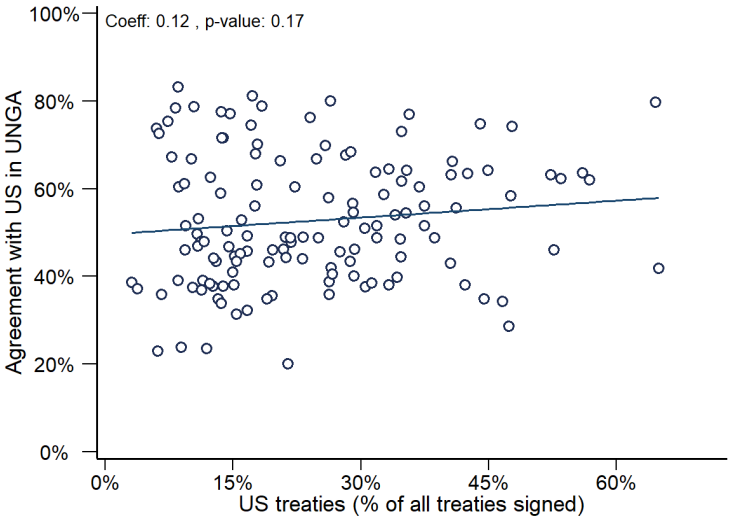
Figure A5 shows a positive correlation between UN voting agreement and treaty intensity during the Cold War (1946-1990). Countries that tend to agree more with China and Russia in the UNGA also sign a higher share of treaties with China and Russia (Panel A). For the US, the correlation between UN voting overlap and treaty-making intensity is also positive, but not statistically significant (Panel B).

Figure A5: UN voting agreement vs. treaty shares, 1946-1990

Panel A: China/Russia - UN votes vs. treaties



Panel B: United States - UN votes vs. treaties



Note: Scatter plot of UNGA voting agreement towards the US or China/Russia (horizontal axis) with treaty intensity towards these countries (on the vertical axis - share of treaties signed with the US or China/Russia as percent of total treaties). Each dot represents one country in the Cold War period (1946-1990).

Overall, however, the relationship between the two measures is weaker than in the comparison with military agreements. The correlation coefficient between UN voting and treaty shares is typically low, depending on the sample of years and countries chosen. The correlation

coefficients are also often not statistically significant.

One explanation is that the two measures are conceptually very different. UN votes are a somewhat more narrow proxy of alignment because they capture country preferences on global issues, on which there tends to be more cross-country agreement, rather than on bilateral relations and tensions, as explained by (Voeten, 2013).[36] This can also be seen in the data: the UN voting overlap across countries is above 50%, on average, and even rival countries such as India and Pakistan or Eritrea and Ethiopia often vote similarly. In contrast, treaty intensity between countries (as the number or share of all treaty relationships) is much more dispersed. Moreover, treaties do not primarily relate to global foreign policy issues but span many domains including those that are predominantly domestic or regional.

B.3.3 Trade agreements: very high coverage overlap

To assess the reliability of our treaty selection and classification approach, we now benchmark our dataset, in particular all trade-related treaties, with widely used trade agreement datasets by other authors. Datasets on trade agreements have received much scrutiny and attention, especially by economists, because a large literature examines their determinants and effects. The most comprehensive dataset is the Design of Trade Agreements (DESTA) dataset, which includes 948 preferential trade agreements worldwide 1948-2023. Of these, 493 come from the WTO, while 455 are compiled from sources such as the World Trade Institute, the Organization of American States' Foreign Trade Information System, the Asia Regional Integration Centre, and national sources like the websites of foreign, trade, and economic ministries. DESTA only focuses on trade agreements that are either customs unions, free trade agreements, or partial free trade agreements from relatively big countries. Small countries or entities such as the Palestinian Authority are not included.

Pre-WW2, the most encompassing datasets on trade agreements are Pahre (2007); Ptashkina (2022), which cover the period 1815–1945. Ptashkina identifies 1,278 agreements and Pahre 1,654, with considerably overlap between the two. These two sources use similar datasets than we do and a similar coding approach, but they rely on hand-coding rather than ChatGPT. Ptashkina (2022), for example, codes treaties from the *Handbook of Commercial Treaties (HCT)* by Brauer and Kasten (1922) and the *Consolidated Treaty Series (CTS)*. Like we do, she classifies trade agreements using treaty titles, but we also rely on any additional treaty charateristics we could gather including keywords or treaty summaries and descriptions.

[36] To illustrate that point, Voeten points out that more than a third of all UN votes of the past decades concern the Israel-Palestine conflict.

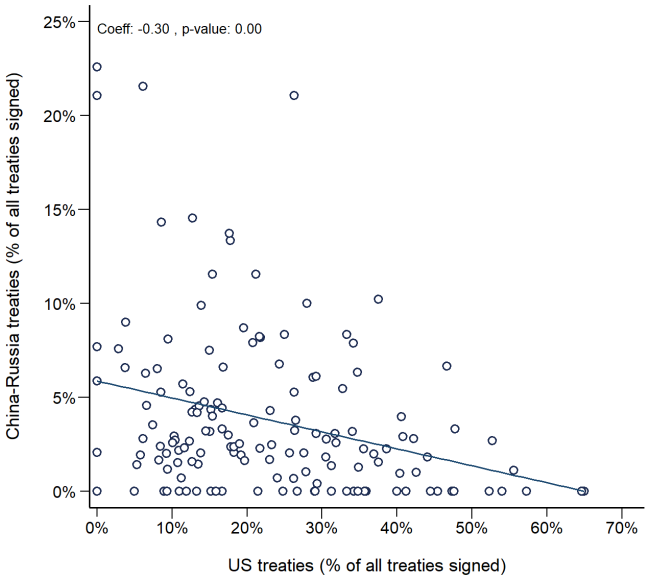
Our approach to classify trade-related treaties is broader than both that of DESTA and of the historical papers by Pahre (2007); Ptashkina (2022). These datasets use a rather narrow definition of trade agreements based on the classic GATT definition, i.e. focusing on market access provisions such as Most Favored Nation (MFN) clauses, tariff schedules, and exemptions on goods. We include not just trade agreements in a WTO or GATT sense, but also other relevant trade-related agreements e.g. on the management of fisheries exports, commodity extraction and exchange agreements, or sanitary standards for food exports. We further include not just agreements but also other documents that fulfill the UN treaty definition such as exchange notes or memoranda of understanding.

A rigorous comparison between these datasets and ours reveals that we successfully classified almost all trade agreements in history and today. More specifically, we correctly captured every single trade agreement included in the DESTA database. We therefore did not need to add any trade agreements in the post-WWW2 period (see Section 5). For the pre-WW2 period (1800–1939), we correctly classified more than 1500 trade agreements but miss 123 treaties, which we therefore add to our main dataset retroactively (see Section 5). In addition, our dataset has the advantage of including another 5,383 trade-related treaties that are not trade agreements in a classic sense but covering a broader range of narrower, more specific topics on cross-border trade that are not included in previous trade agreement datasets.

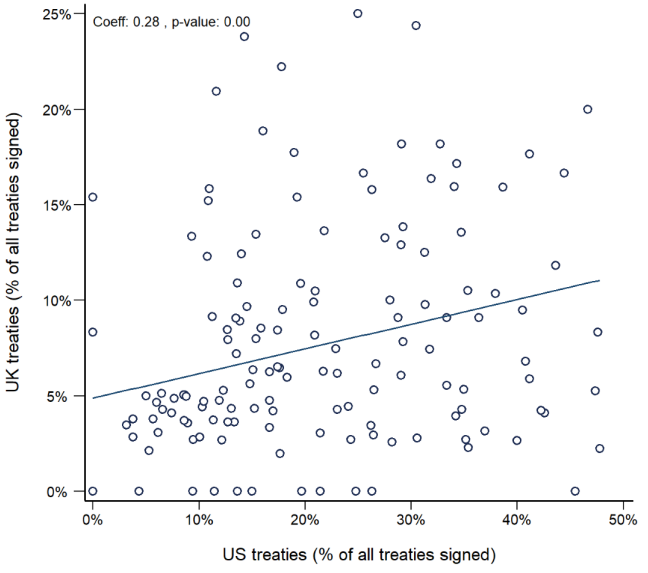
B.4 Treaty alignment after WW2 - allies vs. adversaries

Figure A6: Correlation of treaty shares for allies vs. adversaries, 1946-2020

Panel A: US vs. China/Russia (treaty shares)



Panel B: US vs. UK (treaty shares)



Note: Scatter plot of the share of treaties signed with the US on the horizontal axis, as well as with China and Russia (Panel A) or with the UK (Panel B) on the vertical axis. Each dot represents the treaty composition of one country, computed as share of all treaties signed in the post-WW2 period (1946-2020).

B.5 Additional regressions results

Table A2: Hegemonic power and treaty-making

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Hegemony dummy 1	5.544***	5.205***	5.337***						
	(1.518)	(1.490)	(1.799)						
Hegemony dummy 2				5.776**	5.801**	8.246***			
				(2.401)	(2.356)	(2.673)			
Global Power Index							0.446***	0.438***	0.310***
(HP trend value)							(0.111)	(0.108)	(0.120)
Population share	0.146**	0.097	0.223	0.318***	0.257***	0.430***	0.124	0.069	0.322*
(% of world)	(0.071)	(0.060)	(0.162)	(0.084)	(0.072)	(0.161)	(0.085)	(0.073)	(0.172)
Export share	0.433***	0.442***	0.117	0.482***	0.480***	0.140	0.237**	0.243**	0.042
(% of world exports)	(0.092)	(0.091)	(0.168)	(0.088)	(0.088)	(0.118)	(0.098)	(0.100)	(0.150)
R-squared	0.44	0.50	0.73	0.43	0.49	0.74	0.47	0.53	0.73
Observations	1497	1497	1496	1497	1497	1496	1497	1497	1496
Country-FE	N	N	Y	N	N	Y	N	Y	Yes
Time-FE	N	Y	Y	N	Y	Y	N	N	Y

Note: The dependent variable measures each country's share of newly signed treaties worldwide per decade. Columns (1)–(3) use a dummy for countries with a Global Power Index (GPI) above 10. Columns (4)–(6) use a dummy for the country with the highest GPI score. Columns (7)–(9) use a continuous GPI measure. All regressions include controls for population share and export share. Standard errors are in parentheses.

Table A3: Robustness I - alternative measures of treaty incidence and intensity

	Dep.Var: Bilateral Exports				Export Growth
	(1)	(2)	(3)	(4)	(5)
Treaties (newly signed)	0.102***				
(sum of past 20 years, log)	(0.0272)				
Bilateral treaties		0.0336***			
(sum of past 20 years, log)		(0.0118)			
Multilateral treaties		0.0774**			
(sum of past 20 years, log)		(0.0376)			
Treaty dummy I			0.0656***		
(=1 if Bilateral/Multilateral $\geq$ 1 treaties in 20 years)			(0.0176)		
Treaty dummy II				0.0699***	
(=1 if Bilateral $\geq$ 1 treaties in 20 years)				(0.0181)	
New treaties in decade					0.00223***
(sum of 10 years)					(0.000240)
Country-year FE	Y	Y	Y	Y	N
Country-pair FE	Y	Y	Y	Y	N
Observations	1,191,034	1,191,034	1,191,034	1,191,034	617,927
Pseudo R^2	0.988	0.988	0.988	0.988	0.255

Note: This table presents PPML estimates of bilateral trade flows using alternative measures of treaty incidence and intensity. Columns (1) to (4) use bilateral exports as the dependent variable. Column (5) follows the methodology of Baier and Bergstrand (2007), using first differences to estimate the impact of changes in treaty incidence on the growth rate of exports.

Table A4: Robustness II - Treaties sub-categories

Dep. Var: Bilateral exports							
Panel A: Economic-related treaties							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Economic (all)	0.135***						
	(0.021)						
Trade		0.112***					
		(0.019)					
Trade (excl. PTA)			0.102***				
			(0.019)				
Transport				0.109***			
				(0.018)			
Taxation					0.033**		
					(0.015)		
Finance & lending						0.030**	
						(0.015)	
Telecommunication							0.058***
							(0.017)
Panel B: Non-economic treaties							
	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Non-economic (all)	0.047*						
	(0.027)						
Military		0.033**					
		(0.014)					
Diplomacy			0.023				
			(0.021)				
Space				0.075***			
				(0.026)			
Health					0.013		
					(0.027)		
Refugees						0.050**	
						(0.023)	
Nuclear							0.010
							(0.025)
Country-year FE	Y	Y	Y	Y	Y	Y	Y
Country-pair FE	Y	Y	Y	Y	Y	Y	Y

Note: The number of observations is consistent across all categories, totaling 1,191,034. Likewise, the Pseudo R^2 value remains constant at 0.988, so we omit its reporting for brevity. All categories are calculated using the cumulative count of treaties over the past 20 years.

Table A5: Robustness III - with other bilateral ties (trade, military, UN voting, democracy)

Dependent Variable: Bilateral Exports									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Treaties Nr.	0.105***			0.150***		0.0784**		0.104***	
(sum of past 20 years, log)	(0.0302)			(0.0376)		(0.0319)		(0.0312)	
Treaty dummy		0.0679***	0.0694***		0.0701***		0.0357**		0.0676***
(=1 if bil/mult $\geq$ 1 treaties in 20 years)		(0.0181)	(0.0183)		(0.0194)		(0.0181)		(0.0185)
Trade Agreement	0.0837***	0.0876***	0.0819***						
(=1 if PTA treaty in effect)	(0.0293)	(0.0292)	(0.0296)						
Military Alliance-ATOP data				0.119***	0.125***				
(=1 if military alliance)				(0.0295)	(0.0294)				
Co-voting UNGA						0.00738***	0.00733***		
(% of agreement in UN)						(0.00103)	(0.00103)		
Same Regime Type								0.00907	0.0119
(Polity V Democracy Classification)								(0.0277)	(0.0278)
Observations	1,157,441	1,157,441	1,032,416	885,398	885,398	864,517	864,517	949,538	949,538
Pseudo R^2	0.988	0.988	0.988	0.988	0.988	0.989	0.989	0.988	0.988
Country-year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Country-pair FE	Y	Y	Y	Y	Y	Y	Y	Y	Y

Note: This table benchmarks different treaty measurements, including both dummy variables and continuous variables (in logs). Columns (1)–(3) compare our primary treaty data with existing datasets, such as PTAs from Pahre (2007); Ptashkina (2022) and DESTA. Column (1) uses our main specification based on the log of the sum of treaties signed in the past 20 years. Column (2) applies a dummy variable version, as used in Table A3, while Column (3) restricts the sample to the post-WWII period using the same dummy specification. Columns (4) and (5) incorporate military alliance data from Leeds et al. (2002), where Column (4) uses a continuous measure and Column (5) uses a corresponding dummy variable. Columns (6) and (7) evaluate co-voting patterns at the UN General Assembly, using the data from Voeten (2013). Finally, Columns (8) and (9) include regime classifications from Polity V Marshall (2020), categorizing countries as democracies, anocracies, or autocracies.

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