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The Effects of Institutions on the Relationship between Politics and Trade (Revised)

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The Effects of Institutions on the Relationship between Politics and Trade*

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Abstract

This paper examines the relationship between trade and the ups and downs of political relations between countries, and how institutional arrangements might affect that relationship. An index of 'political distance' between countries is constructed using high-frequency events data. After showing that monthly data, rather than quarterly or annual data, better reflects the time horizon of political shocks to trade, we estimate a set of structural gravity models using monthly panel data. We find that WTO membership, democratic political systems and strong domestic governance institutions are associated with a reduced impact of political vagaries on trade between countries. Joint WTO membership is associated with a weaker relationship between politics and trade, including for non-democratic trading partners. This WTO effect is stronger when recent years (2017 to 2021) characterized by global trade uncertainty are excluded from the sample.

Keywords: trade, geopolitics, WTO, institutions, governance, multilateralism JEL classification: D23, L22, L25, M10

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1. Introduction

The seven decades after the Second World War brought unprecedented global economic expansion, spurred on by economies opening up to international trade. The Bretton Woods institutions underpinned this openness. The General Agreement on Tariffs and Trade (GATT) and later the World Trade Organization (WTO) promoted confidence and stability in trade through securing commitments to multilateralism, nondiscrimination and the most-favored-nation principle. The result was remarkable growth in the international flow of goods, capital, technology and ideas. Since the formation of the GATT, the world has so far avoided descent into protectionism of the kind seen during the 1930s.

Without the multilateral rules and norms of the global trading system, supported by the GATT and WTO, international trade is more likely to be ruled by might and driven by political or security relationships. This dynamic was observed throughout the Cold War (Gowa & Mansfield, 1993). Trade norms were bifurcated along geopolitical lines with the world's second-largest economy, the Soviet Union, absent from the GATT.

Trade and political relations between countries are deeply entangled, with causality running both ways. Geopolitical tensions can lead to economic sanctions, and trade disputes can lead to geopolitical conflict. Yet it is also possible for trading relationships to persist or even flourish in periods of high political tension. In some instances, countries have continued to trade while at war with one another (Barbieri & Levy, 1999). A rich literature tells us that whether countries trade freely or along geopolitical lines depends on conditions specific to the trading relationship and time period in question (Armstrong & Drysdale 2011; Davis & Meunier, 2011; Gawarkiewicz & Tang, 2017; Gowa & Mansfield, 1993; Pollins, 1989).

Governments are less able to deploy trade-restrictive policies to punish countries over disagreements when those policies breach multilateral rules. Moreover, signing up for and implementing these rules often require institutional reforms that make intervention in domestic and international markets more difficult. These include reforms that increase transparency, predictability and consultation around policies. The effect of WTO membership on institutional reform was studied and written about extensively in the lead up to and after China's accession to the WTO in 2001 (Lardy, 2001; Branstetter & Lardy, 2008).

This paper examines the ways that institutional conditions, including membership of the WTO, might reduce the effects on trade of the ups and downs of political dealings between countries. Joining the WTO typically requires building domestic institutional capacity in addition to making commitments on international rules. We propose that, through strengthening domestic institutions and signing onto international rules that tie the hands of governments and make protectionist or nationalist policies less appealing, joining the WTO can have the dual effect of both increasing trade and reducing the responsiveness of trade flows to political vicissitudes.

To examine these effects, we construct an index of political distance based on conflict and cooperation events involving a pair of countries over a certain time period. Indexes of political relations based on events data are widely used in political science and economics.¹ Here it is constructed using high-frequency data from the Global Database of Events, Language, and Tone (GDELT, 2022).

¹ Recent examples include Agarwal and Golley (2022), Chen and Zhou (2021), Davis and Meunier (2011), and Gawarkiewicz and Tang (2017).

The index is applied in two sets of models of bilateral trade. First, we estimate vector autoregression (VAR) models to simulate political shocks and examine the predicted response of bilateral trade. We conclude that given the short time horizons during which shocks can impact trade flows, monthly rather than quarterly or annual data is most appropriate for modeling such impacts. Second, using monthly panel data, we estimate a series of gravity models of trade, incorporating variables that might weaken the politics–trade link, such as whether states are democracies, their WTO membership status, and indexes of domestic governance institutions. The gravity model framework allows estimating the effect of bilateral political distance on trade flows.

The results indicate that WTO membership, democratic political systems and strong domestic governance institutions are each associated with the reduced effect of political distance on trade between countries. These factors are interrelated and correlated. WTO accession, for example, often requires substantial reform of domestic regulatory institutions, which in turn may improve transparency and the independence of trade policymakers. The result contributes to understanding the conditions under which trade is likely to be determined by market forces, as opposed to being subject to political pressures. Trade and politics have always been connected, but commitment to multilateral rules, including the domestic implications of those commitments, allows a degree of separation of trade flows from political relations.

A range of studies have drawn different conclusions on the politics-trade relationship, with various hypotheses put forward for why a link might or might not be observed (see Table 1). One reason why we might expect trade to be concentrated among politically friendly countries is the presence of security externalities. When a country engages in trade, it is economically better off for doing so; when it trades within an alliance, there is the added bonus of its military ally being made better off too. This bonus is a positive externality. Conversely, trade with an adversary may be associated with a negative security externality (Gowa & Mansfield, 1993). Other explanations involve the use of trade to accrue political influence. Trade may be cultivated to reward bilateral partners for having aligned interests or withheld to punish them for a perceived transgression. Similarly, countries may want to promote trade with friendlier partners out of fear that an adversary might suddenly cut off their supply (Hirschman, 1945; Pollins, 1989).

These explanations cast the state in the main role, but it may also be firms and consumers that drive the politics–trade relationship. Importers might avoid source markets perceived as politically risky (Morrow et al., 1998). Consumers may be influenced by nationalist sentiment in their purchasing decisions. US consumers, for example, bought fewer French-sounding brands after France opposed the 2003 invasion of Iraq (Pandya & Venkatesan, 2016).

Some researchers do not observe a significant effect of political relations on bilateral trade. In a globalized world, production is highly specialized and value chains are intertwined. It could be that untangling them for political reasons is just too costly (Davis & Meunier, 2011). Some recent studies argue that democracy mitigates the politics–trade effect on the basis that democratic governance models impose more constraints on governments' ability to redirect trade (Chen & Zhou, 2021; Gawarkiewicz & Tang, 2017).

Multilateral institutions play a role in shielding trade flows from political intervention (Armstrong & Drysdale, 2011). Agreeing multilaterally to limit intervention in trade not only offers economic gains, but also stabilizes trade expectations in a way that may support security outcomes (Copeland, 1996). Multilateral trade rules also create mechanisms to bolster international security, through facilitating the peaceful resolution of trade disputes and, indirectly, through building economic interdependence. Chen and Zhou (2021) and Gawarkiewicz and Tang (2017) find that WTO membership negates some or all of the effect

of politics on trade. Chen and Zhou (2021) find that WTO membership has an effect on limiting democratic states from intervening in imports but has little impact on authoritarian governments. The analysis of Gawarkiewicz and Tang (2017) is limited to the ASEAN plus three (China, Japan and South Korea) grouping of 13 countries.

Study	Countries (time period)	Empirical method (frequency of data)	Politics–trade relationship? (proposed explanation)
Armstrong and Drysdale (2011)	65 countries (1980–2006)	Gravity model with lagged politics variable (annual)	Small or no relationship (multilateral institutions constrain intervention)
Chen and Zhou (2021)	181 countries (1990–2004)	Gravity model with lagged politics variable (annual)	Positive relationship for authoritarian countries, weaker for WTO members
Davis and Meunier (2011)	US, Japan and 152 partners (1990–2004)	Gravity model with lagged politics variable (quarterly)	Small or no relationship (intervention too costly in globalized economy)
Du et al. (2017)	China and 9 exporters (1990–2013)	VAR; gravity model with four lags of politics variable (monthly)	Political shocks to trade are significant but last less than three months
Gowa and Mansfield (1993)	7 countries (1905–1985)	Gravity model with alliance variables (annual, cross sections)	In multipolar periods, small/no relationship; in bipolar periods, trade follows alliances (security externalities)
Morrow et al. (1998)	6 countries (1907–1990)	Gravity model with alliance variables (annual)	Trade is greater among countries with similar interests (importing firms account for political risk)

	Table	1:	Selected	empirical	studies of	of the	relationship	between	political	relations	and trade
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Domestic institutional quality may also play a role. While some studies conclude that democratic political systems mitigate the effect of politics on trade (Chen & Zhou, 2021), a question remains about policy institutions more broadly. This question is important given the differences in political regimes among the world's closest trading partners. High-capacity regulatory institutions; rule of law; and effective, independent public policymakers would each seem to support freer trade, or at least forms of trade intervention that are less heavy-handed and less politically targeted.

The effect of political distance on trade has varied over time and between countries, making findings time and country-pair dependent and difficult to generalize. There is the question of the direction of causality as well. Trade causes peace, consistent with the liberal school of thought dating back centuries but can also cause conflict or tensions between countries if gains are uneven within and between countries.

Some studies show trade causes conflict in two ways: by increasing vulnerability towards another country (for example, through exposure to a dominant resource or strategic goods supplier); or sensitivity to dependence (for example, through the effect of economic shocks

such as inflation or exchange rate volatility in one country on another). The institutional context within which trade is being conducted will likely matter. That is, if there is a well-functioning WTO that both countries are party to, that will constrain the ability to exercise economic leverage from that dependence against a more vulnerable trading partner, for example. This study is primarily concerned with the effect of political distance on trade.

Trade protectionism has been increasing since the global financial crisis in 2008 and has accelerated in the United States and other parts of the world as economic recovery caused increases in inequality in many countries. The rise of China as the second largest economy that has overtaken the United States in purchasing power parity terms and threatens to overtake it in market exchange rate terms has also led to a rise in political tensions (an increase in political distance) and threatened confidence in the global trading system.

In an era of great power competition between the world's two largest economies, it is important to understand the effect of political distance on trade and whether the WTO is able to constrain protectionism and limit the deployment of trade sanctions for geopolitical purposes. Both China and the United States are members of the WTO but both are undermining the multilateral rules and norms for political or geopolitical purposes, weakening confidence in the multilateral regime. Since 2019, WTO rules have not been enforceable with the United States vetoing the appointment of judges to the Dispute Settlement's Appellate Body. Unilateral Chinese trade sanctions on Australian goods are recognized to be a product of the political relationship having deteriorated. The inability of the WTO to complete a round of negotiations and update its rules has also put pressure on the multilateral trading system.

Without the multilateral rules and norms of the global trading system, underpinned by the GATT and WTO, international trade is more likely to be ruled by might and driven by political alliances, as it often mostly was prior to the introduction of those institutions and between the two political blocs during the Cold War. Trade disputes are far less likely to escalate due to peaceful resolution according to multilateral rules. The US–China trade war and US retreat from commitment to the WTO rules (with unilateral 'America First' tariffs and managed trade deals), dispute settlement system and leadership, threatens to bring back the influence of geopolitics on international trade.

2. Measuring political distance

An index of political distance is created using events data from GDELT, a free online data source that stores dyadic events scraped from a vast range of news sources going back to 1979. It is updated multiple times per hour, enabling aggregation at high frequencies. This study aggregates GDELT events by month to match IMF Direction of Trade Statistics, the highest-frequency trade data available for a large set of countries. GDELT events are coded using the Goldstein scale, an index applied to dyadic political events developed through consultation with a panel of political scientists. Individual events are designated a score on a spectrum of conflict and cooperation ranging from -10 to 10. The scale begins at -10, which represents a theoretical 'most conflictual event'. Cooperative events are intended to mirror conflict events of similar magnitude, but with a positive sign. For example, a threat of force scores -7.0, an admission of wrongdoing or apology scores 2.0, and an extension of military assistance scores 8.3 (Goldstein, 1992).

Several studies have used the Goldstein scale to convert events data into a political conflict variable by taking a sum of conflict events; that is, events with a negative score (Davis & Meunier, 2011; Gawarkiewicz & Tang, 2017; Davis et al., 2019). This paper uses both conflict and cooperation events to create a political distance index, an increasingly common approach (Armstrong & Drysdale, 2011; Chen & Zhou, 2021; Agarwal & Golley, 2022). This

approach takes advantage of a feature of the Goldstein scale, whereby conflict and cooperation events of similar absolute value are assumed to have a similar magnitude of impact, positive or negative, on overall relations.

An index $PolDist_{ijt}$ can be constructed as follows using the Goldstein scale and events data.

$$PolDist_{ijt} = -\frac{1}{\nu_{it} + \nu_{jt}} \sum G_{ijt}$$

where v_{it} is the number of events in the database involving country *i* at time *t*, and G_{ijt} is the vector of Goldstein scale scores.

The fraction corrects for a bias towards larger countries, which receive greater media coverage and, as a result, are more represented in the data. This weighting effectively penalizes countries that tend to appear more often in the database, regardless of who their partner is in a given dyadic event. Without this weighting, large countries are overrepresented at extreme values — the highest and lowest scores are dominated by the United States, China and Russia. With the weighting, top scores typically reflect significant agreements between smaller countries. The negative sign is to make the index analogous with geographical distance for ease of interpretation.

Although GDELT assigns a sender and receiver to each event, we calculate this index symmetrically, with $PolDist_{ijt} = PolDist_{jit}$. This approach allows a greater number and diversity of reported events to determine each score and makes for a more felicitous analogy with physical distance. Extreme values of the index are similar regardless of whether it is symmetrical in this way.

A theoretically consistent grounded gravity model requires log transformation of the distance variable. To allow taking the natural logarithm without sacrificing low or negative observations, the minimum value of the series plus one is added to each observation. This addition potentially introduces bias, but the results, as shown in Table 7 below, are similar without this transformation.

Reports of increased trade and investment, coded as 'cooperate economically', make up a small share of the dataset (0.63 percent of all GDELT events).² Events coded as imposing or easing economic sanctions are even less common. Table 2 shows selected event codes and their rank in terms of frequency in the GDELT dataset, which contains 264 different codes in total. Events directly pertaining to changes in trade or trade policy are highlighted.

Du et al. (2017) and Agarwal and Golley (2022) create 'trade-filtered' political relations indices that aim to remove reports of movements in trade, and therefore a source of simultaneous causality. We generally leave these trade-related events in the index, given their relatively low frequencies, and because trade may be considered a political interaction by some definitions. As one of our checks and alternative specifications (Table 7), we reconstruct the index excluding these events and find it yields similar regression results.

² GDELT event codes are based on the CAMEO verb and actor ontology. See Schrodt (2012) for descriptions, examples and usage notes for each event.

Rank	Code	Event	Observations	Share of dataset
1	010	Make statement (n.e.s.)	55,008,854	7.86%
2	042	Make a visit	54,014,831	7.72%
3	043	Host a visit	50,040,767	7.15%
4	040	Consult (n.e.s.)	42,963,188	6.14%
5	020	Make an appeal or request (n.e.s.)	41,137,322	5.88%
6	051	Praise or endorse	36,604,083	5.23%
7	036	Express intent to meet or negotiate	30,754,882	4.40%
8	190	Use conventional military force (n.e.s.)	29,172,427	4.17%
9	046	Engage in negotiation	24,625,219	3.52%
10	173	Arrest, detain, or charge with legal action	22,817,927	3.26%
32	061	Cooperate economically	4,400,926	0.63%
64	163	Impose embargo, boycott or sanctions	1,161,587	0.17%
121	085	Ease economic sanctions, boycott or embargo	229,348	0.03%
211	1211	Reject economic cooperation	7904	<0.01%
262	1214	Reject intelligence cooperation	5	<0.01%
263	1324	Threaten to impose state of emergency or martial law	2	<0.01%
264	1321	Threaten with restrictions on political freedoms	1	<0.01%

Table 2: Selected event codes ranked by frequency of appearance in GDELT

Note: authors' calculations based on the GDELT dataset retrieved with Google BigQuery on 4 March 2022.

Figure 1 illustrates the monthly political distance index constructed using GDELT for China and the United States between 1995 and 2021. The blue line is a six-month moving average, which appears to smooth over extreme peaks and troughs, suggesting that higher levels of aggregation may sacrifice valuable information. Leadership visits score highly, narrowing political distance. For China and the United States, the lowest monthly score during the years studied is May 1999, when a US-led NATO bombing of the Chinese embassy in Yugoslavia killed three Chinese journalists. May 1999 is closely followed by July 2020, when a US executive order ended preferential trade status with Hong Kong, consulates were closed in both countries, and the US secretary of state delivered a speech critical of 'engagement' with China. Data are available for every country-pair, as well as within-country events.





Note: political distance multiplied by -1 for easier visual interpretation (higher points are better relations; lower points are worse relations). The blue line shows a six-month moving average.

3. Time horizons of political shocks to trade

Before applying the data to a gravity model framework, we first tackle the question of what frequency of data is appropriate. To do so, we employ VAR models of bilateral trade flows among 10 representative countries. A simple dynamic VAR model is estimated using monthly data, then orthogonalized impulse response functions (OIRF) are computed to examine how political shocks affect trade over time.

This approach follows Du et al. (2017) who conclude that for China and nine of its major trading partners, political shocks to Chinese imports last only three months or less. The implication is that studies using annual or even quarterly data may exhibit temporal aggregation bias, complicating or marring the interpretation of estimated effects. There is the possibility that low-intensity events (non-extreme events that have low absolute value in the Goldstein scale) can accumulate over time to affect trade and that different events affect trade on different timescales. These potential complications are unable to be controlled for and many studies simplify with annual or quarterly political relations data and a one-period lag. Our tests reveal that monthly data is more appropriate.

The dynamic model is a VAR specified as follows:

$$x_{ijt} = c + \sum_{k=1}^{K} A_{ij} x_{ij,t-k} + \epsilon_{ijt}$$
$$x_{ijt} = (\Delta x_{ijt}, \Delta PolDist_{ijt}, \Delta y_{it}, \Delta y_{jt}, \Delta e_{ijt})$$

where A is a vector of coefficients and Δe_{ijt} the percentage change in the ratio of *i* and *j*'s real effective exchange rates. Δy_i is the percentage change in a proxy for country *i*'s

monthly output, as most countries do not publish monthly gross domestic product data. We use indices of total industrial production compiled from the OECD and national statistics agencies.

We estimated VAR models for bilateral trade in both directions (exports from country A to B and from B to A) among 10 countries. The 10 countries are China, France, Germany, India, Japan, South Africa, Turkey, the United States and the United Kingdom. Countries were chosen to ensure variation in type of political system and region, as well as for availability of monthly production data. Trade from South Africa to India, India to South Africa and South Africa to Russia were excluded due to internal missing values or zeroes in the trade data, leaving 87 pairs in total.

The number of lags K found to reflect the appropriate relationship between politics and trade in each pair ranged from one to four, with most found to be two. In each case, lag length was selected using the Schwarz–Bayesian and Hannan–Quinn information criteria. When the criteria suggested different lengths, a likelihood ratio test was used to break the tie. This lag selection process follows recommendations from simulation studies of optimal lag order in VAR models (Hatemi-J & Hacker, 2009).

For each pair, we examined the impact of a shock to political distance on monthly trade using an OIRF. Each function was calculated to 24 months after the simulated shock. In 65 cases (75 percent of pairs), effects of a political shock on trade were not significant at the five percent level at any of the 24 months. When significant effects on trade were observed, they were between one and 12 months after the shock. Figure 2 shows the distribution of durations; the left panel includes pairs where no effects were observed, and the right panel excludes these pairs for readability. In six cases (7 percent), the effect lasted one or two months; in 16 cases (18 percent), it lasted for a quarter or longer.



Figure 2: Duration of response of trade to simulated political distance shock, 87 country pairs

Note: left panel includes pairs where no significant effect of a trade shock was observed.

In other words, the impact on trade of a political relations shock was commonly contained within 12 months or even within three months, if there is an effect at all. The results recommend caution when interpreting models that use annual or quarterly data. Results may reflect multiple infra-year or infra-quarter cycles of change in political relations, rather than one shock.

4. Gravity models with political distance

The most commonly used model in trade economics, the gravity model, is used to incorporate trade intervention in response to political shocks. The framework can be applied to illustrate why cooperation through multilateral institutions may weaken the politics–trade link.

Gravity models express bilateral trade as a function of the two countries' economic size and the geographical distance between them. We include a second distance variable to represent political distance. Including political distance endogenizes the notion that under certain conditions, actors in a given country may seek to trade relatively more with friendlier countries and relatively less with adversarial countries. In the simple model described here, these actors could be consumers, importing firms, governments or a combination of the three. We will refer to governments for simplicity, since governments can facilitate or restrict trade by removing or erecting trade barriers.

The equation below depicts demand from individuals in country j for goods from country i, where individuals maximize a constant elasticity of substitution (CES) utility function. Taking as a base the structural gravity model pioneered by Anderson and van Wincoop (2003), we incorporate a political distance term.

$$x_{ij} = \frac{y_i y_j}{y_w} \left(\frac{d_{ij}^{\rho} \pi_{ij}^{s_j}}{P_i P_j}\right)^{1-\sigma}$$

 y_i is *i*'s output, y_w is world output, and $\sigma > 1$ is the CES. The $P_i P_j$ terms — sometimes called multilateral resistances or remoteness terms — include unobservable trade costs that vary from pair to pair and over time (Anderson & van Wincoop, 2003; Baldwin & Taglioni, 2007). d_{ij} is the physical distance between *i* and *j*, and ρ is the sensitivity of trade to distance. Similarly, π_{ij} is the political distance between *i* and *j*, and s_j is the tendency for *j* to favor politically closer partners in its trade. For simplicity, this model focuses on the perspective of importing countries, rather than the export side. While countries can and have restricted exports for political or strategic reasons, there is a greater range of discriminatory trade policy levers on the import side, including via the use of tariffs and increased scrutiny in customs processes or regulatory compliance. In the empirical version of the model, we also examine the export side in the context of exporter WTO membership status.

We assume the government of country j values the gains from engaging in free international trade, but also seeks to intervene in trade to favor politically closer source countries for its imports. The latter may be explained, for example, by the presence of security externalities, a desire to garner influence over specific partners, or by a fear of being cut off from supplies by an adversary. A government fitting this description might choose its level of intervention s_j to maximize the expression below:

$$v = \alpha \sum_{i} \ln(x_{ij} x_{ji}) + \beta \ln s_j$$

Where α and β represent some preferred mix of free trade and intervention, and x_{ij} is a function of the level of intervention s_i .

We assume that each country in a given pair will have a similar impression of the general temperature of their bilateral relations (that is, $\pi_{ij} = \pi_{ji}$). Under this assumption, solving for the value-maximizing s_i gives the expression s_i^* below.

$$s_j^* = -\frac{\beta}{\alpha(1-\sigma)} \left(\frac{1}{\sum_i \ln \pi_{ij}}\right)$$

It has been observed that WTO members are less likely than non-members to trade along political lines (Chen & Zhou, 2021; Gawarkiewicz & Tang, 2017). To illustrate this, consider a case where governments can agree, through a multilateral mechanism, to jointly set one optimal level of trade intervention, $\theta = s_i = s_j$. Using the same import demand and government value functions as above but replacing s_j with θ yields the following value-maximizing level of intervention.

$$\theta^* = -\frac{\beta}{\alpha(1-\sigma)} \left(\frac{1}{\sum_i \ln \pi_{ij}}\right) = \frac{1}{2} s_j^*$$

When multilateral cooperation is possible, the degree of intervention is lower — halved, in this example. Multilateral commitments can be thought of as an agreed alternative to higher levels of politically motivated trade intervention, rather than a narrowing of sovereign policy space. Though highly stylized, this example accommodates and reflects the emphases on multilateralism and nondiscrimination that have characterized post-war economic cooperation in the Asia Pacific region, for example (Drysdale, 2017).

The gravity model with political distance defined in can be expressed in log form as follows:

$$\ln x_{ij} = \ln y_i + \ln y_j + \rho(1 - \sigma) \ln d_{ij} + s_j(1 - \sigma) \ln \pi_{ij} - (1 - \sigma) \ln(P_i P_j)$$

In line with hypotheses in the literature, s_j is thought of as a function of j's engagement in multilateral cooperation and its institutional environment. The latter could mean j's regime type, its level of economic freedom, or the capacity of its regulatory institutions.

 $s_i = f$ (multilateral_i, institutions_i, other factors)

We can analyze the components of s_j by incorporating interaction terms into the model as below.

$$\ln x_{ij} = \ln y_i + \ln y_j + \rho(1 - \sigma) \ln d_{ij} - (1 - \sigma) \ln(P_i P_j) + \gamma_1 (\text{multilateral}_j) + \gamma_2 (\text{institutions}_j) + \gamma_3 \ln \pi_{ij} + [\delta_1 (\text{multilateral}_j) + \delta_2 (\text{institutions}_j)] \ln \pi_{ij}$$

 γ_k is the influence of each component k on trade between country i and j, while δ_k is the influence of k on j's degree of trade intervention.

As noted, the gravity model's multilateral resistance terms encompass trade costs that vary by pair and over time. A standard approach to estimating gravity models in the presence of multilateral resistances is to use various fixed effects specifications. We estimate two sets of models, one with importer–month and exporter–month fixed effects, and another with these as well as time-invariant country pair fixed effects.

We estimate the model in multiplicative form, rather than the log-linear form, using the Poisson pseudo-maximum likelihood (PPML) estimator. In addition to addressing heteroskedasticity across country pairs, the PPML estimator also allows keeping zero trade values in the sample, since trade does not need to be log-transformed (Santos Silva & Tenreyro, 2006). For example, model (4) in Table 4 below is estimated as follows:

$$\begin{aligned} x_{ijt} &= \exp[\beta_0 + \beta_1 \ln Dist_{ij} + \beta_2 Border_{ij} + \beta_3 Language_{ij} + \beta_4 Colony_{ij} \\ &+ \gamma_1 \ln PolDist_{ij,t-1} \\ &+ \gamma_2 \ln PolDist_{ij,t-2} \\ &+ \delta_1 (\ln PolDist_{ij,t-1}) WTO_{it} + \delta_2 (\ln PolDist_{ijt-2}) WTO_{it} + \zeta_{it} + \eta_{it}] + \epsilon_{ijt} \end{aligned}$$

where ζ_{it} and η_{jt} exporter–month and importer–month fixed effects respectively. The models in Tables 5.1 and 5.2 also include pair fixed effects, which renders variables like geographical distance and common language redundant, as these are pair characteristics that do not vary over time.

We examine 80 by 80 country pairs from January 1995 to December 2021. The full list of countries is in Table A2. They vary substantially in characteristics of interest, including GDP, type of political system, and WTO membership status or date of accession. Starting in January 1995, the month in which the WTO was established, is appropriate for comparing founding WTO members to countries who joined later or have not joined.

Eighty countries were chosen because extending the sample further (though technically possible, given the dataset's coverage) would require including countries for which GDELT has very few or zero observations for some months. Interpreting political distance values for these countries would not be straightforward. The list of countries chosen is similar to the countries most observed in the GDELT database, with some countries excluded in cases where negative dyadic events are dominated by military conflicts, such as Iraq and Syria. We are chiefly interested in nonmilitary political and diplomatic interactions. Summary statistics are in Table 3 below, while definitions and sources for each variable are in the Appendix (Table A1).

Variable	Min	Max	Mean	SD	Ν
Trade (x_{ijt})	0	52,216,357,118	153,638,018	850,238,724	1,913,228
PolDist _{ijt}	1.000	3.005	2.175	0.025	2,047,680
Dist _{ij}	59.62	19,812.04	6863.59	4543.96	1,849,800
Border _{ij}	0	1	0.032	0.176	1,849,800
Language _{ij}	0	1	0.082	0.274	1,849,800
Colony _{ij}	0	1	0.057	0.231	1,849,800
Democracy _{jt}	0	1	0.657	0.474	1,766,124
GE _{jt}	-1.780	2.437	0.467	0.950	1,668,480
WTO _{jt}	0	1	0.861	0.345	1,996,488

Table 3: Summary statistics

Tables 4, 5.1 and 5.2 show the results of the estimated gravity models. Following the VAR and OIRF estimates above, we used monthly data and ran each model first with two lags

and then with four lags of the political distance variable.³ This variable is interacted with various hypothesized drivers of the politics–trade link, including dummy variables representing importer WTO membership and whether a country is classified as a democracy by the Polity database. The political distance variable is also interacted with the World Bank's Worldwide Governance Indicators (WGIs), with results using the 'governance effectiveness' (GE) index reported below. This indicator is intended to capture, among other things, 'perceptions of the quality of public services' and 'the quality of the civil service and the degree of its independence from political pressures' (Kaufmann et al., 2010).

Political distance, with no interaction term or if interacted with the democratic-importer dummy, does not yield significant (five percent-level) coefficient estimates in the country– time fixed effects specification (Table 4). Curiously, the inclusion of the democracy dummy in this specification brings about a higher standard error for political distance and the magnitude of the interaction term is (unexpectedly) negative. When country-pair fixed effects are added, however, each is significant at the five or one percent level, with the expected signs — negative for political distance, positive for the interaction term (Table 5.1). This result is consistent with earlier studies that find a weaker association between political relations and trade for democracies than for authoritarian states (Chen & Zhou, 2021; Gawarkiewicz & Tang, 2017).

Governance effectiveness, as measured by the WGI, appears to have a dampening effect on political shocks to trade. Results using the WGIs 'rule of law', 'control of corruption' and 'regulatory quality' indicators instead of the governance effectiveness indicator yielded similar results, each with coefficient estimates significant at the five percent level. Another WGI, 'voice and accountability', had significant (five percent-level) coefficient estimates on interactions with lagged political distance, but only when pair fixed effects were included. The remaining WGI, 'political stability and absence of violence/terrorism', did not have significant coefficient estimates on its interaction terms in any specification tested.

Results for models with WTO dummies differ depending on the choice of dummy variable and the fixed effects included. The dummy variable for the importer's WTO membership status (WTO_{jt}) , interacted with political distance, is significant at the five percent level when country–time fixed effects, but not pair fixed effects, are present. With pair fixed effects, the signs on coefficients are retained, but the standard errors on the interaction term coefficients are blown out; the results are similar with two additional lags (not reported for brevity). For the WTO exporter dummy (WTO_{it}), however, coefficient estimates are significant at the one percent level. A possible explanation is that prior to WTO membership, export-side policies including quotas and bans may have been preferred mechanisms for politically influenced trade discrimination. The effects of WTO accession on trade policy institutions are discussed further in Section 5 below.

³ Table 3 shows models with two lags for brevity; results with four lags were similar. In models 3 and 4, coefficient estimates on the third and fourth lags were significant at the five percent level, with the same signs and magnitude. In model 2, like the first two lags, the third and fourth lags of the interaction term were not significant.

	Political distance only (1)	Democracy dummy (2)	Governance effectiveness index (3)	WTO importer dummy (4)
InDist	-0.711** (0.028)	-0.709** (0.028)	-0.717** (0.030)	-0.712** (0.028)
InPolDist _{ij,t-1}	-1.399 [†] (0.760)	-0.785 (0.843)	-3.358** (0.674)	-5.300** (1.493)
InPolDist _{ij,t-2}	-1.341 [†] (0.752)	-0.910 (0.843)	-3.410** (0.671)	-5.467** (1.507)
InPolDist _{ij,t-1} * Democracy _{jt}		-0.787 (1.122)		
InPolDist _{ij,t-2} * Democracy _{jt}		-0.510 (1.129)		
InPolDist _{ij,t-1} * GE _{jt}			2.039* (0.792)	
InPolDist _{ij,t-2} * GE _{jt}			2.140** (0.795)	
InPolDist _{ij,t-1} * WTO _{jt}				4.100* (1.674)
InPolDist _{ij,t-2} * WTO _{jt}				4.338* (1.685)
Border	0.497** (0.090)	0.508** (0.091)	0.480** (0.089)	0.493** (0.089)
Language	0.119 (0.082)	0.119 (0.082)	0.122 (0.083)	0.117 (0.082)
Colony	-0.074 (0.124)	-0.078 (0.122)	-0.053 (0.123)	-0.079 (0.124)
Observations	1,741,305	1,629,812	1,488,829	1,698,028

Table 4: Regression results with country-time fixed effects

Note: Dependent variable is bilateral trade. All models include time-varying importer and time-varying exporter fixed effects. Pair-clustered standard errors in parentheses. ** p < 0.01, * p < 0.05, [†] p < 0.10.

In Table 5.2, a different WTO dummy is used, equal to 1 when both trading partners are members ($BothWTO_{ijt}$). The inclusion of additional lags reveals significant (five percent) coefficients on interaction terms lags three and four — in contrast to other models, where additional lags carried similar coefficient estimates to lags one and two. This result suggests that while shared WTO membership does not eliminate the association of political relations and trade, it may shorten the duration of trade's response to political shocks. Notably, the $BothWTO_{ijt}$ model appears generally stronger when the last four years in the sample (2017–2021) are excluded. One explanation is greater economic policy uncertainty during these years and an institutionally weakened WTO. The Global Economic Policy Uncertainty

Index, for instance, averaged just 104.5 from 1997 (the start of the index) to 2016, compared to 237.9 from 2017 to 2021 (Baker et al., 2021).⁴ Another hypothesis is a secular change in the relationship between political relations — of the kind measured in our political distance index — and trade flows. Investigating these hypotheses could be a direction for future research.

	Political distance only (1)	Democracy dummy (2)	Governance effectiveness (3)	WTO importer dummy (4)	WTO exporter dummy (5)
InPolDist _{ij,t-1}	-0.590** (0.111)	-0.828** (0.218)	-0.789** (0.195)	-0.929 [†] (0.534)	-1.875** (0.458)
InPolDist _{ij,t-2}	-0.531** (0.107)	-0.870** (0.214)	-0.853** (0.198)	-0.978 [†] (0.525)	-1.751** (0.455)
InPolDist _{ij,t-1} * Democracy _{jt}		0.527* (0.242)			
InPolDist _{ij,t-2} * Democracy _{jt}		0.665** (0.236)			
InPolDist _{ij,t-1} * GE _{jt}			0.324* (0.150)		
InPolDist _{ij,t-2} * GE _{jt}			0.430** (0.151)		
InPolDist _{ij,t-1} * WTO _{j,t}				0.363 (0.532)	
InPolDist _{ij,t-2} * WTO _{j,t}				0.479 (0.519)	
InPolDist _{ij,t-1} * WTO _{i,t}					1.404** (0.450)
InPolDist _{ij,t-2} * WTO _{i,t}					1.330** (0.452)
Observations	1,903,376	1,654,826	1,588,851	1,856,443	1,859,497

	Table 5.1: Regression	results with	country-time	and	pair fixed	effects
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Note: Dependent variable is bilateral trade. All models include time-varying importer, time-varying exporter, and time-invariant country pair fixed effects. Pair-clustered standard errors in parentheses. ** p < 0.01, * p < 0.05, † p < 0.10.

The principal limitation in the interpretation of these results, and of studies of this topic more generally, concerns the challenges of likely simultaneous causality between political distance and trade flows. While we cannot altogether rule out endogeneity, we can appeal to the data and to other studies to assuage simultaneity concerns and add some texture to our results.

⁴ These calculations are based on the version of the index that uses purchasing power parityadjusted GDP weights, rather than the current-price version.

	WTO pair dummy,	WTO pair dummy,	WTO pair dummy,
	two lags	four lags	four lags, pre-2017
	(1)	(2)	(3)
InPolDist _{ij,t-1}	-1.190**	-0.823**	-0.765**
	(0.379)	(0.274)	(0.228)
InPolDist _{ij,t-2}	-1.138**	-0.673**	-0.638**
	(0.368)	(0.231)	(0.187)
InPolDist _{ij,t-3}		-0.766** (0.205)	-0.713** (0.169)
InPolDist _{ij,t-4}		-0.904** (0.245)	-0.821** (0.211)
BothWTO _{ijt}	-0.975 [†]	-1.260 [†]	-1.454*
	(0.565)	(0.702)	(0.601)
InPolDist _{ij,t-1} *	0.693 [†]	0.426	0.496*
BothWTO _{ijt}	(0.372)	(0.266)	(0.225)
InPolDist _{ij,t-2} *	0.699 [†]	0.377 [†]	0.457*
BothWTO _{ijt}	(0.366)	(0.228)	(0.190)
InPolDist _{ij,t-3} *		0.453*	0.525**
BothWTO _{ijt}		(0.199)	(0.173)
InPolDist _{ij,t-4} *		0.506*	0.568**
BothWTO _{ijt}		(0.235)	(0.210)
Observations	1,813,066	1,803,596	1,462,963

Table 5.2: Regression results with country-time and pair fixed effects, and WTO pair dummy

Note: Dependent variable is bilateral trade. All models include time-varying importer, time-varying exporter, and time-invariant country pair fixed effects. Pair-clustered standard errors in parentheses. ** p < 0.01, * p < 0.05, † p < 0.10.

Using lagged explanatory variables and various fixed effects specifications to partly mitigate concerns about endogeneity, as this study does, is relatively common practice (Davis & Meunier, 2011; Davis et al., 2019; Gawarkiewicz & Tang, 2017). Using disaggregated events data and multiple lags may also reduce the presence of reverse causality. Monthly data is more likely than annual data to capture individual, unexpected shocks; more aggregated data may instead reflect a general atmosphere of relations more influenced by a strong historic trading relationship. However, we recognize it is unlikely that these methods alone will fully remove potential simultaneity bias.

Regression estimates of finite distributed lag models provide some indication of the extent of simultaneous causality (Table 6). As expected, greater political distance over each of the prior four months is associated with less trade in the current month, with coefficient estimates significant at the five percent level. In contrast, only a one-month lag of trade is significant in explaining political distance.

That the political distance index is based on news reports, including reports of increased or decreased trade, also raises simultaneity issues. These events should appear in GDELT with the event code for 'cooperate economically' per the Conflict and Mediation Event

Observations (CAMEO) guidelines (Schrodt, 2012). For models (3) and (4) below, we exclude events in this category as well as others that relate directly to trade volumes: 'impose embargo, boycott or sanctions', 'ease economic sanctions, boycott or embargo' and 'reject economic cooperation'. In total, these events make up about 0.4 percent of the events used in computing the index. Their exclusion does not substantially affect our results.

			Exclude 'trade ev	ents' from PolDist
	(1)	(2)	(3)	(4)
Dependent variable	InTrade _{ij,t}	InPolDist _{ij,t}	InTrade _{ij,t}	InPolDist _{ij,t}
InPolDist _{ij,t}	-0.348** (0.109)		-0.351** (0.110)	
InPolDist _{ij,t-1}	-0.334** (0.100)		-0.337** (0.100)	
InPolDist _{ij,t-2}	-0.284** (0.099)		-0.288** (0.099)	
InPolDist _{ij,t-3}	-0.330** (0.100)		-0.332** (0.100)	
InPolDist _{ij,t-4}	-0.392** (0.111)		-0.396** (0.111)	
InTrade _{ij,t}		-0.00004** (0.00001)		-0.00009** (0.00002)
InTrade _{ij,t-1}		-0.00003** (0.000009)		-0.00006** (0.00002)
InTrade _{ij,t-2}		-0.000003 (0.000009)		-0.000005 (0.00002)
InTrade _{ij,t-3}		-0.00001 (0.000009)		-0.00003 (0.00002)
InTrade _{ij,t-4}		0.00001 (0.00001)		0.00002 (0.00002)
Observations	1,893,450	1,845,878	1,893,450	1,845,878

Table 6: Regression results with trade and political distance as dependent variables

Note: Estimated by OLS regression with time-varying importer, time-varying exporter, and time-invariant country pair fixed effects. Pair-clustered standard errors in parentheses. ** p < 0.01, * p < 0.05, † p < 0.10.

We can venture a few possible explanations for these results. First, events that affect trade may occur — or may be reported — in clusters that stretch past the last day of one month into the following month. We can think of the US–China July 2020 example discussed above, where a series of negative events including retaliatory consulate closures occurred in close succession. Second, there may be a lack of precision regarding the dates in which events are reported in the data. Third, trade may affect political distance for the current and following month, but not noticeably for future months. While we cannot draw definitive conclusions, other studies suggest that this third explanation is less plausible than others.

Much empirical work has supported the notion of a commercial peace, with conflict reducing trade (Mansfield & Pollins, 2003; Hegre et al., 2010), but it seems unlikely that this effect would materialise over just a few months of heightened trade. Moreover, unlike these studies, we are chiefly concerned with non-military disputes or cooperation. It is unclear whether our index is well suited to give a full account of longer-term conflict-reducing effects of trade. Chen and Zhou (2021) use similarly broad-based events data to estimate a simultaneous model and do not find an association between increased trade and better political relations in future periods.

Future studies may be able to employ instrumental variables (IVs) to comprehensively address endogeneity. Fuchs and Klann (2013), for example, use a two-stage least squares approach in a study of the impact of Dalai Lama visits on countries' exports to China. They identify IVs related to other characteristics of the Dalai Lama's itinerary or the presence of Tibetan non-government organizations in the exporting country. The GDELT database has rich information on each event, which may offer IV candidates for future studies. For example, events can be coded as symbolic acts, or supportive or critical public statements, which affect relations but are unlikely to impact trade flows directly.

A range of further alternative specifications are shown in Table 7. The baseline is model (3) in Table 5.2, using the *BothWTO*_{*ijt*} dummy and restricting the sample to 1995 to 2017. First, we exclude the trade-related events discussed above from computing the political distance index. Model (1) shows the results are not substantially changed. Second, following the results of the 'reverse' regression in Table 6, we include the present value of political distance as well as a one-period lead, with results in model (2). The inclusion in gravity models of lead dependent variables in the presence of simultaneity follows Egger at al. (2022).

Third, given the small size of some countries in the sample and the high level of disaggregation by time, the calculation of the index for some months is based on very few events. Model (3) excludes observations where the political distance index only reflects fewer than three dyadic events, again yielding similar results.

A theoretically consistent gravity model requires taking the natural log of political distance. To avoid sacrificing low values of the index, we add the minimum value plus one to the political distance index vector before taking the log, introducing bias. Model (3) in Table 5 shows that without this transformation, the coefficient estimates remain significant at the five percent level. Model (4) excludes trade among democracies. The coefficient estimates are weaker at lags one and two, with magnitudes falling and standard errors staying around the same level, while lags three and four remain significant. This result offers evidence that the WTO reduces the association between political relations and trade among partners whose political systems differ, an important implication given the world's increasing heterogeneity of regime types and multipolarity.

Model (5) aggregates trade and political distance data at a quarterly level instead of monthly. Perhaps counterintuitively given our other results, the fourth lag — political distance one year ago interacted with pair WTO membership — is positive and significant at the five percent level. Lags two and three lose significance, suggesting that higher aggregation may obscure the importance of some individual events.

	Exclude 'trade events' (1)	Add future InPolDist (2)	Exclude months where pair has < 3 events (3)	Do not add constant or take log of PolDist (4)	Exclude trade between democracies (5)	Quarterly data (6)
(In)PolDist _{ij,t+1}		-0.282** (0.063)				
(In)PolDist _{ij,t}		-0.261** (0.054)				
(In)PolDist _{ij,t-1}	-0.768**	-0.669**	-0.723**	-0.368**	-0.628**	-0.862**
	(0.232)	(0.217)	(0.223)	(0.111)	(0.201)	(0.230)
(In)PolDist _{ij,t-2}	-0.644**	-0.580**	-0.613**	-0.310**	-0.536**	-0.467**
	(0.191)	(0.180)	(0.182)	(0.090)	(0.174)	(0.151)
(In)PolDist _{ij,t-3}	-0.718**	-0.663**	-0.676**	-0.344**	-0.651**	-0.413**
	(0.174)	(0.164)	(0.167)	(0.082)	(0.166)	(0.157)
(In)PolDist _{ij,t-4}	-0.822**	-0.777**	-0.782**	-0.397**	-0.780**	-0.745**
	(0.217)	(0.206)	(0.210)	(0.103)	(0.195)	(0.187)
BothWTO _{ijt}	-1.441*	-1.462*	-1.293*	-0.036	-1.046 [†]	-1.401*
	(0.612)	(0.604)	(0.603)	(0.079)	(0.586)	(0.648)
(In)PolDist _{ij,t-1} *	0.491*	0.497*	0.457*	0.241*	0.360 [†]	0.597**
BothWTO _{ijt}	(0.229)	(0.225)	(0.225)	(0.109)	(0.209)	(0.225)
(In)PolDist _{ij,t-2} *	0.456*	0.462*	0.423*	0.224*	0.287	0.237
BothWTO _{ijt}	(0.194)	(0.191)	(0.191)	(0.092)	(0.190)	(0.147)
(In)PolDist _{ij,t-3} *	0.522**	0.525**	0.484**	0.255**	0.371*	0.189
BothWTO _{ijt}	(0.177)	(0.174)	(0.174)	(0.084)	(0.181)	(0.155)
(In)PolDist _{ij,t-4} *	0.559**	0.574**	0.530*	0.275**	0.494*	0.472*
BothWTO _{ijt}	(0.215)	(0.212)	(0.214)	(0.102)	(0.206)	(0.186)
Observations	1,462,963	1,462,963	698,911	1,462,963	753,685	468,867

Table 7: Alternative specifications using WTO pair dummy, 1995–2017 only

Note: Dependent variable is bilateral trade. All models include time-varying importer, time-varying exporter, and time-invariant country pair fixed effects. Pair-clustered standard errors in parentheses. ** p < 0.01, * p < 0.05, † p < 0.10.

5. WTO entry and domestic political reform

There are multiple channels through which WTO membership might be expected *ex ante* to weaken the trade–politics link, particularly for countries where political controls have a relatively greater influence on general economic activity. In general, trade liberalization narrows the policy space available to protectionist interests. Moreover, until 2019, WTO membership implied that discriminatory trade practices could be brought to a dispute settlement process. Beyond trade liberalization and the dispute function, WTO membership typically requires domestic regulatory and institutional changes to meet and implement accession protocols.

WTO accession can be an open-ended, lengthy and costly process, varying substantially from country to country. Article XII of the Marrakesh Agreement simply provides that new members may join 'on terms to be agreed'. Changes required of new members often include significant additional investment in domestic regulatory institutions and other capabilities. Indeed, the WTO has attracted criticism for the complexity and costs sometimes associated with accession that may risk deterring countries from engaging (Evenett & Braga, 2005).

Most countries have assessed the benefits of joining to outweigh these costs, as the WTO remains one of the world's most important multilateral bodies. Twenty-nine countries joined between 2000 and 2021, bringing the membership to 164. For many, the reforms required for WTO accession can mark major departures from existing policy and regulatory practices. In the early years of the WTO, those seeking to accede were often undergoing a transition from a command to a market-based economy. More recent members, though not usually former Communist states, tend to rank relatively low in measures of economic freedom.

Accession protocols can bring external impetus to completing reforms that had been adrift in fragmented policy systems. For Saudi Arabia, which acceded in 2005, these included reforms to the regulation of foreign investment; financial, telecommunication and other services; and intellectual property. Accession meant a range of policy and institutional changes were negotiated and presented as a package. After several years of negotiations — Saudi Arabia had submitted its application to join the GATT back in 1993 — this package of reforms eventually received approval from the Saudi leadership. The top-down approval in turn encouraged greater coordination among bureaucratic institutions to push the reforms through. Some measures were enacted that had little relation to actual WTO requirements but were helped along by association with the suite of accession-related reforms (Hertog, 2008).

The accession process encourages and often requires significant investment in modernizing trade and investment institutions to align with WTO practices. In some cases, this means establishing new administrative capabilities or even technological facilities, such as testing consistent with standards in the WTO Agreement on the Application of Sanitary and Phytosanitary Measures. Foreign investment and intellectual property regulation, as well as the abolition of import quotas and severe restriction of export quotas, warranted particularly major institutional changes for the transition economies of the late 1990s. By restricting quotas, GATT Article XI made the tariff, a price-based mechanism rather than an administrative one, the main instrument of trade protection. While quotas did not generate revenue, they were a favored instrument for economic planning, and their restriction under WTO rules necessitated careful institutional reform (Drabek & Baccheta, 2004).

Institutional reforms associated with WTO entry are aimed at improving transparency and predictability in the domestic regulatory regime and application of trade policy. The result is a reduced ability of governments to arbitrarily intervene in the operation of markets.

There is likely no country for which WTO accession played a greater role in trade, investment, legal and regulatory reform than China. The experience of China's accession to the WTO in 2001 is instructive of the effect that the accession process and commitments mean for domestic institutions and trade. China's entry into the multilateral trading system was a major event in international trade and economic policy and one that has been the subject of the most scrutiny and a large literature (Branstetter & Lardy, 2008).

The 15-year process of China's accession saw Chinese average tariffs fall steadily from 43 percent in 1985, just prior to announcing its formal bid to join the then GATT, to 15 percent by the time of WTO accession (Armstrong, 2012). Figure 3 shows the effect of WTO entry on Chinese trade, with trade expanding rapidly straight after WTO entry even though the major

changes in relative prices had occurred by then. That liberalization at the border had to be accompanied by deeper behind-the-border reforms to sustain rapid economic growth, consistent with the process of negotiating entry to the multilateral trade body (Drysdale, 2000).



Figure 3: China's trade dependence and average tariff rate, percentage, 1982–2011

Notes: the vertical line shows China's WTO entry. Source: Tariff data from MOFCOM website, http://china.org.cn, and trade data from UN Comtrade database and GDP data from *World Development Indicators*, http://www.worldbank.org/data.

China made more concessions than any other new member of the GATT/WTO ever has because of its size and impact on the world trading system, as well as because the preparedness of the Chinese leadership then to utilize an external force in liberalizing its economy as part of the domestic reform agenda (Drysdale, 2000). In no other country has WTO accession effected such deep economic, legal and political changes as it did with China (Halverson, 2004). This signaled China's commitment to a rules-based global trading system illustrated by its willingness to place constraints on Chinese policy makers (Garnaut & Huang, 2000).

The accession commitments were a blueprint for China's institutional changes for at least a decade from 2001, even if the timetable was not always strictly met. Accession protocol commitments for the legal system included three major elements. First, the publication of all trade rules and regulations and access to information are required in the WTO (Yu et al., 2003; Gertler, 2004). Secondly, the protocol included uniform application and administration of trade rules. Such reforms were among the most difficult commitments given the institutional setting in which China was starting (Cross, 2004). Thirdly, the introduction of independent judicial review and, ultimately, the opportunity to appeal meant that foreign firms had a dispute settlement process. This included an appeal process where local government protection can be brought to the attention of the central government (Yu et al., 2003). On top of the transparency and legal reforms, China's accession protocol included significant banking, insurance and telecoms reform.

In the decade after China became a member of the WTO it became the world's largest trading nation. That was largely because of the confidence all trading partners had in China moving towards a market economy and the constraints WTO membership put upon Chinese policy makers. Sudden reversals in regulations and policies became much more difficult in some sectors, behavior of policy makers that affects foreign enterprises became more predictable and there was increased transparency in China. That had a significant effect on how trading partners engaged with China as Chinese policymakers were constrained in their ability to intervene in the market for rent seeking, protectionist pressure, geopolitical, or other political reasons (Armstrong, 2012).

6. Conclusions

Trade is affected by the political distance between countries. Political hostility is likely to reduce trade through boycotts or sanctions and political amity is likely result in reduced barriers to trade. The actions of governments, and the institutional settings that frame their actions, are important for trade, as is the confidence of firms and consumers in their trading partner.

The key innovations in this paper are in investigating the trade–politics nexus in a panel study using monthly data; demonstrating that this frequency better reflects the observed time horizons of some political shocks to trade; and examining the politics–trade relationship's multiple determinants.

The analysis suggests that institutional context, both domestic and international, matters for the conduct of trade and the effect of politics on trade. Democratic political regimes, strong domestic governance institutions, and WTO membership are all associated with a reduced impact of political vagaries on their trade. The effect of WTO membership is more robust when both trading partners, or at least the exporters, are members, and the effect is stronger when the sample excludes years after 2016. In addition to an indicator of effectiveness of governance, indicators of regulatory quality, rule of law and control of corruption were also linked to a weaker effect of political distance on trade.

A strengthened WTO and multilateral trading system can reduce the effect of political vagaries on trade. These findings are relevant and important to understand in the context of confidence in the WTO waning due to outdated rules and both China and the United States, the largest two traders and economies, undermining those rules by deploying trade sanctions for political gain. One of the main results is that WTO membership is associated with a weaker effect of politics on trade, including when one or neither trading partner is classified as a democracy. Moreover, this dampening effect of WTO membership is stronger if recent years when US and Chinese actions were acute (2017 to 2021) are excluded from the sample.

The study joins a growing body of work that takes advantage of emerging data sources to shed light on the politics–trade relationship. Future work might complement these findings through applying different approaches to addressing endogeneity and detangling the complex causality of these relationships. Studies of specific countries or different time periods could contribute insights on the mechanisms through which political systems, domestic institutions and multilateral bodies like the WTO affect the politics–trade relationship, and how their effectiveness has changed over time. Further work on this topic can build understanding of how institutions can support stability and confidence in trade in an increasingly multipolar world threatened by geopolitical division.

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Appendix

Variable	Description	Source
x _{ijt}	Volume of bilateral trade from exporter i to importer j at time t . Geometric average of the exporter-reported and importer-reported values (where both are available).	IMF Direction of Trade Statistics
PolDist _{ijt}	Index of political distance between countries i and j at time t .	Authors' calculations based on GDELT data
Yit	In VAR models, an index of total industrial production by country <i>i</i> during month <i>t</i> .	OECD, except China (authors' calculations based on National Bureau of Statistics of China data); Iran (World Bank Global Economic Monitor); and South Africa (Stats SA)
e _{ijt}	Ratio of country i and country j 's real effective exchange rates at month t .	Authors' calculations based on IMF International Financial Statistics
Dist _{ij}	Geographical distance between i and j .	CEPII
Border _{ij}	Equal to 1 if countries i and j share a border.	CEPII
Language _{ij}	Equal to 1 if countries i and j have a common official language.	CEPII
Colony _{ij}	Equal to 1 if country i was at one time a colony of j or vice versa.	CEPII
Democracy _{it}	Equal to 1 if country i has a Polity score of six or greater for year t .	Polity5, Center for Systemic Peace
GE _{it}	Governance effectiveness index for country i in year t . Captures 'perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies' (Kaufmann et al., 2010).	Worldwide Governance Indicators, World Bank
WTO _{it}	Equal to 1 if country i was a WTO member for most days in the month t .	WTO website

Table A1: Variable definitions and sources

Algeria	Croatia	Ireland	New Zealand	South Africa
Argentina	Czechia	Israel	Nigeria	South Korea
Australia	Denmark	Italy	Norway	Sweden
Austria	Ecuador	Japan	Pakistan	Switzerland
Azerbaijan	Egypt	Jordan	Peru	Taiwan
Bangladesh	Estonia	Kazakhstan	Philippines	Tanzania
Belgium	Ethiopia	Kenya	Poland	Thailand
Bahrain	Finland	Kuwait	Portugal	Tunisia
Belarus	France	Latvia	Qatar	Turkey
Brazil	Ghana	Lithuania	Russia	Ukraine
Bulgaria	Germany	Luxembourg	Saudi Arabia	United Arab Emirates
Cambodia	Greece	Malaysia	Serbia	United Kingdom
Canada	Germany	Mexico	Singapore	United States
Chile	Hungary	Morocco	Slovakia	Uzbekistan
China	India	Myanmar	Sri Lanka	Venezuela
Colombia	Indonesia	Netherlands	Spain	Vietnam

Table A2: Countries in sample for gravity models