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Geopolitics and International Trade: The Democracy Advantage

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Geopolitics and International Trade: The Democracy Advantage**Prepared by Serhan Cevik¹**

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Abstract

Do political regimes determine how geopolitics influence international trade? This paper provides an empirical answer to the question by analyzing the joint impact of democracy and geopolitical distance between countries with an augmented gravity model of bilateral trade flows and an extensive dataset of more than 4 million observations on 59,049 country-pairs over the period 1948–2018. Implementing the Poisson Pseudo-Maximum Likelihood regression and the two-stage least squares with instrumental variable approach, I find that geopolitical developments are not as important as income and geographical distance in determining bilateral trade flows and that democracy fosters international trade and moderates the potential negative impact of geopolitics. While the impact of democracy and its interaction with geopolitical distance are significant across all countries, the magnitude of these effects is substantially larger in advanced economies than in developing countries, reflecting the greater strength of democratic institutions, on average, in advanced economies.

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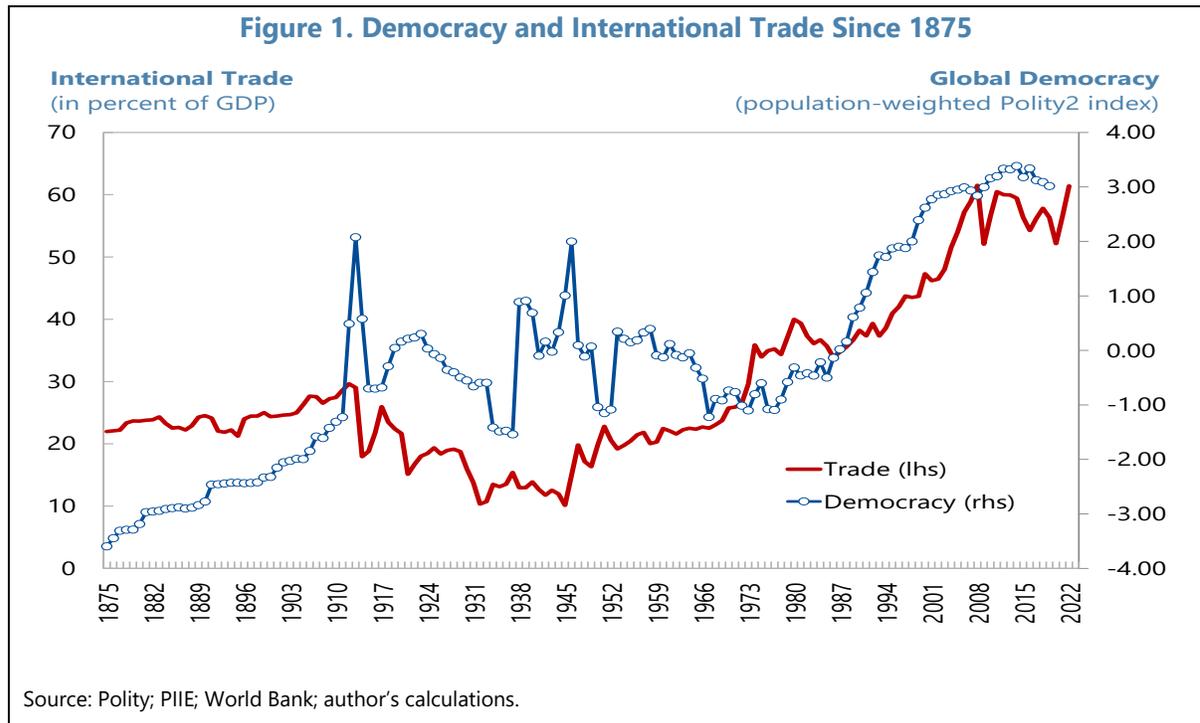
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*Democracies don't attack each other.
They make better trading partners and partners in diplomacy.*
—Bill Clinton

I. INTRODUCTION

Do political regimes determine how geopolitics influence international trade? This is a pertinent question, especially now with a multitude of shocks—from trade tensions between China and the United States to the COVID-19 pandemic and Russia’s war in Ukraine. Some analysts mark these developments as a new epoch of “gloeconomic fragmentation” that could threaten global economic integration and cause significant economic losses (Zeihan, 2022; IMF, 2023; Aiyar *et al.*, 2023). On the other hand, Cevik (2023) challenges this view and shows that geopolitical distance, as measured by the similarity of voting behavior between countries at the United Nations (UN), has contradictory and statistically insignificant effects on international trade over a long period from 1948 to 2021 with several intervals of heightened geopolitical tensions during the Cold War and various conflicts and wars, including Russia’s invasion of Georgia in 2008 and annexation of Crimea in 2014. The economic magnitude of this effect is also not as critical as income or geographic distance, and it diminishes significantly when extreme outliers are removed from the sample. In other words, international trade relationships are by and large resilient to occasional shifts in the geopolitical landscape.

In this paper, I provide more granular evidence by analyzing whether democracy functions as a stabilizing force against geopolitical developments. The empirical literature on democracy and international trade relationships is scant but flourishing. Earlier studies including Morrow, Siverson, and Tabares (1998), Grofman and Gray (2000), Mansfield, Milner, and Rosendorff (2000),



Quinn (2001), Fidrumc (2003), and Kubota and Milner (2005) provide evidence using different methodologies and samples, but without taking into account the potential endogeneity of democracy. Others including Giavazzi and Tabellini (2005), Duc, Lavallo, and Siroën (2008), Eichengreen and Leblang (2008), Decker and Lim (2009), Yu (2010), Yue and Zhou (2018), and Boungou, Osei-Tutu and Zongo (2023) explore this relationship with more robust econometric approaches and obtain inconsistent evidence on two-way causality between democracy and trade. Similarly, there is a growing stream of studies that focus on the impact of geopolitics on economic and financial developments including international trade, with contradictory evidence (Gupta and Yu, 2007; Desbordes and Vicard, 2009; Kilby, 2009; Desbordes, 2010; Knill, Lee, and Mauck, 2012; Fuchs and Klann, 2013; Vreeland and Dreher, 2014; Bertrand, Betschinger and Settles, 2016; Li *et al.*, 2018; Davis, Fuchs, and Johnson, 2019; Kempf *et al.*, 2021; Fisman *et al.*, 2022; Lugo and Montone, 2022; Aiyar, Malacrinom, and Presbitero, 2023; Cevik, 2023; Damioli and Gregori, 2023; Goldberg and Reed, 2023; Jakubik and Ruta, 2023).

Trade openness as measured by the sum of exports and imports divided by GDP is the most commonly used indicator of globalization. As shown in Figure 1, there is no sign of structural retreat, but only occasional oscillations caused by cyclical factors and global supply chain disruptions experienced during the COVID-19 pandemic. But since then international trade as a share of GDP has rebounded strongly, despite the fears of discriminatory geoeconomic fragmentation and protectionism. The evolution of democracy as measured by the *Polity2* score exhibits a similar pattern across the world over time, drawing attention to a potential link with international trade. This is why this study differs from earlier literature as I explicitly investigate the interaction effect of democratization and geopolitical distance on bilateral trade flows, using an augmented gravity model and an extensive dataset with more than 4 million observations on 59,049 country-pairs over the period 1948–2018.² To ensure robustness, I include the standard gravity variables (such as distance, geographical contiguity, common official language, common religion, and colonial relationships) along with information on international trade agreements and estimate the augmented gravity model with the Poisson Pseudo-Maximum Likelihood (PPML) regression, as well as the two-stage least squares with instrumental variable (2SLS-IV) approach using child mortality as an instrument for democracy to control for potential endogeneity.

The results provide interesting insights with intuitive signs into the relationship between geopolitics, democracy and international trade. I find that the much-discussed geopolitical distance between countries, as measured by the similarity of voting behavior at the UN, has contradictory and statistically insignificant effects on bilateral trade flows, depending on the level of economic development: positive in advanced economies and negative in developing countries. Moreover, the economic magnitude of this effect is not as important as income or distance between the countries and it diminishes significantly when I introduce democracy in origin and destination countries and truncate the sample to remove extreme outliers. The impact of geopolitical distance on international trade is positive in advanced economies, but

² Although bilateral trade data is available for the period 1948–2021, the democracy index is not yet available beyond 2018.

negative and statistically insignificant in the case of developing countries. Democracy, on the other hand, has a positive effect on international trade across all countries. The estimated coefficients on democracy in origin and destination countries are positive and statistically significant, but it appears that democracy in origin country matters more for trade flows than democracy in destination country. Moreover, while these effects are statistically significant in advanced economies as well as in developing countries, the magnitude is considerably greater in advanced economies. Finally, a novel element of this paper is the introduction of the interaction terms for geopolitics and democracy in origin and destination countries. I find that democracy helps moderate the potential consequences of geopolitical tensions for bilateral trade flows. Similar to the impact of democracy, the magnitude of interaction terms is substantially larger in advanced economies than in developing countries, reflecting the greater strength of democratic institutions, on average, in advanced economies. I also control for potential endogeneity by estimating the model with the 2SLS-IV approach and using child mortality and the lagged geopolitics variable as instruments for democracy and geopolitical distance, respectively. These results confirm that geopolitical distance does not have a negative effect on international trade and democracy operates as a stabilizing force against geopolitical shocks.

The analysis presented in this paper does not imply that trade linkages and supply chains remain constant over time. Global value chains evolve along with economic and technological developments—and sometimes due to geopolitical considerations. However, history has shown that global trade integration can continue to advance and bring prosperity to a growing number of people across the world. Therefore, what is critical for policymakers is to acknowledge that globalization produces losers as well as winners, leading to the inevitable buildup of socioeconomic and political pressures unless corrective policy actions are taken on a timely basis. To this end, the key challenge is to pursue appropriate policies—aimed at achieving greater openness while reducing the socioeconomic burden of globalization—and avoid nationalist and protectionist policies that could make the global economy less resilient and more unequal.

The remainder of this paper is structured as follows. Section II provides an overview of the data used in the empirical analysis. Section III describes the augmented gravity model and presents the econometric results. Finally, Section IV summarizes and provides concluding remarks.

II. DATA OVERVIEW

The empirical analysis presented in this paper is based on a panel of annual observations for 59,049 pairs of countries during the period 1948–2018. Bilateral trade flows for 243 countries and territories are taken from the IMF's Direction of Trade Statistics database, yielding a dataset of more than 4 million observations over the sample period. The dependent variable is the volume of exports between country-pairs expressed in US\$.³ The main macroeconomic variable in the gravity equation is the economic size as measured by real GDP per capita in origin and

³ I use nominal trade figures, as suggested by Baldwin and Taglioni (2006). Nevertheless, deflating trade flows by the US producer price index does not alter the baseline results presented in this paper.

destination countries, which are obtained from the World Bank's World Development Indicators (WDI) and United Nations Conference on Trade and Development (UNCTAD) databases.⁴

Standard gravity variables—geographic distance, geographical contiguity, common official language, common religion, and colonial links—are taken from the Centre d'Etudes Prospectives et d'Informations Internationales (CEPII) gravity database, as presented in Mayer and Zignago (2011) and Conte, Cotteriaz, and Mayer (2022). Geographic distance is measured as the great-circle distance in kilometers between the capital cities of each country pair. Traditionally, distance in the gravity model international trade is not just a measure of bilateral geographic distance, but it also reflects transportation costs and other trade barriers. Binary variables for language, religion, colonial history and geographical contiguity are assigned a value of 1 if a country pair share a common official language, a common religion, a colonial tie, and an adjacent border and a value of 0 otherwise.

Variables	Obs.	Mean	Std. Dev.	Min.	Max.
Bilateral trade flows	913,564	389,991	4,442,396	0	481,000,000
Real GDP per capita					
Origin countries	2,902,032	7,455	15,507	26	193,892
Destination countries	2,902,032	7,455	15,507	26	193,892
Distance	3,627,844	8,614	4,748	0	19,939
Geographical contiguity	3,627,844	0.012	0.108	0	1
Common language	3,324,513	0.191	0.393	0	1
Common religion	2,699,867	0.184	0.256	0	1
Colonial history	3,627,400	0.009	0.093	0	1
Population					
Origin countries	3,779,748	24,073,820	100,208	3,244	1,412,360,000
Destination countries	3,779,748	24,073,820	100,208	3,244	1,412,360,000
GATT membership					
Origin countries	4,124,232	0.41	0.49	0	1
Destination countries	4,124,232	0.41	0.49	0	1
WTO membership					
Origin countries	4,124,232	0.25	0.43	0	1
Destination countries	4,124,232	0.25	0.43	0	1
Free trade agreement	3,627,844	0.04	0.19	0	1
Geopolitical alignment	1,849,284	1.02	0.84	0	5.73
Polity2					
Origin countries	298,390	3.71	7.06	-10	10
Destination countries	283,275	2.92	7.26	-10	10
Child mortality					
Origin countries	659,647	45.64	57.73	1.80	425.40
Destination countries	644,741	52.41	62.04	1.80	425.40

Source: IMF; CEPII; World Bank; WTO; Voeten (2013); author's calculations.

⁴ Estimation results remain unchanged when I use real GDP instead of real GDP per capita (or nominal GDP instead of real GDP). The results are also robust to the inclusion of both GDP and GDP per capita in the gravity model as implemented by Santos Silva and Tenreyro (2006).

I also include population in origin and destination countries to better encapsulate the role of size and specialization among country pairs, which are drawn from the WDI database. It is also important to consider the influence of international trade institutions such as membership to the General Agreement on Tariffs and Trade (GATT) and the World Trade Organization (WTO) and the presence of free trade agreements (FTA). To this end, I introduce binary variables that take value of 1 if a country has a membership to the GATT and the WTO or a value of 0 otherwise, and a pair of trading countries has a bilateral or regional trade agreement or a value of 0 otherwise, according to the WTO database.

To capture the influence of geopolitical tensions, I include a measure of geopolitical distance between country pairs based on an ideal point model of voting behavior at the UN (Voeten, 2013; Bailey, Strezhnev, and Voeten, 2017).⁵ This approach to measure a country's foreign policy orientation vis-à-vis others according to UN resolutions adopted with a vote⁶ has several advantages over dyadic similarity indicators:

- *Validating intertemporal comparisons of foreign policy orientations.* While the *S* score indicates more conflictual relations between Russia and the United States in the mid-2000s than the state of affairs during the Cold War, the ideal-point estimate provides more plausible assessment of long-term shifts by separating agenda changes from changes in preferences.
- *Identifying signal vs. noise in foreign policy orientations.* The ideal-point estimate is better in distinguishing signal from noise in identifying important shifts in foreign policy. While the ideal-point estimate points out that left-wing regimes in Latin America are systematically less favorable to the United States than right-wing regimes, dyadic similarity indicators do not show such a pattern.
- *Detecting the source of shifts in foreign policy orientations.* Dyadic similarity indicators can only show shifts in preference similarity between countries but not the source of the shift. The ideal-point estimate, on the other hand, can detect, for example whether Russia or the United States is responsible for the two countries moving closer or further apart.

I measure political regime characteristics with the composite *Polity2* index from the *Polity5* dataset, which is widely used in the literature and provides a multidimensional assessment of a country's democratic status according to aspects including electoral competitiveness, freedom of expression and executive accountability during the period 1800–2018 (Marshall and Gurr, 2021). The democracy score ranges between -10 and 10, with higher values corresponding to more democratic regimes and low values corresponding to autocracies. In view of potential

⁵ The latest data on UN votes during the period 1946-2022 is available at: <https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/LEJUQZ>.

⁶ About a quarter of all resolutions at the UN are adopted without a representative requesting a roll call for voting, which does not provide information for ideal point estimation of foreign policy orientation.

endogeneity concerns, I also estimate the augmented gravity model via the 2SLS-IV method using child mortality as an instrument for democracy.⁷

Summary statistics for the variables used in the analysis are presented in Table 1. There is a significant degree of dispersion across countries in terms of bilateral trade flows and considerable heterogeneity in the level of income, population, standard gravity variables (distance, geographical contiguity, common official language, common religion, colonial links), international trade arrangements, geopolitical distance between country pairs, the level of democracy, and child mortality rates.

III. EMPIRICAL STRATEGY AND RESULTS

In this paper, I investigate trade globalization using the gravity framework, which is the workhorse model in the literature to analyze the patterns of international trade as well as cross-border capital, migration and tourism flows (Tinbergen, 1962; Anderson, 1979; Bergstrand, 1985; Helpman and Krugman, 1985; Deardorff, 1998; Eaton and Kortum, 2002; Glick and Rose, 2002; Anderson and van Wincoop, 2003; Portes and Rey, 2005; Bergstrand and Egger, 2007; Gil-Pareja, Llorca-Vivero, and Martínez-Serrano, 2007; Chaney, 2008; Head and Ries, 2008; Santana-Gallego, Ledesma-Rodríguez, and Pérez-Rodríguez, 2010; Zhou, 2010; Okawa and van Wincoop, 2012; Yotov *et al.*, 2017; Cevik, 2022). In the gravity framework, trade flows between two countries are modeled as a as a proportionate function of economic size as measured by the level of income and inversely proportionate to geographic distance between the countries:

$$T_{ij} = B \frac{(GDP_i)^\alpha (GDP_j)^\gamma}{(Dist_{ij})^\theta} U_{ij} \quad (1)$$

where T_{ij} denotes bilateral trade flows between countries i (origin) and j (destination); GDP refers to income per capita in each country; $Dist_{ij}$ is the geographic distance between countries i and j ; and U_{ij} is a log-normal distributed error term. In other words, the volume of bilateral trade flows between two countries is positively correlated with the economic size of the countries and negatively with the geographic distance between them.

In this paper, I augment the parsimonious gravity model with additional control variables and focus on how geopolitical developments and democratic institutions affect international trade flows in a panel data context:

$$T_{ijt} = \alpha + \beta_1 GDP_{it} + \beta_2 GDP_{jt} + \beta_3 Dist_{ij} + \beta_4 X_{ijt} + \beta_5 Geo_{ijt} + \beta_6 Dem_{it} + \beta_7 Dem_{jt} + \beta_8 (Geo_{ijt} * Dem_{it}) + \beta_9 (Geo_{ijt} * Dem_{jt}) + \eta_{ij} + \varphi_{it} + \mu_{jt} + \varepsilon_{ijt} \quad (2)$$

in which T_{ijt} denotes bilateral trade flows between countries origin and destination countries at time t ; GDP is the level of income per capita; $Dist_{ij}$ is the physical distance between origin and destination countries; X_{ijt} denotes a vector of additional variables, including population in origin and destination countries, geographical contiguity, linguistic similarities, common religion,

⁷ Child mortality is highly correlated with the democracy score—about 50 percent in origin and destination countries in the sample—and the *Polity2* index is not based on the child mortality rate.

colonial links, GATT and WTO membership, and the existence of a free trade agreement between origin and destination countries; Geo_{ijt} is the ideal-point estimate of geopolitical distance between origin and destination countries at time t according to the similarity of voting behavior at the UN; Dem_{it} and Dem_{jt} denote the democracy score in origin and destination countries, respectively; $Geo_{ijt} * Dem_{it}$ and $Geo_{ijt} * Dem_{jt}$ represent the interaction of geopolitical distance and democracy score in origin and destination countries, respectively. The η_{ij} , φ_{it} and μ_{tt} coefficients designate the country-pair fixed effects capturing all time-invariant factors in origin and destination country and the origin and destination time fixed effects controlling for time-varying multilateral resistance terms, respectively.⁸ However, I also estimate specifications with origin and destination country fixed effects as a point of reference. ε_{ijt} is the error term. To account for possible heteroskedasticity, all standard errors are clustered at the country-pair level.

Most gravity models are estimated with cross-sectional data, which may lead to biased results due to potential correlation between explanatory variables and unobservable country characteristics as it does not control for heterogeneity. Panel data estimations help address such econometric concerns by controlling for country and time fixed effects (Egger, 2000). Therefore, in this paper, I estimate the gravity model with the PPML procedure recommended by Santos Silva and Tenreyro (2006), which allows for the inclusion of zero trade flows, controls for heteroskedasticity that is often present in international trade data, and also tolerates correlated errors across countries and over time.

Endogeneity may pose a problem in this context. That is, larger volume of trade between partner countries might foster closer geopolitical proximity and democratic institutions, potentially causing reverse causality, which makes the parameter estimates biased and inconsistent. The best approach to correct for possible endogeneity is to use the IV estimation. Unfortunately, it is not possible to find a suitable time-varying IV for geopolitical distance between two countries that is plausibly exogenous with respect to the most likely determinants of bilateral trade flows. Hence, I instrument the contemporaneous measure of geopolitical distance with its own lag. For democracy, I use child mortality as instrument and estimate the model with the 2SLS-IV approach to ensure the robustness of the empirical analysis.

The augmented gravity model described in Equation (2) is estimated using an extensive dataset with more than 4 million observations on 59,049 pairs of countries spanning the period from 1948 to 2018 and the PPML regression model, which has several important advantages as compared with other estimators by dealing appropriately with heteroscedasticity, model misspecification and excess zeros.⁹ Table 2 presents the estimation results starting in column [1] with a specification including only real GDP per capita in origin and destination countries and the geographic distance between a pair of countries. In column [2], I introduce other standard gravity

⁸ As suggested by Rose and van Wincoop (2001), Baldwin and Taglioni (2006), Baier and Bergstrand (2007), and Olivero and Yotov (2012), country fixed effects for exporters and importers in this model also capture multilateral resistance terms, which are not directly observable.

⁹ Statistical tests indicate that residuals are distributed symmetrically around zero with no significant skewness or kurtosis, implying that the gravity model adequately captures the main patterns and sources of variation in the data, and that the errors are random and independent.

factors including geographical contiguity, common official language, common religion, and colonial history. In column [3], I introduce population in origin and destination countries to obtain a more granular assessment of how size affects trade patterns. In column [4], I bring in GATT and WTO membership in origin and destination countries and the presence of FTA between country pairs. In column [5], I introduce the ideal-point estimate of geopolitical distance between countries as measured by the similarity of voting behavior at the UN. In column [6], I present the specification with democracy as measured by the *Polity2* score in origin and destination countries. In column [7], I introduce the interaction terms $Geo_{ijt} * Dem_{it}$ and $Geo_{ijt} * Dem_{jt}$ to capture the moderating role of democracy in determining how geopolitics affect international trade. Finally, in column [8], I present the specification with country-pair fixed effects instead of origin and destination country fixed effects.

Empirical results based on the PPML estimation reveal statistically significant coefficients with intuitive signs. As presented in Table 2, the level of income in both origin and destination countries has a positive impact on trade flows, suggesting that the volume of trade is significantly related to the two countries' economic size. The elasticity of trade flows with respect to real GDP per capita in origin and destination countries to be, on average, 0.078 percent and 0.063 percent, respectively, according to the preferred specification presented in column [7]. Accordingly, a 10 percent increase in real GDP per capita in origin and destination countries is associated with an average increase of 7.8 percent and 6.3 percent, respectively, in bilateral trade flows. Physical distance between the countries, on the other hand, is negatively associated with bilateral trade flows, representing an obstacle for international trade as expected. The elasticity of bilateral trade flows with respect to distance is estimated to be, on average, -0.150 percent in the baseline specification, implying that a 10 percent increase in geographic distance between a pair of countries lowers bilateral trade flows by more than 1.5 percent on average. In other words, the greater the distance between partner countries, the smaller the flow of bilateral trade across these countries, due to higher trade costs and lower degree of geopolitical alignment.

These results are by and large not sensitive to the introduction of additional variables. First, the geographical contiguity variable confirms that international trade tends to increase more to closer destinations. Second, cultural similarities and historical ties—proxied by common official language, common religion and colonial relations—are found to have significant positive effects on bilateral trade flows. Third, population in origin and destination countries—another measure of economic size—contributes positively to international trade, with population in destination countries having a greater impact. Particularly, the elasticity of bilateral trade flows with respect to population in destination country is almost five times greater than the coefficient on population in origin country, highlighting the importance of market size in international trade and no significant sign of import substitution effects.

As expected, membership to international trade organizations is an important factor in opening up new markets, reducing trade costs, and thereby boosting trade flows. The results indicate that the impact of WTO is significantly greater than that of GATT. This is not surprising since the GATT was a set of ad hoc and provisional multilateral agreements for trading goods during the period 1948–1994, whereas the WTO is a permanent international organization since 1995 that covers

Table 2. Gravity Model of Bilateral Trade Flows: PPML Estimations

(Dependent variable: Bilateral trade flows)														
Specification	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]
	Truncated Sample													
Country Sample	Full	Full	Full	AE	EM	Full	AE	EM						
Real GDP per capita, origin	0.092*** [0.002]	0.091*** [0.002]	0.094*** [0.002]	0.093*** [0.002]	0.089*** [0.002]	0.078*** [0.004]	0.078*** [0.004]	0.125*** [0.005]	0.061*** [0.005]	0.070*** [0.010]	0.065*** [0.006]	0.085*** [0.008]	0.092*** [0.011]	0.086*** [0.008]
Real GDP per capita, destination	0.059*** [0.002]	0.059*** [0.002]	0.075*** [0.002]	0.073*** [0.002]	0.066*** [0.002]	0.063*** [0.004]	0.063*** [0.004]	0.084*** [0.005]	0.053*** [0.004]	0.078*** [0.006]	0.049*** [0.006]	0.072*** [0.005]	0.096*** [0.007]	0.065*** [0.007]
Distance	-0.184*** [0.003]	-0.164*** [0.003]	-0.164*** [0.003]	-0.154*** [0.003]	-0.162*** [0.003]	-0.149*** [0.006]	-0.150*** [0.006]		-0.140*** [0.005]	-0.147*** [0.009]	-0.142*** [0.009]			
Geographical contiguity		0.038** [0.013]	0.039** [0.014]	0.036** [0.014]	0.037** [0.013]	0.002 [0.020]	0.002 [0.020]		0.030 [0.018]	0.113 [0.076]	0.057*** [0.018]			
Common language		0.092*** [0.005]	0.093*** [0.005]	0.091*** [0.005]	0.097*** [0.005]	0.095*** [0.010]	0.094*** [0.011]		0.079*** [0.009]	0.060*** [0.015]	0.099*** [0.012]			
Common religion		0.030*** [0.007]	0.029*** [0.007]	0.025*** [0.007]	0.027*** [0.007]	0.067*** [0.015]	0.066*** [0.015]		0.045*** [0.013]	0.009 [0.023]	0.043** [0.016]			
Colonial history		0.129*** [0.015]	0.130*** [0.015]	0.135*** [0.015]	0.125*** [0.013]	0.145*** [0.038]	0.145*** [0.038]		0.091* [0.035]	0.234*** [0.030]	0.040 [0.042]			
Population, origin			0.022*** [0.005]	0.028*** [0.006]	0.027*** [0.006]	0.067*** [0.012]	0.069*** [0.012]	0.077*** [0.014]	0.033* [0.012]	0.016 [0.028]	0.014 [0.016]	0.040** [0.010]	0.020 [0.025]	0.018 [0.015]
Population, destination			0.095*** [0.005]	0.106*** [0.005]	0.113*** [0.005]	0.122*** [0.011]	0.125*** [0.011]	0.136*** [0.012]	0.110*** [0.011]	0.074*** [0.014]	0.153*** [0.016]	0.115*** [0.012]	0.082*** [0.015]	0.160*** [0.016]
GATT, origin				0.013* [0.005]	0.023*** [0.005]	0.006 [0.010]	0.006 [0.010]	0.007 [0.010]	0.008 [0.010]	0.140*** [0.029]	0.009 [0.011]	0.009 [0.010]	0.142*** [0.030]	0.010 [0.012]
GATT, destination				0.004 [0.004]	0.005 [0.005]	0.011 [0.009]	0.012 [0.009]	0.013 [0.010]	0.007 [0.009]	0.006 [0.010]	0.005 [0.012]	0.008 [0.009]	0.007 [0.010]	0.005 [0.012]
WTO, origin				0.027*** [0.005]	0.017*** [0.005]	0.010 [0.008]	0.010 [0.008]	0.012 [0.008]	0.017 [0.009]	0.022 [0.031]	0.016 [0.009]	0.020 [0.011]	0.022 [0.031]	0.018 [0.010]
WTO, destination				0.027*** [0.004]	0.024*** [0.004]	0.022** [0.008]	0.023** [0.007]	0.028** [0.008]	0.024** [0.008]	0.022 [0.010]	0.033*** [0.010]	0.025** [0.010]	0.022 [0.010]	0.035*** [0.011]
FTA				0.069*** [0.004]	0.075*** [0.004]	0.086*** [0.008]	0.087*** [0.008]	0.090*** [0.009]	0.101*** [0.009]	0.015 [0.010]	0.130*** [0.010]	0.103*** [0.010]	0.018 [0.010]	0.132*** [0.012]
Geopolitical distance					0.025*** [0.002]	0.015*** [0.004]	0.011 [0.004]	0.010 [0.004]	-0.014*** [0.003]	0.047*** [0.013]	-0.006 [0.004]	-0.015*** [0.003]	0.045*** [0.012]	-0.010 [0.005]
Democracy, origin						0.000 [0.001]	0.000 [0.001]	0.001 [0.001]	0.002* [0.001]	0.010*** [0.001]	0.004*** [0.001]	0.003** [0.000]	0.010*** [0.002]	0.005*** [0.001]
Democracy, destination						0.002** [0.000]	0.001 [0.001]	0.001 [0.001]	0.001 [0.001]	0.003* [0.001]	0.003*** [0.001]	0.001* [0.000]	0.003** [0.000]	0.005*** [0.001]
Geopolitics*Democracy, origin							0.000 [0.000]	0.001 [0.000]	0.001 [0.000]	0.006*** [0.001]	0.002*** [0.000]	0.001* [0.000]	0.006*** [0.001]	0.003*** [0.000]
Geopolitics*Democracy, destination							0.001 [0.000]	0.001 [0.000]	0.001 [0.000]	0.002*** [0.001]	0.001*** [0.000]	0.001* [0.000]	0.002*** [0.001]	0.002*** [0.000]
Number of observations	744,900	709,859	709,859	709,859	629,848	123,265	123,265	123,265	98,569	27,751	70,818	98,569	27,751	70,818
Country FE	Yes	No	Yes	Yes	Yes	No	No	No						
Country-pair FE	No	Yes	No	No	No	Yes	Yes	Yes						
Country-time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes						
R ²	0.66	0.66	0.66	0.66	0.67	0.69	0.69	0.68	0.62	0.33	0.24	0.61	0.32	0.24

Note: The dependent variable is bilateral trade flows. Standard errors, clustered at the country-pair level, are reported in brackets. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

not only a broader range of goods, but also services and intellectual property with a better dispute settlement mechanism. Similarly, I find that the presence of FTA between a pair of countries increase the volume of bilateral trade flows—and the magnitude of this effect is almost twice as large as the impact of WTO membership for the full sample and even more for developing countries.

The specification of the gravity model presented in column [5] includes the ideal-point estimate of geopolitical distance between countries as measured by the similarity of voting behavior at

the UN. The estimated coefficient on the geopolitics variable is statistically significant and—surprisingly—positive, implying that greater geopolitical distance between a pair of countries is associated with higher bilateral trade flows. The economic magnitude of this effect, however, is still not as important as the level of income or geographic distance between the countries. Furthermore, the magnitude of the geopolitical effect declines, on average, from 0.025 percent to 0.015 percent when I introduce democracy in origin and destination countries in column [6] and to a statistically insignificant 0.011 percent when I also include the interaction terms $Geo_{ijt} * Dem_{it}$ and $Geo_{ijt} * Dem_{jt}$ in column [7]. These results imply that democracy has a positive effect on bilateral trade flows and a moderating influence on geopolitical distance between partner countries. However, these effects are not consistently significant at conventional levels across all specifications when I estimate the augmented gravity model for the full sample. In column [8], I present the specification with country-pair fixed effects (instead of origin and destination country fixed effects) and obtain similar coefficients, confirming that geopolitical distance is not a significant factor in determining bilateral trade flows.

I truncate the sample at the 5th and 95th percentiles to remove the potential impact of extreme outliers and find that the coefficient on geopolitical distance turns negative in column [9] for the whole sample of countries. But this effect hides significant heterogeneity across countries. Hence, I partition the sample into income groups (advanced economies and developing countries) and discover a striking contrast. First, the coefficient on geopolitical distance is positive for advanced economies as presented in column [10], but negative and statistically insignificant in the case of developing countries as shown in column [11]. In other words, geopolitical distance does not appear to have a negative effect on international trade in advanced economies, and the estimated positive effect in developing countries is not significant at all. Second, democracy matters for international trade. The estimated coefficients on democracy in origin and destination countries are positive and statistically significant, but democracy in origin matter more for trade than democracy in destination. While these effects are statistically significant in advanced economies as well as in developing countries, the magnitude is considerably greater in advanced economies. Third, a novel element of this paper is the introduction of the interaction terms $Geo_{ijt} * Dem_{it}$ and $Geo_{ijt} * Dem_{jt}$. I find that democracy in origin and destination countries helps moderate the potential consequences of geopolitics for bilateral trade flows between partner countries. Furthermore, similar to the impact of democracy, the magnitude of interaction terms is substantially larger in advanced economies than in developing countries, reflecting the greater strength of democratic institutions, on average, in advanced economies. I estimate these subsample specifications with country-pair fixed effects (instead of origin and destination country fixed effects) and obtain similar results, which are presented in column [12] for all countries, column [13] for advanced economies and column [14] for developing countries.

I also consider the possibility that democracy and geopolitical proximity between partner countries may not be exogenous but somewhat influenced by trade flows. To control for such potential endogeneity, I estimate the model with the 2SLS-IV approach using child mortality and the lagged geopolitics variable as instruments for democracy and geopolitical distance,

Table 3. Gravity Model of Bilateral Trade Flows: 2SLS-IV Estimations

<i>(Dependent variable: Bilateral trade flows)</i>						
	Truncated Sample					
	Full		AE		EM	
Real GDP per capita, origin	0.691*** [0.020]	0.709*** [0.020]	0.447*** [0.038]	0.423*** [0.037]	0.613*** [0.079]	0.619*** [0.099]
Real GDP per capita, destination	0.648*** [0.019]	0.612*** [0.020]	0.764*** [0.023]	0.738*** [0.022]	0.475*** [0.082]	0.481*** [0.105]
Distance	-1.327*** [0.034]	-1.326*** [0.034]	-1.437*** [0.070]	-1.430*** [0.067]	-1.106*** [0.040]	-1.111*** [0.050]
Geographical contiguity	0.578*** [0.129]	0.507*** [0.128]	-1.613*** [0.351]	-1.659*** [0.339]	0.817*** [0.132]	0.894*** [0.174]
Common language	0.694*** [0.070]	0.701*** [0.070]	0.419** [0.131]	0.461*** [0.126]	0.816*** [0.080]	0.816*** [0.080]
Common religion	0.552*** [0.093]	0.538*** [0.092]	0.350 [0.213]	0.353 [0.205]	0.668*** [0.114]	0.738*** [0.156]
Colonial history	0.142 [0.314]	0.168 [0.311]	1.559** [0.544]	1.527** [0.524]	1.038* [0.399]	1.175 [0.529]
Population, origin	0.207*** [0.049]	0.223*** [0.049]	1.153*** [0.099]	1.010*** [0.101]	-1.314*** [0.334]	-1.729** [0.558]
Population, destination	1.473*** [0.041]	1.421*** [0.042]	0.743*** [0.049]	0.656*** [0.050]	1.328*** [0.160]	1.301*** [0.204]
GATT, origin	0.185*** [0.036]	0.193*** [0.036]	0.701*** [0.181]	0.749*** [0.174]	-1.796*** [0.322]	-2.268*** [0.579]
GATT, destination	0.167*** [0.033]	0.175*** [0.033]	0.038 [0.035]	0.029 [0.034]	-0.627*** [0.182]	-0.816** [0.278]
WTO, origin	0.050 [0.035]	0.054 [0.035]	0.214 [0.108]	0.253 [0.103]	0.548*** [0.156]	0.669** [0.229]
WTO, destination	0.324*** [0.032]	0.336*** [0.032]	0.255*** [0.039]	0.283*** [0.037]	0.169 [0.135]	0.169 [0.168]
FTA	0.402*** [0.028]	0.408*** [0.028]	0.118*** [0.035]	0.135*** [0.033]	1.189*** [0.098]	1.224*** [0.128]
Geopolitical distance	0.154*** [0.017]	0.171*** [0.020]	0.127*** [0.020]	0.186*** [0.026]	-0.782*** [0.143]	-1.144*** [0.327]
Democracy, origin	0.185*** [0.010]	0.206*** [0.011]	0.174*** [0.015]	0.142*** [0.015]	-1.420*** [0.252]	-1.813*** [0.252]
Democracy, destination	0.142*** [0.008]	0.107*** [0.009]	0.088*** [0.010]	0.037*** [0.008]	0.244*** [0.038]	0.306*** [0.057]
Geopolitics*Democracy, origin		0.001*** [0.000]		0.004*** [0.001]		0.002*** [0.001]
Geopolitics*Democracy, destination		0.001*** [0.000]		0.001*** [0.000]		0.002*** [0.001]
Number of observations	79,190	79,190	23,421	23,421	55,769	55,769
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Country-pair FE	No	No	No	No	No	No
Country-time FE	Yes	Yes	Yes	Yes	Yes	Yes
R ²	0.46	0.46	0.70	0.71	0.25	0.28

Note: The dependent variable is bilateral trade flows. Geopolitical distance and democracy are instrumented with its own lag and child mortality, respectively. Standard errors, clustered at the country-pair level, are reported in brackets. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

respectively. These results, presented in Table 3, show that geopolitical distance has a positive impact on bilateral trade flows, but the economic magnitude of this effect remains not as important as the level of per capita income or geographic distance between partners countries across all specifications and countries. The IV estimations also confirm that geopolitical distance has a positive effect on trade flows in advanced economies, but negative in the case of developing countries. With regards to democracy, I find that the estimated coefficients are positive for both origin and destination countries for advanced economies, but mixed for

developing countries (negative for origin and positive for destination). The IV estimations also reveal that the magnitude of these effects are significantly greater than those obtained without taking into account potential endogeneity. Finally, the interaction terms confirm that democracy has a stabilizing effect against geopolitical tensions and this impact on trade flows is marginally larger in advanced economies than in developing countries..

IV. CONCLUSION

This paper empirically investigates the impact of democracy and geopolitics and the interactive effects on international trade, using an augmented gravity model and an extensive dataset with more than 4 million observations on 59,049 country-pairs over the period 1948–2018. The results provide statistically significant coefficients with intuitive signs. I find that the much-discussed geopolitical distance between countries, as measured by the similarity of voting behavior at the UN, has contradictory and statistically insignificant effects on trade, depending on the level of economic development: positive in advanced economies and negative in developing countries. Moreover, the economic magnitude of this effect is not as important as income or distance between the countries and it diminishes significantly when I introduce democracy in origin and destination countries and truncate the sample to remove extreme outliers.

The impact of geopolitical distance on international trade is positive in advanced economies, but negative and statistically insignificant in the case of developing countries. Democracy, on the other hand, has a positive effect on international trade across all countries. The estimated coefficients on democracy in origin and destination countries are positive and statistically significant, but it appears that democracy in origin country matters more for trade flows than democracy in destination country. Moreover, while these effects are statistically significant in advanced economies as well as in developing countries, the magnitude is considerably greater in advanced economies. Finally, a novel element of this paper is the introduction of the interaction terms for geopolitics and democracy in origin and destination countries. I find that democracy helps moderate the potential consequences of geopolitical tensions for trade flows. Similar to the impact of democracy, the magnitude of interaction terms is substantially larger in advanced economies than in developing countries, reflecting the greater strength of democratic institutions, on average, in advanced economies. I also control for potential endogeneity by estimating the model with the 2SLS-IV approach and using child mortality and the lagged geopolitics variable as instruments for democracy and geopolitical distance, respectively. These results confirm that geopolitical distance does not have a negative effect on international trade and democracy operates as a moderating force against geopolitical shocks.

The empirical analysis presented in this paper does not imply that trade linkages and supply chains remain constant over time. Global value chains evolve along with economic and technological developments—and sometimes due to geopolitical considerations. However, history has shown that global trade integration can continue to advance and bring prosperity to a growing number of people across the world. Therefore, what is critical for policymakers is to acknowledge that globalization produces losers as well as winners, leading to the inevitable buildup of socioeconomic and political pressures unless corrective policy actions are taken on a

timely basis. To this end, the key challenge is to pursue appropriate policies—aimed at achieving greater openness while reducing the socioeconomic burden of globalization—and avoid nationalist and protectionist policies that could make the global economy less resilient and more unequal.¹⁰

¹⁰ Irwin (2020) and Bowen, Broz, and Rosendorff (2023) make the case that the persistence of trade globalization depends on both global economic conditions and domestic social transfers to compensate the adversely affected segments of the workforce.

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