Geopolitics and Culture

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Motivation

- Relations between geopolitical variables - such as **international conflicts and alliances -** and economic factors have been debated for a long time

- Recent developments in current affairs have motivated a boom in new research on interactions between **geopolitics and economics**, broadly defined as **geoeconomics**

- We contribute to this growing literature by explicitly bringing in **cultural and ideological variables** and studying their **interplay with** international **friendships, conflicts, and economic integration**

Our Contribution in a Nutshell

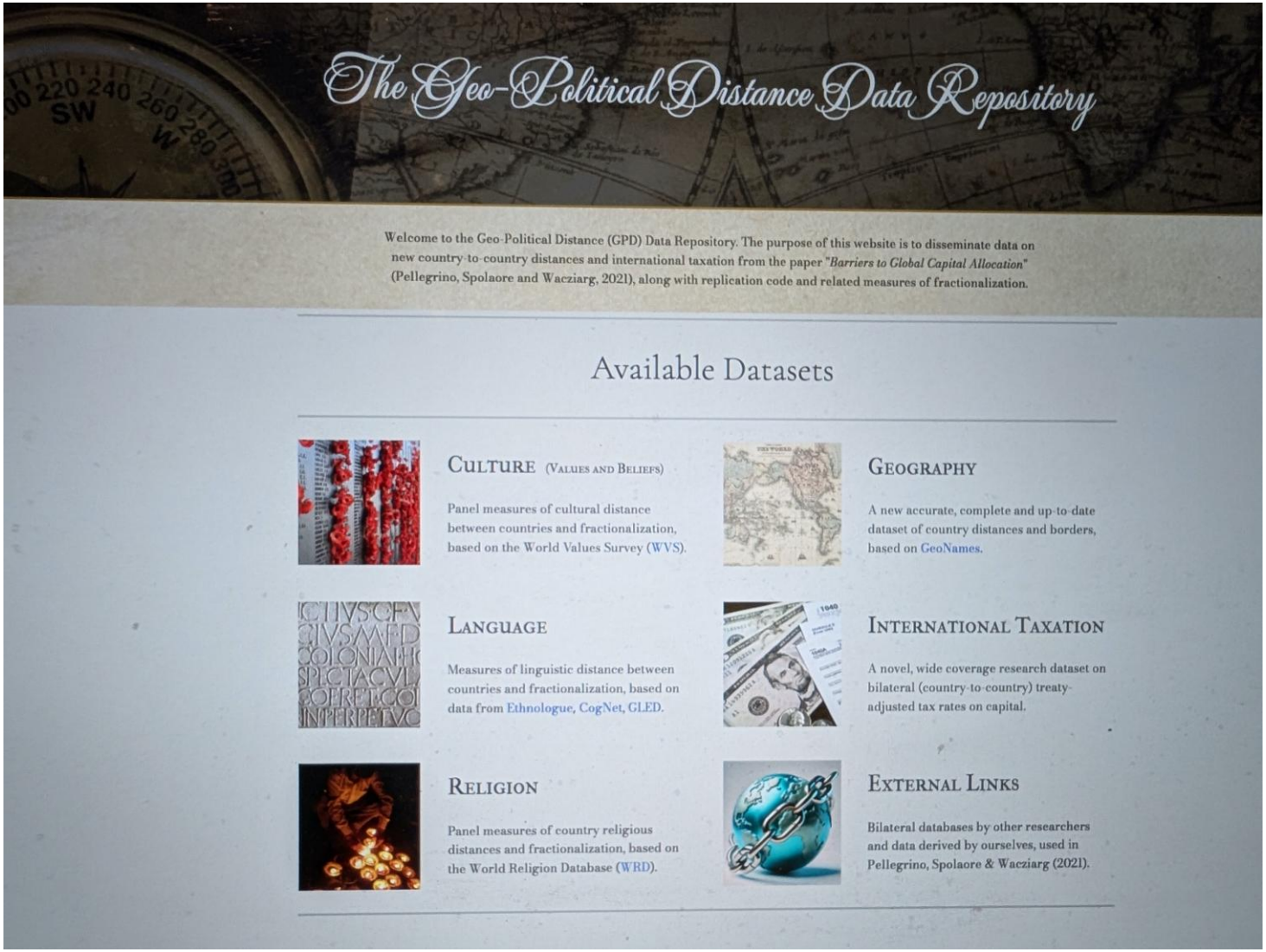
- We propose a **new index of Amity & Enmity (AE)** between countries
  - index defined for all dyad-years from 1938 to 2024 (but empirical analysis now stops before 2019)
  - index takes values between **-10 (maximum enmity)** and **+10 (maximum amity)**
  - for example, the index is **-10 for US and Japan during WWII** and **+10 for US and UK during WWII**
- We estimate how the **AE index is impacted by geopolitical factors**, including **cultural, linguistic, religious, and ideological distances**
- We document how the **effects of geopolitical variables** on AE **change over time** and depend on the extent of **international economic integration** between countries

Related Literature

- Large literature on determinants of conflict and, more specifically, conflict and international openness (e.g., Polacheck, 1980; Martin, Mayer and Thoenig, 2008; Huai, Li and Meissner, 2025; and many others)
- Extensive literature within international relations on culture, alliances, and "soft power" (Nye, 1990)
- Theoretical and empirical literature within political economy on conflict and cultural distance (e.g., Spolaore and Wacziarg, 2016, 2019; Guarnieri, 2025; D'Amato and Russo, 2026)
- Recent booming literature on geoeconomics (e.g., Clayton, Maggiori and Shreger, 2026)
- Recent empirical work on international financial integration and geopolitical distances (Pellegrino, Spolaore, and Wacziarg, 2025)

Geopolitical Distances

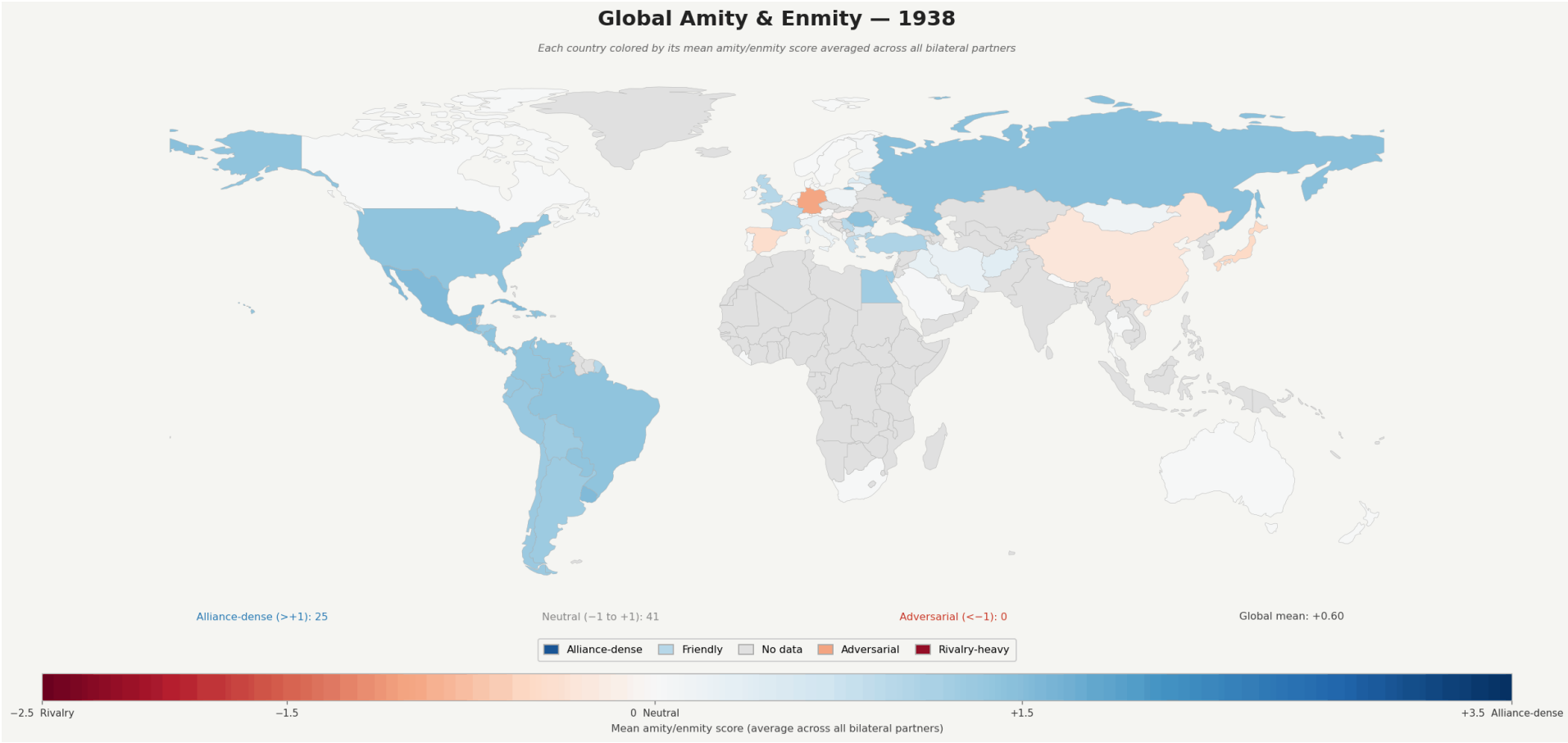
New measures of **cultural, linguistic, religious, and geographic distances** available at **geopoliticaldistance.org**



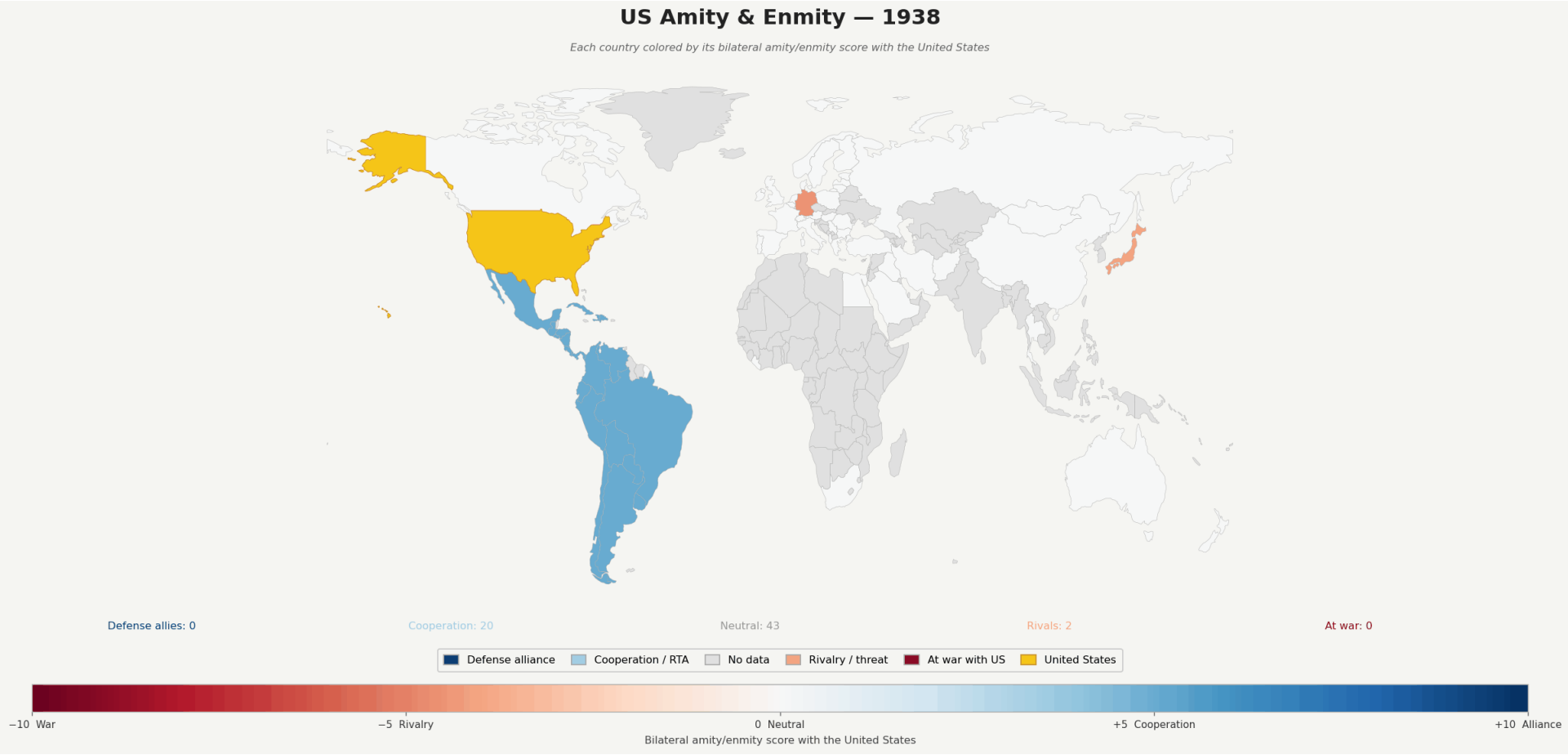
In the rest of this talk

1) Construction of the Amity & Enmity (AE) index
2) Variation of the AE index over time and space
3) Determinants of the AE index
4) Changes in the effects of geopolitical and cultural variables on AE over time and space
5) Interplay between AE, cultural distance, and international economic integration

Global Amity & Enmity between 1938 and 2019



Friends and Foes of the United States between 1938 and 2019



Data Sources

Source	Coverage	Use
CoW System Membership v2024	1816 to 2024	Defines which dyads exist when (skeleton)
CoW NMC v6.0	1816 to 2016	Country capability controls (CINC, milex, milper, tpop, urban pop, energy, iron/steel)
CoW MID v4.03 (dyadic)	1816 to 2010	Conflict outcome (`mid_dyad`, `hihost`, `fatlev`)
CoW MID v5.0 (extension)	2011 to 2014	Extends MID through 2014
CoW Formal Alliances v4.1	1816 to 2012	Alliance outcome (`alliance_any`, `defense`, `neutrality`, etc.)
ATOP v5.1	1815 to 2018	Alliance outcome with obligation typology
Thompson-Dreyer Strategic Rivalries	1816 to 2023	Rivalry outcome (positional, spatial, ideological, interventionary)
Bailey-Strezhnev-Voeten UN voting v38	1946 to 2025	Bilateral ideological proximity (ideal-point distance)
CEPII Gravity V202211	1948 to 2020	Institutional dyad controls (RTA, GATT, WTO, EU, common colonizer/legal/religion)
CEPII GeoDist (`dist_cepii.dta`)	Time-invariant	Colonial relationship and common colonizer indicators, taken from the PSW (2025) replication package for byte-for-byte alignment with their Block 9
PSW 2025 (Pellegrino, Spolaore, Wacziarg)	varies	Cultural, linguistic, geographic, religious distance, bilateral capital taxes

Building the AE Index (I)

The index uses a **lexicographic, most-binding-signal-wins** rule. Five tiers partition the $[-10, +10]$ scale. Assignment proceeds from the positive end, with negative signals allowed to override:

Tier	Score range	Signal	Overrides
$+2$	$[+5, +10]$	ATOP defense pact or CoW defense alliance	—
$+1$	$[+2, +5]$	Non-defense cooperation: ATOP non-aggression, consultation, entente, joint RTA	Tier $+2$ takes precedence
0	$[-2, +2]$	Neutrality / indifference; UN voting z-score refines within-tier	Tiers -1 and -2 override
-1	$[-5, -2]$	Strategic rivalry (TSS) or low-hostility MID (`hihost` $\in \{2, 3\}$)	Overrides all positive tiers
-2	$[-10, -5]$	Active armed conflict: CoW war or high-hostility MID (`hihost` ≥ 4)	Overrides everything

Building the AE Index (II)

Within each tier, a formula maps the underlying indicator values to a continuous score:

Tier +2: Base score 6, plus 1.5 for an active ATOP defense obligation, 1.0 for an offensive commitment, 0.5 for each additional treaty up to two, minus $0.5\times$ (UN voting z-score) as a within-tier penalty for ideological drift. Clipped to $[5, 10]$.

Tier +1: Base 3, plus 0.5 for consultation obligation, 0.5 for RTA, 0.5 for common legal tradition (`comleg_pretrans`), minus $0.5\times$ UN voting z-score. Clipped to $[2, 5]$.

Tier 0: Anchored at 0 for pre-1946 (no UN data). Post-1945: $-2\times z_{\text{UN}}$ (so countries that consistently vote differently drift toward -2), plus 0.5 for joint GATT/WTO membership. Clipped to $[-2, +2]$.

Tier −1: Base -3, minus 1.0 for principal rivalry (TSS principal), minus 0.5 for ideological rivalry (TSS ideological), minus 0.5 if the MID hostility level is 3 (display of force), minus 0.5 for severed diplomatic ties. Clipped to $[-5, -2]$.

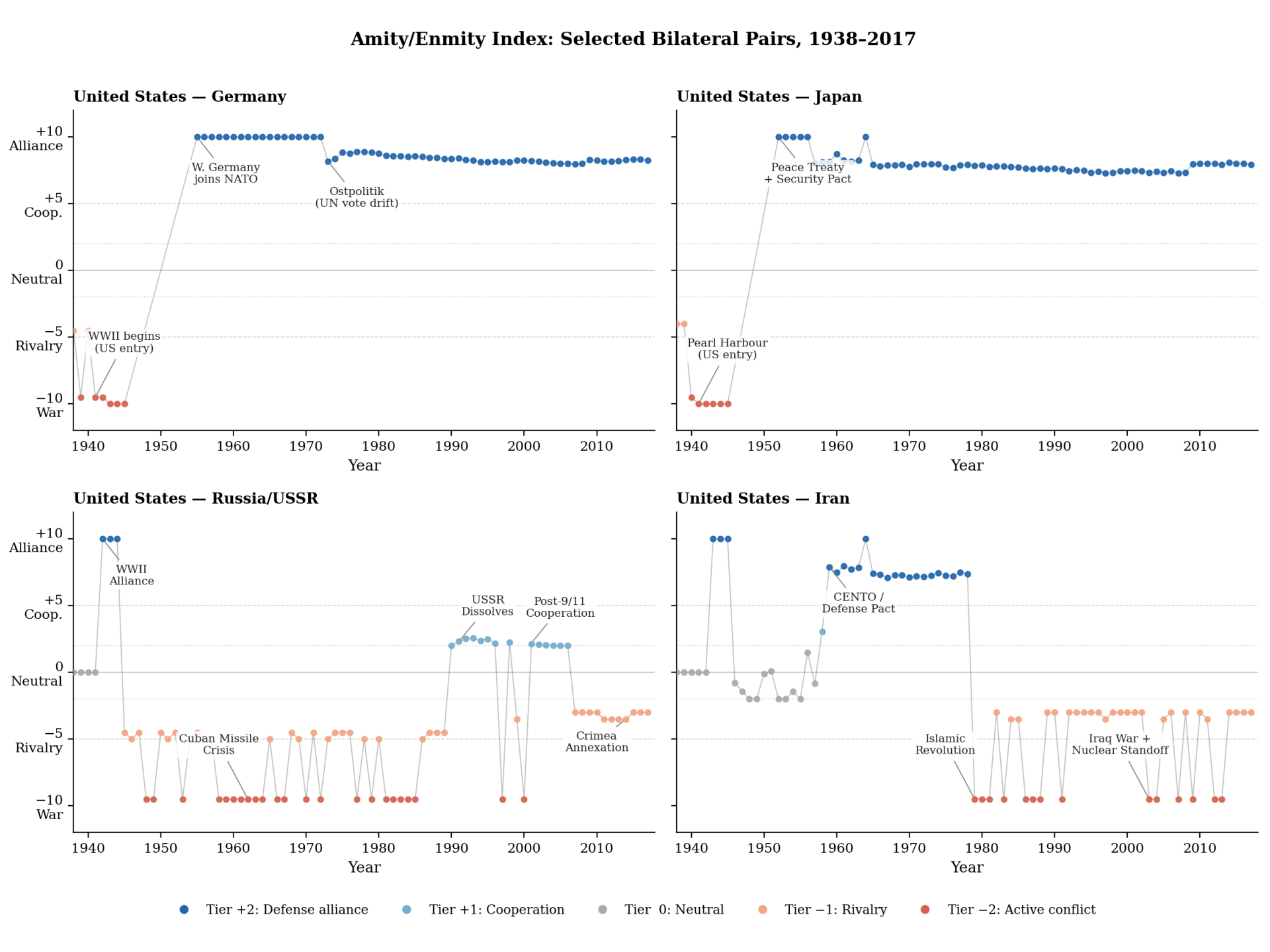
Tier −2: Score -10 for an ongoing war. For high-hostility MID without a formal war entry: $-10 + 0.5 \times (5 - \texttt{hihost})$, so $\texttt{hihost} = 5$ (use of force short of war) maps to -9.5. Clipped to $[-10, -5]$.

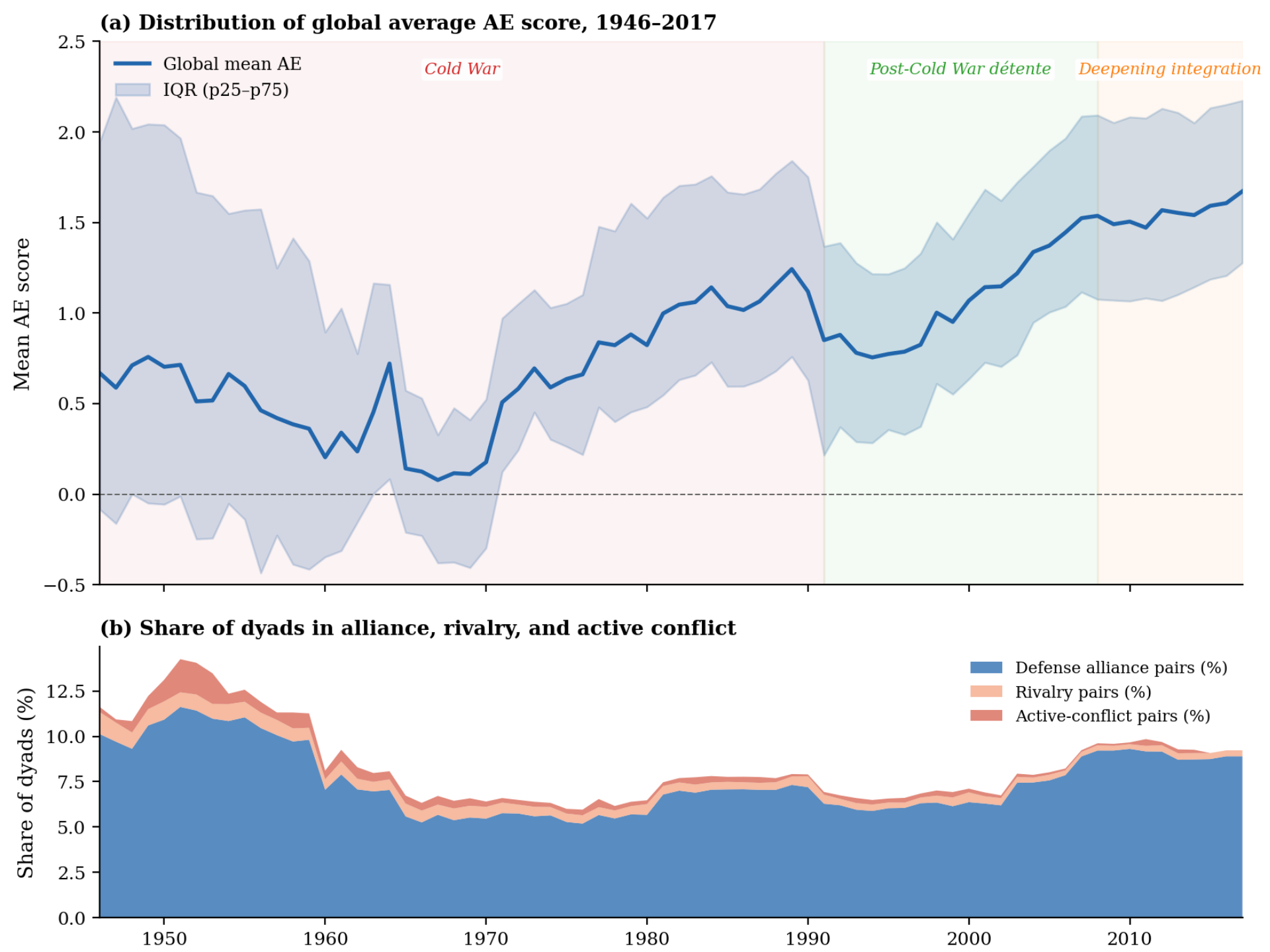
Validation

Table 12: AE index: 14 landmark bilateral events. Tier and score read directly from `ae_index.dta`; no manual overrides applied. Source: `17_construct_ae_index.do`.

Event	Pair	Year	Tier	AE
WWII transitions				
US-Germany at war	USA-DEU	1944	−2	−10.00
West Germany joins NATO	USA-DEU	1955	+2	+10.00
US-Japan at war	USA-JPN	1944	−2	−10.00
San Francisco Peace Treaty	USA-JPN	1952	+2	+10.00
US-USSR WWII alliance (Lend-Lease)	USA-RUS	1944	+2	+10.00
Cold War and its end				
Cuban Missile Crisis	USA-RUS	1962	−2	−9.50
USSR dissolution	USA-RUS	1991	+1	+2.32
Post-9/11 cooperation	USA-RUS	2001	+1	+2.15
Crimea annexation	USA-RUS	2014	−1	−3.50
Korean War	USA-CHN	1950	−2	−10.00
Nixon opening (Shanghai Communiqué)	USA-CHN	1973	0	−2.00
Other landmark reversals				
Pre-revolution US-Iran alliance	USA-IRN	1977	+2	+7.49
Iranian Revolution / hostage crisis	USA-IRN	1979	−2	−9.50
Falklands War	GBR-ARG	1982	−2	−10.00

Three observations from the table merit comment. First, **WWII transitions are crisp.** USA-Germany moves from −10 (1944) to +10 (1955) in a single step that coincides exactly with West Germany's NATO accession. Second, **the Cold War periodization is well-captured.** USA-Russia oscillates between tiers +2, −1, and −2 through 1989, moves to tier +1 at the USSR's dissolution, sustains cooperation through 2006, and reverts to rivalry from 2007 onward with the Georgia conflict. Third, **the Iranian Revolution is the index's sharpest single-year reversal**: from tier +2 (+7.49) in 1977 to tier −2 (−9.50) in 1979. No smoothing or interpolation was applied; the reversal emerges directly from the underlying ATOP and MID data.


Amity/Enmity Index: Selected Bilateral Pairs, 1938–2017
United States — Germany
+10
Alliance
+5
Coop.
0
Neutral
−5
Rivalry
−10
War
W. Germany
joins NATO
Ostpolitik
(UN vote drift)
WWII begins
(US entry)
1940
1950
1960
1970
1980
1990
2000
2010
Year
United States — Japan
Peace Treaty
+ Security Pact
Pearl Harbour
(US entry)
Year
United States — Russia/USSR
WWII
Alliance
USSR
Dissolves
Post-9/11
Cooperation
Cuban Missile
Crisis
Crimea
Annexation
Year
United States — Iran
CENTO /
Defense Pact
Islamic
Revolution
Iraq War +
Nuclear Standoff
Year
Tier +2: Defense alliance
Tier +1: Cooperation
Tier 0: Neutral
Tier −1: Rivalry
Tier −2: Active conflict


(a) Distribution of global average AE score, 1946–2017
Global mean AE
IQR (p25–p75)
Cold War
Post-Cold War détente
Deepening integration
Mean AE score
2.5
2.0
1.5
1.0
0.5
0.0
−0.5
(b) Share of dyads in alliance, rivalry, and active conflict
Defense alliance pairs (%)
Rivalry pairs (%)
Active-conflict pairs (%)
Share of dyads (%)
12.5
10.0
7.5
5.0
2.5
0.0
1950
1960
1970
1980
1990
2000
2010

AE and Geopolitical Distances

- Countries that are **culturally, linguistically and ideologically more distant** from each other have on average **lower levels of AE** (less likely to be friends/more likely to be foes) between 1946 and 2014
- In contrast, religious distance is associated with higher AE overall between 1946 and 2014, when controlling for cultural and linguistic distance
- Effects of linguistic distance on AE consistently negative across decades, but weaker in 1980s and 1990s

Table 13: Amity-Enmity index regressed on bilateral distances, 1946–2014

	(1) Geo only	(2) + Linguistic	(3) + Cultural	(4) Full
Log geographic distance (km, PSW 2025)	-1.595***	-1.337***	-1.056***	-0.542***
	(0.378)	(0.383)	(0.359)	(0.204)
Share land border	-1.785***	-2.049***	-2.050***	-1.524***
	(0.398)	(0.414)	(0.398)	(0.311)
Latitudinal distance (degrees)	-0.0387***	-0.0399***	-0.0365***	-0.0216***
	(0.0126)	(0.0118)	(0.0105)	(0.00456)
Longitudinal distance (degrees)	0.0105	0.00947	0.00745	-0.00381
	(0.00719)	(0.00686)	(0.00637)	(0.00376)
Linguistic distance (PSW 2025)		-3.757***	-2.809**	-3.061***
		(1.235)	(1.092)	(0.948)
Cultural distance (PSW 2025)			-34.30***	-7.104**
			(5.084)	(3.245)
Religious distance (PSW 2025)				0.834**
				(0.331)
Ever in colonial relationship (PSW 2025)				-0.274
				(0.487)
Common colonizer post-1945 (PSW 2025)				0.265
				(0.247)
Ideological distance (UN voting, BSV 2017)				-2.268***
				(0.0768)
Log population, country A (CoW NMC)	-0.331	-0.314	-0.245	-0.250
	(0.464)	(0.470)	(0.469)	(0.277)
Log population, country B (CoW NMC)	-0.985***	-0.983***	-0.852**	-0.410
	(0.335)	(0.338)	(0.332)	(0.309)
Observations	171,199	171,199	171,199	161,051
R^2	0.509	0.523	0.548	0.727

Standard errors in parentheses

OLS; continuous DV: AE index [-10, +10].

RHS construction follows Pellegrino-Spolaore-Wacziarg (2025).

Country A, country B, and year FE. SE two-way clustered on country A and B (CGM 2011).

Sample: post-WWII (1946–2014), all RHS and AE non-missing.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 14: Amity-Enmity index: decade-by-decade regressions

	(1) 1960s	(2) 1970s	(3) 1980s	(4) 1990s	(5) 2000s	(6) 2010s
Log geographic distance (km, PSW 2025)	-0.389	-0.461**	-1.150***	-1.246***	-2.234***	-2.458***
	(0.292)	(0.230)	(0.282)	(0.259)	(0.253)	(0.238)
Share land border	-1.019**	-1.562***	-1.921***	-1.632***	-2.216***	-2.152***
	(0.465)	(0.432)	(0.439)	(0.348)	(0.378)	(0.370)
Latitudinal distance (degrees)	-0.0134**	-0.0170***	-0.0203***	-0.0249***	-0.0175**	-0.0191***
	(0.00551)	(0.00525)	(0.00668)	(0.00683)	(0.00722)	(0.00717)
Longitudinal distance (degrees)	-0.00102	-0.000154	0.00763**	0.00929***	0.0174***	0.0192***
	(0.00493)	(0.00362)	(0.00344)	(0.00296)	(0.00296)	(0.00292)
Linguistic distance (PSW 2025)	-4.017***	-2.577***	-1.326	-1.570**	-2.567***	-2.290***
	(1.068)	(0.968)	(0.821)	(0.789)	(0.806)	(0.728)
Religious distance (PSW 2025)	0.199	-2.073***	-1.713***	-2.010***	-0.636	-0.500
	(0.320)	(0.556)	(0.540)	(0.530)	(0.537)	(0.534)
Ever in colonial relationship (PSW 2025)	0.435	0.0885	-0.358	-0.191	-0.320	-0.290
	(0.495)	(0.436)	(0.495)	(0.462)	(0.381)	(0.319)
Common colonizer post-1945 (PSW 2025)	0.432**	0.115	0.225**	0.517***	0.554***	0.497***
	(0.184)	(0.0955)	(0.106)	(0.140)	(0.146)	(0.149)
Log population, country A (CoW NMC)	-0.662	1.463***	0.625	0.408	1.466***	0.647**
	(0.464)	(0.378)	(0.435)	(0.473)	(0.318)	(0.252)
Log population, country B (CoW NMC)	0.0674	0.725**	0.123	-0.0265	0.475*	0.0179
	(0.428)	(0.350)	(0.393)	(0.439)	(0.254)	(0.212)
Observations	69,495	99,679	120,912	166,345	183,746	130,854
R^2	0.413	0.453	0.503	0.526	0.572	0.578

Standard errors in parentheses

OLS; continuous DV: AE index [-10, +10].

RHS construction follows Pellegrino-Spolaore-Wacziarg (2025).

Country A and country B FE (no year FE; each column = one decade).

SE two-way clustered on country A and B (CGM 2011).

Sample: post-WWII dyad-decades, all RHS and AE non-missing.

Cultural distance excluded (unavailable pre-1984) for comparability across decades.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Determinants of Amity & Enmity: Cultural Distance and Economic Integration

- Does the **effect of cultural distance** on alliances and conflict vary by **trade integration**?
- **Cultural proximity and trade** could be either **complements** or **substitutes**
- **Trade tier analysis:**

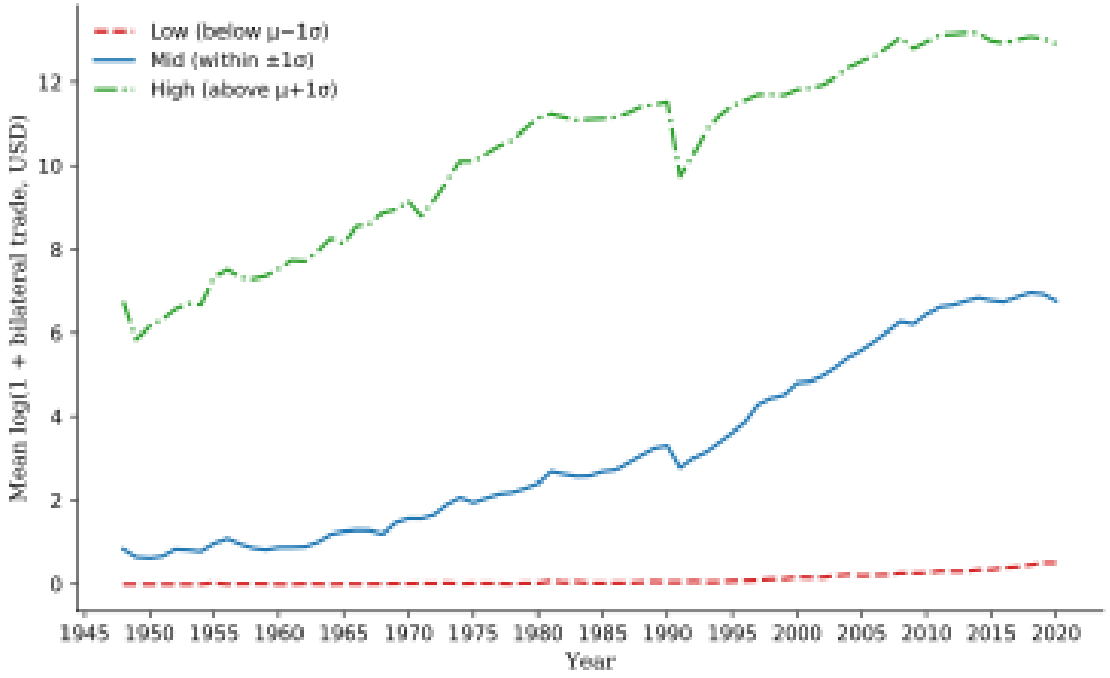


Figure 1: Average bilateral trade by tier, 1948–2020 (CEPII Gravity, IMF DOTS component). Three lines track average log(1 + trade) for low-, mid-, and high-tier pairs over time. High-tier pairs diverge sharply from the mid and low groups after 1990, indicating that the globalization wave concentrated in pairs that were already commercially integrated rather than spreading uniformly across the dyad distribution.

Results on Effects of Cultural Distance and Economic Integration on Amity & Enmity

- Bilateral economic integration is associated with higher AE (confirmation of classic peaceful effects of trade)
- Cultural distance continues to reduce the likelihood of AE when controlling for trade
- The **positive effects of trade on international cooperation are lower among culturally more distant pairs** – i.e., for high-trade pairs, the interaction is negative. In other words, cultural distance reduces AE more among highly integrated dyads

Table 16: Amity-Enmity index × trade integration: panel 1946–2014

	(1) Baseline	(2) + Tier dummies	(3) + Interactions
Cultural distance (PSW 2025)	-37.53***	-37.38***	-30.72***
	(5.774)	(5.748)	(6.075)
Trade tier: low		0.343	-9.374***
		(0.289)	(2.564)
Trade tier: high		0.0320	6.001***
		(0.181)	(1.805)
Cultural dist. × Low tier			28.62***
			(7.501)
Cultural dist. × High tier			-17.75***
			(5.276)
Observations	167,898	167,898	167,898
R^2	0.541	0.541	0.546

Standard errors in parentheses

OLS; continuous DV: AE index [-10, +10].

Country A, country B, and year FE. SE two-way clustered on country A and B (CGM 2011).

Sample: post-WWII (1946–2014), all RHS and AE non-missing.

Trade tiers: avg log(1+IMF DOTS trade) 1960–2019, ever-trading pairs.

Low = $\mu - \sigma$; High = $\mu + \sigma$; Mid = omitted.

Controls: log distance, border, lat/lon distance, colonial vars, log population.

Cultural distance: Pellegrino–Spolaore–Wacziarg (2025), 2009 WVS wave.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Cultural distance, economic integration, and other measures of geopolitical proximity

- Similar interaction effects can be observed when considering other measures of geopolitical proximity – e.g., UN voting proximity.
- Overall, more culturally distant pairs vote less similarly at the UN on average.
- More economic integration is associated on average with more cooperation and closer UN voting proximity
- The positive effect of economic integration is much lower for culturally distant
- These relationships are nearly identical in the 1946–2014 and 1990–2014 panels, suggesting that these patterns are not just Cold War phenomena or outcomes of the more recent raise of China

Table 10: Amity and alignment × trade integration: panel 1946–2014

	(1) ATOP any	(2) ATOP def.	(3) COW any	(4) UN prox.
Cultural distance (PSW 2025)	-1.799**	-1.697***	-1.566***	-10.69***
	(0.698)	(0.538)	(0.518)	(2.386)
Trade tier: low	-0.817**	-0.350***	-0.313**	-2.355***
	(0.364)	(0.119)	(0.123)	(0.554)
Trade tier: high	0.514***	0.451**	0.355**	1.439***
	(0.185)	(0.190)	(0.166)	(0.493)
Cultural dist. × Low tier	2.235**	1.075***	0.934**	7.433***
	(1.070)	(0.355)	(0.364)	(1.645)
Cultural dist. × High tier	-1.468***	-1.336**	-1.072**	-4.564***
	(0.548)	(0.551)	(0.481)	(1.501)
Observations	167,898	167,898	167,898	157,867
R^2	0.681	0.508	0.517	0.520

Standard errors in parentheses

LPM (OLS) for cols 1–3; OLS for col 4 (continuous DV).

Country A, country B, and year FE. SE two-way clustered on country A and B (CGM 2011).

UN voting proximity = negative ideal-point distance (BSV); higher = more aligned.

Trade tiers: avg log(1+CEPII Gravity trade, IMF DOTS component) 1960–2019, ever-trading pairs.

Low = $\mu - \sigma$; High = $\mu + \sigma$; Mid = omitted.

Controls: log distance, border, lat/lon distance, colonial vars, log population.

Cultural distance: Pellegrino–Spolaore–Wacziarg (2025), 2009 WVS wave.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 11: Amity and alignment × trade integration: panel 1990–2014

	(1) ATOP any	(2) ATOP def.	(3) COW any	(4) UN prox.
Cultural distance (PSW 2025)	-1.841**	-1.694***	-1.527***	-10.92***
	(0.722)	(0.541)	(0.516)	(2.395)
Trade tier: low	-0.810**	-0.373***	-0.330**	-2.495***
	(0.375)	(0.123)	(0.126)	(0.537)
Trade tier: high	0.503***	0.499**	0.348**	1.422***
	(0.188)	(0.197)	(0.163)	(0.491)
Cultural dist. × Low tier	2.174*	1.147***	0.982***	7.845***
	(1.101)	(0.365)	(0.371)	(1.595)
Cultural dist. × High tier	-1.425**	-1.468**	-1.045**	-4.515***
	(0.556)	(0.571)	(0.473)	(1.495)
Observations	144,522	144,522	144,522	136,567
R^2	0.685	0.503	0.509	0.555

Standard errors in parentheses

LPM (OLS) for cols 1–3; OLS for col 4 (continuous DV).

Country A, country B, and year FE. SE two-way clustered on country A and B (CGM 2011).

UN voting proximity = negative ideal-point distance (BSV); higher = more aligned.

Trade tiers: avg log(1+CEPII Gravity trade, IMF DOTS component) 1960–2019, ever-trading pairs.

Low = $\mu - \sigma$; High = $\mu + \sigma$; Mid = omitted.

Controls: log distance, border, lat/lon distance, colonial vars, log population.

Cultural distance: Pellegrino–Spolaore–Wacziarg (2025), 2009 WVS wave.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Conclusions

- We have constructed a novel index of Amity and Enmity (AE) that allows us to study the dynamics and determinants of alliances and conflict over time and space over the past eighty years.
- Geopolitical distances – including cultural and ideological distances – matter for Amity and Enmity: culturally more distant societies are on average less likely to engage in alliances and international cooperation
- International economic integration is associated on average with more amity and less enmity
- The positive effects of globalization on alliances and international cooperation are much stronger among countries that are culturally close
- In contrast, protectionism is likely to turn close "friends and family" into foes: governments that impose tariffs and other barriers on culturally close allies are playing with fire