

Consensus voting and similarity measures in international organisations

(appendix)¹

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Abstract

Voting behavior in international organizations, most notably in the United Nations General Assembly (UNGA), is often used to infer the similarity of foreign policy preferences of member states. Most of these measures ignore, however, that particular co-voting patterns may appear simply by chance (Häge 2011) and that these patterns of agreement (or the absence thereof) are only observable if decisions are reached through roll-call votes. As the relative frequency of roll-call votes changes considerably over time in most international organizations, currently used similarity and affinity measures offer a misleading picture. Based on a complete data set of UNGA resolution decisions, we demonstrate how taking different forms of chance agreement and the relative prevalence of consensus decisions into account affects conclusions about the similarity of member states' foreign policy positions.

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Appendix

In this appendix we present results of additional replication analyses. First, in table A1 we report parallel analyses to those depicted in table 5 in the main text, but using total bilateral aid as dependent variable. Considering Table A1, we find that, as in Alesina and Dollar's (2000) analysis, economic openness considerably increases aid allocations. Similarly, having been a colony for a longer time or being either Egypt or Israel increases aid significantly independent of the similarity measure used (i.e., in all models in Table A1). When it comes to the political variables, however, results prove to be less stable. While, consistent with Alesina and Dollar (2000), we find a positive effect of democracy on aid, the effects of voting similarities with the US and Japan are far from robust. While we can reproduce the statistically significant effect of voting similarity with Japan on total bilateral aid and, conversely, the absence of an effect for voting with the US, these results are very sensitive to the particular similarity measure and the data used. If κ is used instead of S , independent of whether consensus votes are considered or not, closeness to Japan appears not to matter, whereas closeness to the US almost has a statistically significant positive effect on aid allocations. Consequently, this replication analysis underlines Häge's (2011) conclusion that neglecting the possibility of chance agreement may lead to questionable findings from studies relying on similarity measures. Table A2 replicating the analyses reported in table A1 but considering only important resolutions offers largely the same results as those reported in Table A1, with one important exception. As in Table 5, the effect of voting with Japan only appears for Signorino and Ritter's (1999) S but not for κ . However, we suddenly find a negative and significant effect for voting with the US based on Signorino and Ritter's (1999) S , but only if the calculation of S is based on important roll-call votes only. Yet this effect disappears if we use κ as similarity measure or if we also consider consensus actions.

Next, in tables A3 and A4 we report analyses with the same dependent variable but using the four other affinity measures discussed in the main text. In Table A3 we report a replication of the analyses presented in Table A1, but instead of using κ and S , we use π and the chance corrected measure based on uniform marginals. Table A4 does the same but relies on chance corrected measures based on country and resolution specific marginals, respectively.

Furthermore, Tables A5 and A6 present results based on further replications of the analyses reported in Tables 5 and A1. The results in these tables are based on similarity

measures calculated from data sets that include imputed values for non-recorded votes. For the imputation of values, we assigned to each resolution a random draw of yes- and no-votes as well as abstentions according to their reported proportions in the marginal vote distribution. In this way, we generated five data sets with imputed values as suggested by King, Honaker, Joseph and Scheve (2001). For each imputed data set, we calculated the similarity measures and ran the regression analyses. The results presented in the tables are averages of the results of the five individual regression analyses based on the imputed data sets as calculated by *Zelig* (Imai, King and Lau 2008). While we report for completeness sake the same sets of analyses in Tables A5 and A6 as in Tables 5 and A1, it is obvious that the results based on the data without consensus votes but with imputed data (third and fourth columns) are based on a rather odd combination of data. Finally, Tables A7 and A8 report the analyses based on the models reported in Tables A3 and A4, but again carried out on the basis of the imputed data sets. Obviously the same reservations apply to the results in the third and fourth columns of those tables. Tables A9 and A10 replicate the analyses reported in table 5 in the main text and table A1 but remove the time dummies. Table A11 list the countries and number of observations used in the analyses for table 5 in the main text, while A12 offers a systematic comparisons of the indices discussed in the main text.

Table A1: Replication of Alesina and Dollar (2000), total bilateral aid (linear regression with White robust standard errors)

	similarity measure					
	without consensus votes				with consensus votes	
	proportion of agreement		chance corrected			
	b	b	S	K	S	K
(t)	(se)	(se)	(se)	(se)	(se)	
Log GDP per capita	6.563 *	7.204*	7.478*	7.397*	7.455*	7.361*
	(4.77)	(0.900)	(0.930)	(0.920)	(0.912)	(0.920)
Log GDP per capita ²	-0.491 *	-0.523*	-0.541*	-0.537*	-0.540*	-0.533*
	(5.32)	(0.060)	(0.062)	(0.061)	(0.061)	(0.062)
Log population	1.568	2.015*	2.178*	2.164*	2.101*	2.100*
	(1.91)	(0.398)	(0.428)	(0.406)	(0.407)	(0.403)
Log population ²	-0.035	-0.047*	-0.053*	-0.052*	-0.050*	-0.050*
	(1.36)	(0.012)	(0.013)	(0.012)	(0.012)	(0.012)
Economic openness	0.383 *	0.421*	0.450*	0.463*	0.426*	0.442*
	(2.57)	(0.129)	(0.132)	(0.131)	(0.130)	(0.130)
Democracy	0.142 *	0.094*	0.106*	0.105*	0.096*	0.099*
	(3.23)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)
Friend of USA (UNGA voting)	-0.006	0.016	-0.061	0.556	1.209	1.239
	(0.30)	(0.008)	(1.622)	(1.156)	(0.689)	(1.206)
Friend of Japan (UNGA voting)	0.153 *	0.021	2.454	0.600	0.918	0.572
	(4.0)	(0.015)	(3.080)	(0.858)	(1.081)	(0.686)
Log years as colony	0.291 *	0.170*	0.137*	0.159*	0.160*	0.161*
	(4.64)	(0.034)	(0.034)	(0.035)	(0.034)	(0.035)
Egypt	1.545 *	1.594*	1.636*	1.633*	1.600*	1.605*
	(10.53)	(0.405)	(0.412)	(0.409)	(0.406)	(0.409)
Israel	6.473 *	3.381*	4.074*	3.415*	3.200*	3.284*
	(3.03)	(0.690)	(0.657)	(0.640)	(0.722)	(0.624)
Percent muslims	-0.001	0.001	0.001	0.001	0.001	0.001
	(0.42)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Percent catholics	0.001	0.002	0.001	0.001	0.001	0.001
	(0.30)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Percent other religions (Hindu)	-0.009 *	-0.001	-0.001	-0.001	-0.001	-0.001
	(2.94)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
1970-1974		-43.788*	-45.379*	-43.124*	-43.559*	-42.473*
		(4.743)	(5.230)	(4.845)	(4.801)	(4.836)
1975-1979		-44.031*	-45.391*	-43.125*	-43.354*	-42.469*
		(4.766)	(5.237)	(4.841)	(4.800)	(4.835)
1980-1984		-42.968*	-44.913*	-42.874*	-42.411*	-42.207*
		(4.752)	(5.157)	(4.842)	(4.801)	(4.836)
1985-1989		-42.601*	-44.551*	-42.450*	-41.906*	-41.787*
		(4.771)	(5.170)	(4.840)	(4.802)	(4.835)
1990-1994		-42.731*	-44.767*	-42.384*	-41.983*	-41.676*
		(4.774)	(5.265)	(4.848)	(4.808)	(4.843)
<i>N</i>	397	387	380	380	380	380
<i>R</i> ²	0.63	0.973	0.972	0.973	0.973	0.973
Resid. s.d.		0.786	0.800	0.794	0.788	0.793

Robust standard errors in parentheses

* indicates significance at $p < 0.05$

Table A2: Replication of Alesina and Dollar (2000), total bilateral aid (important resolutions, linear regression with White robust standard errors)

	similarity measure						
	without consensus votes				with consensus votes		
	proportion of agreement		chance corrected				
	1965-1995		1985-1995				
	b	b	b	b	b	b	b
(t)	(se)	(se)	(se)	(se)	(se)	(se)	
Log GDP per capita	6.563 *	7.070 *	6.112*	6.353*	6.365*	6.507*	6.657*
	(1.106)	(1.106)	(1.255)	(1.279)	(1.275)	(1.270)	(1.261)
Log GDP per capita ²	-0.491 *	-0.598 *	-0.443*	-0.458*	-0.458*	-0.468*	-0.479*
	(0.074)	(0.074)	(0.083)	(0.085)	(0.085)	(0.084)	(0.084)
Log population	1.568 *	0.160	1.734*	1.901*	1.944*	1.820*	1.831*
	(0.478)	(0.478)	(0.479)	(0.488)	(0.482)	(0.482)	(0.470)
Log population ²	-0.035 *	-0.023	-0.038*	-0.044*	-0.045*	-0.041*	-0.042*
	(0.015)	(0.015)	(0.015)	(0.015)	(0.014)	(0.015)	(0.014)
Economic openness	0.383 *	0.341 *	0.263	0.232	0.237	0.229	0.257
	(0.158)	(0.158)	(0.151)	(0.150)	(0.150)	(0.150)	(0.151)
Democracy	0.142 *	0.134 *	0.069	0.070	0.063	0.067	0.066
	(0.035)	(0.035)	(0.043)	(0.042)	(0.042)	(0.043)	(0.042)
Friend of USA (UNGA voting)	-0.006	-0.006	0.013	0.288	0.505	-0.241	-0.664
	(0.009)	(0.009)	(0.018)	(1.385)	(1.139)	(0.970)	(0.765)
Friend of Japan (UNGA voting)	0.153 *	0.086 *	0.002	0.054	-0.014	0.522	0.834
	(0.015)	(0.015)	(0.034)	(1.600)	(0.885)	(1.095)	(0.588)
Log years as colony	0.291 *	0.217 *	0.105*	0.086	0.093*	0.084	0.092*
	(0.041)	(0.041)	(0.046)	(0.045)	(0.045)	(0.045)	(0.044)
Egypt	1.545 *	1.594 *	1.653*	1.582*	1.566*	1.566*	1.576*
	(0.504)	(0.504)	(0.479)	(0.471)	(0.467)	(0.472)	(0.467)
Israel	6.473 *	6.077 *	2.928	3.577*	3.333*	3.885*	3.982*
	(0.772)	(0.772)	(1.855)	(0.765)	(0.770)	(0.850)	(0.668)
Percent muslims	-0.001	0.006 *	-0.001	-0.002	-0.002	-0.002	-0.002
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Percent catholics	0.001	0.008 *	-0.001	-0.002	-0.002	-0.002	-0.002
	(0.002)	(0.002)	(0.003)	(0.003)	(0.002)	(0.003)	(0.002)
Percent other religions (Hindu)	-0.009 *	0.003	-0.004	-0.005	-0.004	-0.005	-0.004
	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
1970-1974		-25.230 *					
		(5.802)					
1975-1979		-26.002 *					
		(5.827)					
1980-1984		-24.717 *					

		(5.821)					
1985-1989	-24.893 *	-34.550*	-36.460*	-36.863*	-36.463*	-36.974*	
	(5.843)	(6.763)	(6.319)	(6.291)	(6.317)	(6.267)	
1990-1994	-24.991 *	-34.569*	-36.480*	-36.741*	-36.348*	-36.803*	
	(5.845)	(6.745)	(6.339)	(6.305)	(6.332)	(6.279)	
<i>N</i>	402	402	153	149	149	149	149
<i>R</i> ²	0.806	0.806	0.986	0.986	0.986	0.986	0.987
Adj. <i>R</i> ²	0.796	0.796	0.648	0.636	0.632	0.636	0.630

Robust standard errors in parentheses
 * indicates significance at $p < 0.05$

Table A3: Replication of Alesina and Dollar (2000), total bilateral aid (other chance-corrected indices I, linear regression with White robust standard errors)

	similarity measure					
	without consensus votes			with consensus votes		
	proportion of agreement		chance corrected			
	b	b	π	uniform m.	π	uniform m.
(t)	(se)	(se)	(se)	(se)	(se)	
Log GDP per capita	6.563 *	7.204*	7.400*	7.478*	7.356*	7.455*
	(4.77)	(0.900)	(0.921)	(0.930)	(0.918)	(0.912)
Log GDP per capita ²	-0.491 *	-0.523*	-0.537*	-0.541*	-0.534*	-0.540*
	(5.32)	(0.060)	(0.062)	(0.062)	(0.061)	(0.061)
Log population	1.568	2.015*	2.165*	2.178*	2.165*	2.101*
	(1.91)	(0.398)	(0.409)	(0.428)	(0.404)	(0.407)
Log population ²	-0.035	-0.047*	-0.052*	-0.053*	-0.052*	-0.050*
	(1.36)	(0.012)	(0.012)	(0.013)	(0.012)	(0.012)
Economic openness	0.383 *	0.421*	0.464*	0.450*	0.461*	0.426*
	(2.57)	(0.129)	(0.131)	(0.132)	(0.130)	(0.130)
Democracy	0.142 *	0.094*	0.106*	0.106*	0.103*	0.096*
	(3.23)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)
Friend of USA (UNGA voting)	-0.006	0.016	0.046	-0.055	0.832	1.075
	(0.30)	(0.008)	(1.014)	(1.442)	(0.844)	(0.612)
Friend of Japan (UGA voting)	0.153 *	0.021	0.851	2.182	0.315	0.816
	(4.0)	(0.015)	(0.834)	(2.737)	(0.690)	(0.961)
Log years as colony	0.291 *	0.170*	0.159*	0.137*	0.164*	0.160*
	(4.64)	(0.034)	(0.035)	(0.034)	(0.035)	(0.034)
Egypt	1.545 *	1.594*	1.635*	1.636*	1.623*	1.600*
	(10.53)	(0.405)	(0.409)	(0.412)	(0.408)	(0.406)
Israel	6.473 *	3.381*	3.618*	4.074*	3.166*	3.200*
	(3.03)	(0.690)	(0.636)	(0.657)	(0.696)	(0.722)
Percent muslims	-0.001	0.001	0.001	0.001	0.001	0.001
	(0.42)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Percent catholics	0.001	0.002	0.001	0.001	0.001	0.001
	(0.30)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Percent other religions (Hindu)	-0.009 *	-0.001	-0.001	-0.001	-0.001	-0.001
	(2.94)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
1970-1974		-43.788*	-43.069*	-45.113*	-42.702*	-43.322*
		(4.743)	(4.852)	(5.153)	(4.825)	(4.800)
1975-1979		-44.031*	-43.085*	-45.126*	-42.629*	-43.118*
		(4.766)	(4.849)	(5.160)	(4.823)	(4.799)
1980-1984		-42.968*	-42.805*	-44.647*	-42.197*	-42.175*
		(4.752)	(4.847)	(5.088)	(4.826)	(4.804)
1985-1989		-42.601*	-42.385*	-44.285*	-41.725*	-41.670*
		(4.771)	(4.845)	(5.098)	(4.825)	(4.804)
1990-1994		-42.731*	-42.353*	-44.501*	-41.709*	-41.747*
		(4.774)	(4.856)	(5.186)	(4.831)	(4.809)
<i>N</i>	397	399	392	392	392	392
<i>R</i> ²	0.63	0.810	0.802	0.803	0.806	0.807
Resid. s.d.		0.935	0.956	0.956	0.946	0.946

Robust standard errors in parentheses

* indicates significance at $p < 0.05$

Table A4: Replication of Alesina and Dollar (2000), total bilateral aid (other chance-corrected indices II, linear regression with White robust standard errors)

	similarity measure					
	without consensus votes			with consensus votes		
	proportion of agreement		chance corrected			
			country m.	resolut. m.	country m.	resolut. m.
	b	b	b	b	b	b
	(t)	(se)	(se)	(se)	(se)	(se)
Log GDP per capita	6.563 *	7.204*	7.500*	7.500*	7.449*	7.452*
	(4.77)	(0.900)	(0.927)	(0.927)	(0.912)	(0.912)
Log GDP per capita ²	-0.491 *	-0.523*	-0.543*	-0.543*	-0.539*	-0.539*
	(5.32)	(0.060)	(0.062)	(0.062)	(0.061)	(0.061)
Log population	1.568	2.015*	2.146*	2.147*	2.132*	2.129*
	(1.91)	(0.398)	(0.427)	(0.428)	(0.408)	(0.408)
Log population ²	-0.035	-0.047*	-0.052*	-0.052*	-0.051*	-0.051*
	(1.36)	(0.012)	(0.013)	(0.013)	(0.012)	(0.012)
Economic openness	0.383 *	0.421*	0.450*	0.450*	0.427*	0.426*
	(2.57)	(0.129)	(0.132)	(0.132)	(0.130)	(0.130)
Democracy	0.142 *	0.094*	0.105*	0.105*	0.097*	0.097*
	(3.23)	(0.029)	(0.030)	(0.030)	(0.029)	(0.029)
Friend of USA (UNGA voting)	-0.006	0.016	-0.031	-0.033	0.417	0.415
	(0.30)	(0.008)	(0.227)	(0.240)	(0.229)	(0.230)
Friend of Japan (UGA voting)	0.153 *	0.021	0.375	0.394	0.258	0.270
	(4.0)	(0.015)	(0.413)	(0.438)	(0.364)	(0.366)
Log years as colony	0.291 *	0.170*	0.138*	0.138*	0.159*	0.159*
	(4.64)	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)
Egypt	1.545 *	1.594*	1.636*	1.636*	1.606*	1.605*
	(10.53)	(0.405)	(0.412)	(0.412)	(0.406)	(0.406)
Israel	6.473 *	3.381*	4.153*	4.153*	3.119*	3.139*
	(3.03)	(0.690)	(0.714)	(0.713)	(0.738)	(0.737)
Percent muslims	-0.001	0.001	0.001	0.001	0.001	0.001
	(0.42)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Percent catholics	0.001	0.002	0.001	0.001	0.001	0.001
	(0.30)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Percent other religions (Hindu)	-0.009 *	-0.001	-0.001	-0.001	-0.001	-0.001
	(2.94)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
1970-1974		-43.788*	-43.237*	-43.260*	-42.402*	-42.380*
		(4.743)	(4.917)	(4.918)	(4.818)	(4.818)
1975-1979		-44.031*	-43.160*	-43.189*	-42.094*	-42.102*
		(4.766)	(4.911)	(4.913)	(4.820)	(4.821)
1980-1984		-42.968*	-42.754*	-42.790*	-41.277*	-41.315*
		(4.752)	(4.906)	(4.907)	(4.836)	(4.836)
1985-1989		-42.601*	-42.317*	-42.337*	-40.350*	-40.367*
		(4.771)	(4.887)	(4.887)	(4.842)	(4.842)
1990-1994		-42.731*	-42.372*	-42.403*	-40.773*	-40.761*
		(4.774)	(4.901)	(4.902)	(4.835)	(4.835)
<i>N</i>	397	387	380	380	380	380
<i>R</i> ²	0.63	0.973	0.972	0.972	0.973	0.973
Resid. sd		0.786	0.799	0.799	0.788	0.788

Robust standard errors in parentheses

* indicates significance at $p < 0.05$

Table A5: Replication of Alesina and Dollar (2000), total bilateral aid (with non-recorded votes, linear regression with White robust standard errors)

	similarity measure					
	without consensus votes				with consensus votes	
	With imputed data					
	proportion of agreement		chance corrected			
b	b	S	K	S	K	
(t)	(se)	b	b	b	b	
		(se)	(se)	(se)	(se)	
Log GDP per capita	6.563 *	7.204*	7.480*	7.497*	7.486*	7.428*
	(4.77)	(0.900)	(0.930)	(0.915)	(0.923)	(0.922)
Log GDP per capita ²	-0.491 *	-0.523*	-0.542*	-0.543*	-0.543*	-0.537*
	(5.32)	(0.060)	(0.062)	(0.061)	(0.062)	(0.062)
Log population	1.568	2.015*	2.182*	2.121*	2.146*	2.083*
	(1.91)	(0.398)	(0.429)	(0.409)	(0.407)	(0.404)
Log population ²	-0.035	-0.047*	-0.053*	-0.051*	-0.052*	-0.049*
	(1.36)	(0.012)	(0.013)	(0.012)	(0.012)	(0.012)
Economic openness	0.383 *	0.421 *	0.452*	0.431*	0.456*	0.435*
	(2.57)	(0.129)	(0.132)	(0.131)	(0.131)	(0.131)
Democracy	0.142 *	0.094*	0.107*	0.098*	0.105*	0.098*
	(3.23)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)
Friend of USA (UNGA voting)	-0.006	0.016	-0.043	1.026	0.279	1.638
	(0.30)	(0.008)	(1.754)	(0.765)	(1.338)	(1.384)
Friend of Japan (UGA voting)	0.153 *	0.021	2.244	0.909	0.741	0.494
	(4.0)	(0.015)	(3.300)	(1.188)	(0.939)	(0.699)
Log years as colony	0.291 *	0.170*	0.137*	0.154*	0.149*	0.157*
	(4.64)	(0.034)	(0.034)	(0.034)	(0.034)	(0.035)
Egypt	1.545 *	1.594*	1.638*	1.610*	1.648*	1.614*
	(10.53)	(0.405)	(0.412)	(0.408)	(0.410)	(0.409)
Israel	6.473 *	3.381*	4.037*	3.357*	3.630*	3.232*
	(3.03)	(0.690)	(0.677)	(0.751)	(0.689)	(0.661)
Percent muslims	-0.001	0.001	0.001	0.001	0.001	0.001
	(0.42)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Percent catholics	0.001	0.002	0.001	0.001	0.001	0.001
	(0.30)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Percent other religions (Hindu)	-0.009 *	-0.001	-0.001	-0.001	-0.001	-0.001
	(2.94)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
1970-1974		-43.788*	-45.294*	-44.046*	-43.718*	-43.374*
		(4.743)	(5.249)	(4.841)	(4.886)	(4.870)
1975-1979		-44.031*	-45.313*	-43.693*	-43.420*	-42.812*
		(4.766)	(5.251)	(4.828)	(4.860)	(4.841)
1980-1984		-42.968*	-44.841*	-42.809*	-43.074*	-42.379*
		(4.752)	(5.170)	(4.826)	(4.856)	(4.841)
1985-1989		-42.601*	-44.474*	-42.289*	-42.583*	-41.883*
		(4.771)	(5.187)	(4.826)	(4.853)	(4.840)
1990-1994		-42.731*	-44.694*	-42.348*	-42.509*	-41.763*
		(4.774)	(5.283)	(4.832)	(4.860)	(4.848)
N	397	402	392	392	392	392
R ²	0.63	0.806	-	-	-	-
Resid s.d.	0.978	0.978	-	-	-	-

Robust standard errors in parentheses

* indicates significance at $p < 0.05$

Table A6: Replication of Alesina and Dollar (2000), bilateral aid by US (with non-recorded votes, linear regression with White robust standard errors)

	similarity measure					
	without consensus votes			with consensus votes		
	proportion of agreement		chance corrected			
	b	b	S	K	S	K
(t)	(se)	(se)	(se)	(se)	(se)	
Log GDP per capita	1.84	-1.662*	-1.772*	-1.723*	-1.736*	-1.676*
		(0.153)	(0.155)	(0.155)	(0.155)	(0.156)
Economic openness	1.30 *	0.818*	1.054*	0.982*	1.010*	0.929*
	(4.02)	(0.284)	(0.288)	(0.289)	(0.288)	(0.288)
democracy	0.57 *	0.388*	0.446*	0.411*	0.422*	0.382*
	(8.07)	(0.064)	(0.065)	(0.065)	(0.064)	(0.066)
Friend of USA (UNGA voting)	0.06 *	0.042*	-3.369	1.293	0.582	4.607*
	(3.60)	(0.014)	(2.109)	(1.171)	(1.302)	(1.919)
Log years as colony of US	0.39					
	(1.69)					
Log years as colony not of US	-0.007	-0.007	-0.009*	-0.009*	-0.009*	-0.008*
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Egypt	4.502 *	4.514*	4.546*	4.538*	4.553*	4.516*
	(0.882)	(0.893)	(0.896)	(0.897)	(0.899)	(0.890)
Israel	4.692 *	4.759*	8.129*	6.310*	6.897*	5.235*
	(1.099)	(1.112)	(1.013)	(1.195)	(1.121)	(1.167)
Percent muslims	0.022 *	0.023*	0.025*	0.025*	0.025*	0.024*
	(0.003)	(0.003)	(0.004)	(0.004)	(0.003)	(0.004)
Percent catholics	0.018 *	0.018*	0.023*	0.021*	0.021*	0.019*
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Percent other religions (Hindu)	0.011	0.011	0.011	0.012	0.012	0.014*
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
1970-1974		9.438*	14.406*	11.518*	11.757*	10.115*
		(1.327)	(1.846)	(1.192)	(1.321)	(1.679)
1975-1979		9.340*	14.313*	11.724*	11.802*	11.177*
		(1.339)	(1.856)	(1.119)	(1.152)	(1.180)
1980-1984		11.019*	13.885*	12.597*	12.166*	11.913*
		(1.152)	(1.518)	(1.159)	(1.126)	(1.115)
1985-1989		11.170*	13.566*	12.630*	12.046*	11.911*
		(1.121)	(1.446)	(1.211)	(1.108)	(1.098)
1990-1994		10.680*	14.394*	11.342*	11.867*	11.819*
		(1.152)	(1.911)	(1.172)	(1.111)	(1.097)
<i>N</i>	364	364	358	358	358	358
<i>R</i> ²	0.5	0.713	-	-	-	-
Resid. s.d.		1.702	-	-	-	-

Robust standard errors in parentheses

* indicates significance at $p < 0.05$

Table A7: Replication of Alesina and Dollar (2000), total bilateral aid (other chance-corrected indices I, with non-recorded votes, linear regression with White robust standard errors)

	similarity measure					
	without consensus votes				with consensus votes	
	proportion of agreement		chance corrected			
	b	b	π	uniform m.	π	uniform m.
(t)	(se)	(se)	(se)	(se)	(se)	
Log GDP per capita	6.563 *	7.204*	7.485*	7.445*	7.480*	7.497*
	(4.77)	(0.900)	(0.924)	(0.919)	(0.930)	(0.915)
Log GDP per capita ²	-0.491 *	-0.523*	-0.543*	-0.539*	-0.542*	-0.543*
	(5.32)	(0.060)	(0.062)	(0.061)	(0.062)	(0.061)
Log population	1.568	2.015*	2.152*	2.153*	2.182*	2.122*
	(1.91)	(0.398)	(0.410)	(0.404)	(0.429)	(0.409)
Log population ²	-0.035	-0.047*	-0.052*	-0.052*	-0.053*	-0.051*
	(1.36)	(0.012)	(0.012)	(0.012)	(0.013)	(0.012)
Economic openness	0.383 *	0.421 *	0.458*	0.453*	0.452*	0.431 *
	(2.57)	(0.129)	(0.131)	(0.130)	(0.132)	(0.131)
Democracy	0.142 *	0.094*	0.105*	0.102*	0.107*	0.098*
	(3.23)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)
Friend of USA (UNGA voting)	-0.006	0.016	0.026	1.149	0.038	0.912
	(0.30)	(0.008)	(1.200)	(0.981)	(1.559)	(0.680)
Friend of Japan (UGA voting)	0.153 *	0.021	0.830	1.063	1.995	0.808
	(4.0)	(0.015)	(0.936)	(0.750)	(2.933)	(1.056)
Log years as colony	0.291 *	0.170*	0.149*	0.157*	0.137*	0.154*
	(4.64)	(0.034)	(0.035)	(0.034)	(0.034)	(0.034)
Egypt	1.545 *	1.594*	1.649*	1.637*	1.638*	1.610*
	(10.53)	(0.405)	(0.410)	(0.408)	(0.412)	(0.408)
Israel	6.473 *	3.381 *	3.724*	3.087*	4.037*	3.357*
	(3.03)	(0.690)	(0.683)	(0.735)	(0.677)	(0.751)
Percent muslims	-0.001	0.001	0.001	0.001	0.001	0.001
	(0.42)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Percent catholics	0.001	0.002	0.001	0.001	0.001	0.001
	(0.30)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Percent other religions (Hindu)	-0.009 *	-0.001	-0.001	-0.001	-0.001	-0.001
	(2.94)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
1970-1974		-43.788*	-43.674*	-43.453*	-45.040*	-43.831*
		(4.743)	(4.891)	(4.854)	(5.161)	(4.838)
1975-1979		-44.031*	-43.405*	-42.958*	-45.059*	-43.478*
		(4.766)	(4.865)	(4.833)	(5.170)	(4.827)
1980-1984		-42.968*	-43.042*	-42.367*	-44.586*	-42.074*
		(4.752)	(4.858)	(4.835)	(5.097)	(4.828)
1985-1989		-42.601*	-42.550*	-41.788*	-44.220*	-42.074*
		(4.771)	(4.854)	(4.836)	(5.110)	(4.827)
1990-1994		-42.731*	-42.508*	-41.783*	-44.440*	-42.133*
		(4.774)	(4.866)	(4.841)	(5.199)	(4.833)
<i>N</i>	397	399	392	392	392	392
<i>R</i> ²	0.63	0.810	-	-	-	-
Resid. s.d.		0.935	-	-	-	-

Robust standard errors in parentheses

* indicates significance at $p < 0.05$

Table A8: Replication of Alesina and Dollar (2000), total bilateral aid IV (other chance-corrected indices II, with non-recorded votes, linear regression with White robust standard errors)

	similarity measure					
	without consensus votes				with consensus votes	
	proportion of agreement		chance corrected			
			country m.	resolut. m.	country m.	resolut. m.
	b	b	b	b	b	b
	(t)	(se)	(se)	(se)	(se)	(se)
Log GDP per capita	6.563 *	7.204*	7.521*	7.541*	7.514*	7.538*
	(4.77)	(0.900)	(0.925)	(0.919)	(0.926)	(0.919)
Log GDP per capita ²	-0.491 *	-0.523*	-0.544*	-0.546*	-0.544*	-0.546*
	(5.32)	(0.060)	(0.062)	(0.061)	(0.062)	(0.061)
Log population	1.568	2.015*	2.173*	2.140*	2.176*	2.139*
	(1.91)	(0.398)	(0.420)	(0.408)	(0.421)	(0.408)
Log population ²	-0.035	-0.047*	-0.052*	-0.051*	-0.052*	-0.051*
	(1.36)	(0.012)	(0.013)	(0.012)	(0.013)	(0.012)
Economic openness	0.383 *	0.421*	0.452*	0.433*	0.453*	0.433*
	(2.57)	(0.129)	(0.132)	(0.131)	(0.132)	(0.131)
Democracy	0.142 *	0.094*	0.105*	0.100*	1.060*	0.100*
	(3.23)	(0.029)	(0.030)	(0.029)	(0.030)	(0.029)
Friend of USA (UNGA voting)	-0.006	0.016	0.037	0.032	0.037	0.328
	(0.30)	(0.008)	(0.254)	(0.262)	(0.265)	(0.261)
Friend of Japan (UGA voting)	0.153 *	0.021	0.304	0.257	0.311	0.257
	(4.0)	(0.015)	(0.469)	(0.420)	(0.493)	(0.420)
Log years as colony	0.291 *	0.170*	0.137*	0.148*	0.137*	0.149*
	(4.64)	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)
Egypt	1.545 *	1.594*	1.638*	1.619*	1.638*	1.619*
	(10.53)	(0.405)	(0.412)	(0.409)	(0.412)	(0.409)
Israel	6.473 *	3.381*	3.992*	3.431*	3.990*	3.416*
	(3.03)	(0.690)	(0.662)	(0.723)	(0.674)	(0.723)
Percent muslims	-0.001	0.001	0.001	0.001	0.001	0.001
	(0.42)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Percent catholics	0.001	0.002	0.001	0.001	0.001	0.001
	(0.30)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Percent other religions (Hindu)	-0.009 *	-0.001	-0.001	-0.001	-0.001	-0.001
	(2.94)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
1970-1974		-43.788*	-43.680*	-43.406*	-43.688*	-43.396*
		(4.743)	(4.933)	(4.888)	(4.936)	(4.888)
1975-1979		-44.031*	-43.537*	-42.993*	-43.510*	-42.938*
		(4.766)	(4.917)	(4.874)	(4.914)	(4.869)
1980-1984		-42.968*	-43.075*	-42.192*	-43.073*	-42.165*
		(4.752)	(4.900)	(4.880)	(4.900)	(4.875)
1985-1989		-42.601*	-42.461*	-41.132*	-42.467*	-41.089*
		(4.771)	(4.877)	(4.881)	(4.877)	(4.877)
1990-1994		-42.731*	-42.521*	-41.414*	-42.555*	-41.382*
		(4.774)	(4.888)	(4.869)	(4.891)	(4.867)
<i>N</i>	397	399	392	392	392	392
<i>R</i> ²	0.63	0.810	-	-	-	-
Resid. sd		0.935	-	-	-	-

Robust standard errors in parentheses

* indicates significance at $p < 0.05$

Table A9: Replication of Alesina and Dollar (2000): bilateral aid USA (without time-dummies, linear regression with White robust standard errors)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Log GDP per capita	1.840 *	-0.179*	-0.271*	-0.144*	-0.125*	-0.107
	(0.065)	(0.066)	(0.079)	(0.061)	(0.060)	(0.060)
Economic openness	1.300 *	0.482	0.378	0.481	0.458	0.470
	(0.301)	(0.304)	(0.306)	(0.308)	(0.310)	(0.305)
democracy	0.570 *	0.246*	0.249*	0.230*	0.238*	0.197*
	(0.069)	(0.070)	(0.070)	(0.071)	(0.071)	(0.072)
Friend of USA (UNGA voting)	0.060 *	0.014*	2.098*	1.563	0.110	4.341*
	(0.006)	(0.006)	(0.750)	(1.150)	(0.382)	(1.529)
Log years as colony of US	0.080 *	0.009*	0.006	0.009*	0.008*	0.010*
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Log years as colony not of US	40.090 *	4.608*	4.503*	4.556*	4.517*	4.535*
	(1.020)	(1.031)	(1.027)	(1.036)	(1.039)	(1.026)
Egypt	5.040 *	4.784*	5.166*	4.635*	5.513*	3.575*
	(0.983)	(0.994)	(0.964)	(1.191)	(1.003)	(1.188)
Israel	0.010 *	0.027*	0.028*	0.029*	0.028*	0.028*
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Percent muslims	0.010 *	0.024*	0.024*	0.025*	0.026*	0.024*
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Percent catholics	-0.000	0.018*	0.020*	0.021*	0.020*	0.022*
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
<i>N</i>	364	364	358	358	358	358
<i>R</i> ²	0.609	0.600	0.603	0.597	0.595	0.604
Resid. sd	1.971	1.992	1.985	2.002	2.007	1.985

Robust standard errors in parentheses

* indicates significance at $p < 0.05$

Table A10: Replication of Alesina and Dollar (2000): total bilateral aid (without time-dummies, linear regression with White robust standard errors)

	similarity measure					
	without consensus votes				with consensus votes	
	proportion of agreement		chance corrected			
	b	b	S	K	S	K
(t)	(se)	(se)	(se)	(se)	(se)	
Log GDP per capita	6.563 *	1.338	1.285	1.189	1.559*	1.163
	(0.779)	(0.718)	(0.742)	(0.737)	(0.715)	(0.735)
Log GDP per capita ²	-0.491 *	-0.140*	-0.137*	-0.130*	-0.155*	-0.128*
	(0.053)	(0.049)	(0.050)	(0.050)	(0.049)	(0.050)
Log population	1.568 *	-0.442	-0.461	-0.291	-0.566	-0.279
	(0.346)	(0.318)	(0.345)	(0.325)	(0.323)	(0.324)
Log population ²	-0.035 *	0.027*	0.028*	0.024*	0.031*	0.023*
	(0.011)	(0.010)	(0.011)	(0.010)	(0.010)	(0.010)
Economic openness	0.383 *	0.604*	0.751*	0.722*	0.563*	0.731*
	(0.150)	(0.137)	(0.142)	(0.138)	(0.141)	(0.138)
Democracy	0.142 *	0.115*	0.118*	0.122*	0.106*	0.122*
	(0.035)	(0.032)	(0.033)	(0.033)	(0.033)	(0.033)
Friend of USA (UNGA voting)	-0.006	-0.013*	-2.143	-1.503	-1.740*	-0.722
	(0.003)	(0.003)	(1.249)	(1.217)	(0.428)	(1.298)
Friend of Japan (UGA voting)	0.153 *	0.020*	3.085	1.612	2.425*	0.985
	(0.009)	(0.009)	(2.560)	(0.919)	(0.880)	(0.757)
Log years as colony	0.291 *	0.095*	0.112*	0.136*	0.089*	0.136*
	(0.040)	(0.037)	(0.037)	(0.040)	(0.037)	(0.040)
Egypt	1.545 *	1.973*	2.064*	2.041*	1.990*	2.052*
	(0.510)	(0.460)	(0.469)	(0.470)	(0.459)	(0.471)
Israel	6.473 *	4.853*	4.594*	4.267*	5.485*	4.008*
	(0.553)	(0.511)	(0.613)	(0.707)	(0.604)	(0.696)
Percent muslims	-0.001	0.005*	0.005*	0.005*	0.005*	0.005*
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Percent catholics	0.001	0.007*	0.008*	0.007*	0.007*	0.007*
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Percent other religions (Hindu)	-0.009 *	-0.005	-0.005	-0.005	-0.005	-0.005
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
<i>N</i>	399	387	380	380	380	380
<i>R</i> ²	0.774	0.965	0.963	0.963	0.965	0.963
Resid. s.d.	0.994	0.896	0.915	0.917	0.894	0.918

Robust standard errors in parentheses

* indicates significance at $p < 0.05$

Table A11: Countries covered in Table 5

<u>country</u>	<u>n</u>
Algeria	2
Angola	3
Bangladesh	5
Barbados	3
Benin	5
Bolivia, Plurinational State of	5
Botswana	4
Brazil	2
Burkina Faso	5
Burundi	5
Cameroon	5
Central African Republic	5
Chad	5
Chile	2
China	5
Colombia	2
Congo	5
Congo, the Democratic Republic of the	4
Costa Rica	5
Cote d'Ivoire	5
Cyprus	5
Dominica	1
Dominican Republic	4
Ecuador	5
Egypt	5
El Salvador	5
Ethiopia	4
Gabon	5
Gambia	5
Ghana	5
Guatemala	5
Guinea	5
Guinea-Bissau	4
Guyana	5
Haiti	4
Honduras	5
Hungary	5
India	5
Indonesia	5
Iran, Islamic Republic of	1
Iraq	1
Israel	5
Jamaica	5
Jordan	5
Kenya	5
Madagascar	5
Malawi	5
Malaysia	4
Mali	5
Mauritania	5
Mauritius	4
Mexico	4
Morocco	5
Mozambique	4
Myanmar	4
Nepal	4
Nicaragua	5
Niger	4
Nigeria	4
Pakistan	5
Papua New Guinea	4
Paraguay	5
Peru	5
Philippines	5
Poland	5
Rwanda	5

Senegal	5
Sierra Leone	5
Singapore	5
Somalia	4
South Africa	2
Sri Lanka	5
Syrian Arab Republic	4
Tanzania, United Republic of	4
Thailand	5
Togo	5
Trinidad and Tobago	5
Tunisia	5
Turkey	4
Uganda	5
Uruguay	3
Venezuela, Bolivarian Republic of	3
Zambia	5
Zimbabwe	3

Table A12: Assumptions about marginal distributions for chance-correction

Index	Assumptions about marginal distributions	Interpretation and effect
Signorino & Ritter's S	$m_1 = m_2 = 0.5$ $m_3 = m_4 = 0.0$ $m_5 = m_6 = 0.5$	States have a probability of voting yea or nay of 0.5, and a probability of 0 of abstaining. No substantive justification or interpretation. Only rescales the original proportion of disagreement.
Uniform marginals	$m_i = m_j = \frac{1}{3}$ for $i, j = 1, 2, 3$	States are equally likely to vote year, nay, or abstain. Plausible if there are no consensus effects, agenda effects, and states' propensity of voting in a certain way is only influenced by their policy preferences.
Resolution average marginals	$m_i = m_j = \frac{\sum_{l=1}^r p_{i,j}^l}{r}$ for $i, j = 1, 2, 3$ and $l = 1, \dots, r$, where r stands for the number of resolutions	States' vote choice probabilities are estimated by averaging proportions of states voting in a certain way on a resolution across all resolutions. Adjusts for consensus effects and agenda effects that affect all dyads equally.
Country average marginals	$m_i = m_j = \frac{\sum_{g=1}^n p_{i,j}^g}{n}$ for $i, j = 1, 2, 3$ and $g = 1, \dots, n$, where n stands for the number of member states	States' vote choice probabilities are estimated by averaging proportions of resolutions voted upon in a certain way by a state across all states. Adjusts for consensus effects and agenda effects that affect all dyads equally.
Scott's π	$m_i = m_j = \frac{p_i + p_j}{2}$ for $i, j = 1, 2, 3$	States' vote choice probabilities are estimated by averaging dyad members' vote proportions. Adjusts for consensus effects and agenda effects, even if they are specific to dyad members.
Cohen's κ	$m_i = p_i$ for $i = 1, 2, 3$ $m_j = p_j$ for $j = 1, 2, 3$	States' vote choice probabilities are 'estimated' separately for each dyad member from its observed vote proportions. Adjusts for consensus effects, general and dyad-specific agenda effects, as well as the possibility that extrinsic individual-level factors affect states' propensities to vote in a certain way.

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