Appendix A: Lack of change in CINC scores across time

Appendix A provides supplementary information for the section titled *State Capabilities Rarely Change* that begins on page 13. First, I discuss how missing data affects the computation of individual state CINC scores. I then examine the relative CINC effects of system entry for each system year, 1816 to 2001.

Missingness

Appendix Table A1 details how missing and zero-values populate the CINC data. Note that military expenditures are missing in about 14% of the state-years between 1816 and 2001. None of the components have nearly as many missing values. There are incentives for leaders to mask their true military expenditures in many situations; also, during wars and severe conflicts, true values may be unknown or lost amid the fighting.

In terms of zero values, the substantial outlier is the iron and steel production component. It has a zero value in more than half the cases, and a cursory review of these data suggest much of the coding is correct. Many less-developed states simply do not have the wherewithal to produce iron and steel. This may be problematic for the internal validity of the measure when assessing the capabilities of minor states in the system, especially those that have little or no urban population, which is another component with a substantial number of zero values. I discuss some of these implications for island states in the paper itself.

The lower half of Appendix Table A1 shows how missingness and zero values are distributed across cases in the data. If a state-year has four or more missing components, a CINC score is not calculated, but there are CINC scores for almost 20% of the data that have at least one missing data point. Indeed, only 39% of the cases in the dataset have no missing or zero values.

Table A1: Missingness and Lack of Information in the CINC Data

		# Missing	%age	# Zero Value	%age
Short-term	Military expenditures	1,972	14%	939	7%
	Military personnel	390	3%	482	3%
	Both	185	1%	440	3%
Medium-term	Iron and steel production	87	1%	7,925	56%
	Energy consumption	419	3%	1,372	10%
	Both	25	0%	1,316	9%
Long-term	Urban population	70	0%	2,976	21%
	Total population	1	0%	0	0%
	Both	0	0%	0	0%
State-years with missing values					
	One component	2,055	15%	5,154	36%
	Two components	389	3%	1,697	12%
	Three components	2	0%	1,104	8%
	Four components	25	0%	451	3%
	Five components	0	0%	6	0%
Total number of possible values: *14,129*					
	Cases without missing data:	11,658	83%		
	Cases without zero-value data:	5,717	40%		
	Cases without both:	5,522	39%		

Note, too, that much of the data is interpolated, extrapolated, or based on regression estimates using other data points. I examined the CoW-provided quality codes which identify the sources for

each value of each variable, and there is a great deal of variation in whether data points were sourced or inferred in some way. For example, only 21% of the urban population has an identifiable source; in the vast majority of cases the data is based on extrapolations of other values or regression-based estimates. Energy consumption is best-sourced, with 95% of the data based on identifiable sources. In between are total population values (87% directly sourced) and iron and steel production (44% directly sourced). There are no quality codes for either military personnel or military expenditures.

State System Entry and Changes in World CINC Distribution

A reviewer noted the possible influence of system entry on changes in the distribution of CINC scores for each state already in the system. The CINC score is a standardized measure with the world's capabilities divided by the total number of system members. Additional state system members can, therefore, alter the capabilities of states already in the system.

To explore the effects of new state entry on CINC changes, Appendix Table A2 lists all new system entrants that had a capability score at the time of their system entry, and I organize the entrants by system year. The first column provides the system year, which is then followed by six columns that detail the effects of state system entry: the number of entrants, their mean CINC score, the standard deviation of their scores, the minimum score, the maximum score, and the sum of their CINC scores. The final two columns note the number of system members after the new state additions and the mean CINC score effect of adding new states to the system for existing system members.

The raw changes of new entrants is not large except of course for the system start year of 1816.[21] There are only ten years in which system entrants had total CINC scores that were greater than 0.01 of the world's capabilities. Most system entrants were very small relative to the CINC scores of existing states. The big exception is China and its population entering the system in 1860; it possessed a CINC score of 0.174 at that time.

Noteworthy is that even the relatively few changes that are greater than 0.01 of the CINC population have a negligible effect on the CINC scores already in the system. Again using China as an example, it enters the system with over 17% of the world's capabilities according to the measure, but the denominator includes forty-six states by that time, so the individual effect for all other states is quite small at 0.005. No other per-state effect is greater than 0.001 in any other system year.

[21] There is apparently an error in the Correlates of War CINC data for 1816 since the measures totals more than 1.

Table A2: State System Entry and CINC Changes, 1816-2006

	Characteristics of State System Entrants						*Effect on State System*	
Year	# Entrants	Mean CINC	sd CINC	Min	Max	Total CINC	# System Members	Mean Effect
1816	23	0.046	0.076	0.002	0.337	1.054	23	
1825	1	0.004	.	0.004	0.004	0.004	25	0.000
1828	1	0.001	.	0.001	0.001	0.001	26	0.000
1830	1	0.038	.	0.038	0.038	0.038	27	0.001
1831	2	0.005	0.006	0.001	0.009	0.011	29	0.000
1839	2	0.001	0.000	0.001	0.001	0.002	32	0.000
1841	2	0.002	0.002	0.001	0.003	0.004	34	0.000
1842	1	0.001	.	0.001	0.001	0.001	35	0.000
1843	1	0.001	.	0.001	0.001	0.001	36	0.000
1846	1	0.001	.	0.001	0.001	0.001	37	0.000
1847	1	0.002	.	0.002	0.002	0.002	38	0.000
1848	1	0.002	.	0.002	0.002	0.002	39	0.000
1851	1	0.001	.	0.001	0.001	0.001	40	0.000
1854	1	0.001	.	0.001	0.001	0.001	41	0.000
1855	2	0.007	0.002	0.006	0.009	0.015	43	0.000
1859	1	0.002	.	0.002	0.002	0.002	44	0.000
1860	2	0.100	0.105	0.025	0.174	0.199	46	0.005
1868	1	0.000	.	0.000	0.000	0.000	37	0.000
1875	1	0.000	.	0.000	0.000	0.000	34	0.000
1878	2	0.002	0.002	0.001	0.004	0.005	37	0.000
1882	1	0.001	.	0.001	0.001	0.001	37	0.000
1887	2	0.003	0.001	0.003	0.004	0.007	38	0.000
1894	1	0.000	.	0.000	0.000	0.000	39	0.000
1898	1	0.007	.	0.007	0.007	0.007	40	0.000
1899	1	0.000	.	0.000	0.000	0.000	41	0.000
1900	1	0.000	.	0.000	0.000	0.000	42	0.000
1902	1	0.001	.	0.001	0.001	0.001	43	0.000
1905	1	0.003	.	0.003	0.003	0.003	45	0.000
1908	1	0.003	.	0.003	0.003	0.003	44	0.000
1914	1	0.000	.	0.000	0.000	0.000	45	0.000
1917	1	0.001	.	0.001	0.001	0.001	44	0.000
1918	6	0.005	0.005	0.001	0.014	0.030	50	0.001
1919	1	0.007	.	0.007	0.007	0.007	51	0.000
1920	8	0.003	0.004	0.000	0.010	0.025	59	0.000
1921	1	0.000	.	0.000	0.000	0.000	60	0.000
1922	1	0.003	.	0.003	0.003	0.003	61	0.000
1926	1	0.001	.	0.001	0.001	0.001	63	0.000
1927	1	0.000	.	0.000	0.000	0.000	64	0.000
1932	1	0.001	.	0.001	0.001	0.001	65	0.000
1944	1	0.000	.	0.000	0.000	0.000	58	0.000
1946	4	0.001	0.002	0.000	0.003	0.005	66	0.000
1947	2	0.032	0.029	0.011	0.053	0.064	68	0.001
1948	4	0.002	0.001	0.001	0.004	0.008	72	0.000
1949	3	0.012	0.007	0.004	0.017	0.035	75	0.000
1951	1	0.000	.	0.000	0.000	0.000	76	0.000
1953	2	0.001	0.000	0.000	0.001	0.001	79	0.000
1954	3	0.006	0.005	0.003	0.012	0.018	82	0.000
1955	1	0.038	.	0.038	0.038	0.038	84	0.000
1956	1	0.001	.	0.001	0.001	0.001	87	0.000
1957	2	0.001	0.001	0.001	0.001	0.002	89	0.000
1958	1	0.000	.	0.000	0.000	0.000	90	0.000
1960	18	0.000	0.001	0.000	0.004	0.008	107	0.000
1961	3	0.001	0.000	0.000	0.001	0.002	111	0.000
1962	6	0.001	0.001	0.000	0.001	0.003	117	0.000
1963	2	0.000	0.000	0.000	0.001	0.001	119	0.000
1964	3	0.000	0.000	0.000	0.000	0.001	122	0.000
1965	4	0.000	0.000	0.000	0.001	0.002	125	0.000
1966	4	0.000	0.000	0.000	0.000	0.000	129	0.000
1967	1	0.000	.	0.000	0.000	0.000	130	0.000
1968	3	0.000	0.000	0.000	0.000	0.000	133	0.000
1970	1	0.000	.	0.000	0.000	0.000	134	0.000
1971	5	0.000	0.000	0.000	0.000	0.001	140	0.000
1973	1	0.000	.	0.000	0.000	0.000	141	0.000
1974	2	0.000	0.000	0.000	0.000	0.000	143	0.000
1975	7	0.000	0.000	0.000	0.001	0.002	150	0.000
1976	2	0.000	0.000	0.000	0.000	0.000	151	0.000
1977	1	0.000	.	0.000	0.000	0.000	152	0.000
1978	2	0.000	0.000	0.000	0.000	0.000	156	0.000
1979	2	0.000	0.000	0.000	0.000	0.000	156	0.000
1981	3	0.000	0.000	0.000	0.000	0.000	159	0.000
1983	1	0.000	.	0.000	0.000	0.000	160	0.000
1984	1	0.000	.	0.000	0.000	0.000	161	0.000
1990	3	0.001	0.001	0.000	0.002	0.002	165	0.000
1991	13	0.002	0.005	0.000	0.019	0.030	177	0.000
1992	4	0.001	0.001	0.000	0.001	0.003	181	0.000
1993	6	0.001	0.002	0.000	0.004	0.006	186	0.000
1994	1	0.000	.	0.000	0.000	0.000	187	0.000
1999	3	0.000	0.000	0.000	0.000	0.000	190	0.000
2000	1	0.000	.	0.000	0.000	0.000	191	0.000
2002	1	0.000	.	0.000	0.000	0.000	192	0.000
2006	1	0.000	.	0.000	0.000	0.000	193	0.000

Appendix B: Predictors of parity in the dyad

The following provide summary statistics for several indicators of when parity is likely to be found in a particular dyad. These are described in the section titled *The Geography of Parity* that begins on page 17 of the manuscript.

Predictors of Parity in the Dyad

Appendix Table B1 is a cross-tabulation of the relationship between state system entry and contiguity. I include two cross-tabulations: one for all dyads in the sample, from 1816 to 2001, and one that omits the dyads entering the system in 1816. Both samples demonstrate well the strong relationship between entry year and contiguity—states that border each other are likely to enter the CoW system at the same time.

Table B1: The Relationship between State System Entry and Contiguity

Dyads from 1816 to 2001:

Same entry year?	**Land contiguous?** No	*Expected*	Yes	*Expected*	Total
No	20,231	*20,140*	294	*385*	20,470
Yes	645	*736*	105	*14*	748
	20,876		399		21,275

Pearson $\chi^2 = 627.86$ ($p < 0.000$)

Dyads entering the system after 1816:

Same entry year?	**Land contiguous?** No	*Expected*	Yes	*Expected*	Total
No	20,231	*20,171*	294	*354*	20,525
Yes	428	*488*	69	*9*	497
	20,659		363		21,022

Pearson $\chi^2 = 443.30$ ($p < 0.000$)

Appendix Table B2 provides the mean dyadic parity score (stronger state's share of CINC divided by total dyadic CINC) for each of the four categories in the previous table. The distribution of the means confirm expectations well: non-contiguous states entering the state system at different times are much closer to preponderance than contiguous states entering during the same year. The difference between these two averages is over 20% of the range of the measure.

Table B2: System Entry, Contiguity, and Mean Parity in the Dyad

Same entry year?	**Land contiguous?** No	*# Cases*	Yes	*# Cases*	Group Mean
No	.861	*19,940*	.812	*294*	.860
Yes	.801	*639*	.750	*105*	.793

Appendix C: Parity as a predictor of MIDs

Appendix C provides supplementary information for the section titled *Parity and Dispute Onset* that begins on page 22. The first section repeats the estimates found in Table 6 with different operationalizations of dyadic parity. The second section adjusts the parity measure by distance between the states in the dyad to determine whether this influences the estimates found in the manuscript. I then add measures of dyadic satisfaction to the model in the third section; either these variables or their interactions with parity may alter the previous null findings for parity as a predictor of conflict.

Robustness checks using different operationalizations of parity

There are two additional operationalizations of parity in the conflict literature. The first divides the stronger state's capabilities by the weaker state's capabilities. The second divides the weaker by the stronger. As an additional robustness check, I used both alternate measures with the same model estimations described in Table 6. Those results are displayed in Table C1.

The parity measure that uses weaker state capabilities divided by stronger state capabilities is only statistically significant in the model that controls for parity level at dyadic system entry. Just as in Table 6, however, that finding is rendered insignificant by the rivalry variable. In short, this alternate operationalization of parity behaves just as the measure reported in the text of the paper.

The second measure—stronger state capabilities divided by weaker state capabilities—is statistically significant in most models. However, using this measure, preponderance is associated with conflict. Outliers near preponderance control the result here, as the control for island states eliminates the effect of the parity variable. Regardless, there is again no support for an association between parity and conflict in this additional operationalization.

Finally, Table C2 reports the analysis of the difference from initial parity score in the dyad described in the text on page 26. As described in the text, the effect of the difference from initial parity measure also disappears once a control is added for the presence of rivalry. The original estimation included both the current parity score and the initial parity score. Both operationalizations are effectively the same and produce similar substantive results.

Table C1: Logit Analyses of MID onset, using Two Additional CINC Parity and Geographic Predictors of Parity

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Allied	0.092	0.133*	0.105	-0.119	0.113	0.155*	0.097	0.131*	0.105	-0.115	0.125*	0.158*
	(0.060)	(0.061)	(0.060)	(0.064)	(0.060)	(0.063)	(0.060)	(0.060)	(0.060)	(0.064)	(0.060)	(0.062)
Joint democracy	-0.627***	-0.610***	-0.489***	-0.569***	-0.652***	-0.516***	-0.580***	-0.556***	-0.490***	-0.524***	-0.602***	-0.462***
	(0.076)	(0.076)	(0.076)	(0.077)	(0.076)	(0.077)	(0.076)	(0.076)	(0.076)	(0.078)	(0.076)	(0.077)
Peace years	-0.288***	-0.283***	-0.290***	-0.283***	-0.287***	-0.260***	-0.289***	-0.284***	-0.290***	-0.284***	-0.288***	-0.262***
	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.012)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.012)
Spline 1	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Spline 2	0.001***	0.001***	0.001***	0.001***	0.001***	0.000***	0.001***	0.001***	0.001***	0.001***	0.001***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Spline 3	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Contiguity	3.160***	3.107***	3.072***	2.568***	3.176***	2.420***	3.145***	3.083***	3.072***	2.559***	3.154***	2.399***
	(0.047)	(0.047)	(0.047)	(0.055)	(0.047)	(0.060)	(0.047)	(0.047)	(0.047)	(0.055)	(0.047)	(0.060)
Parity (weaker/stronger)	0.148	0.023	-0.011	0.113	0.401**	0.098						
	(0.076)	(0.079)	(0.077)	(0.078)	(0.129)	(0.134)						
Parity (stronger/weaker)							-0.000***	-0.000**	0.000	-0.000**	-0.000***	-0.000***
							(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Outlier dummy (3 dyads)		1.758***						1.757***				
		(0.152)						(0.149)				
Small island in dyad			-3.525***						-3.508***			
			(0.502)						(0.507)			
Western hemisphere				0.904***						0.901***		
				(0.078)						(0.078)		
Europe				0.569***						0.561***		
				(0.072)						(0.072)		
Africa				0.049						0.043		
				(0.092)						(0.092)		
Middle East				1.265***						1.259***		
				(0.093)						(0.092)		
Asia				1.455***						1.445***		
				(0.076)						(0.076)		
Oceania				0.569						0.619		
				(0.712)						(0.712)		
Same system entry year				0.587***						0.586***		
				(0.064)						(0.064)		
Parity score at entry year					0.590*	1.025***					0.131	1.017***
					(0.239)	(0.243)					(0.144)	(0.157)
Presence of rivalry						2.002***						2.004***
						(0.066)						(0.065)
Constant	-4.539***	-4.539***	-4.388***	-4.774***	-5.081***	-5.591***	-4.466***	-4.498***	-4.392***	-4.713***	-4.557***	-5.522***
	(0.047)	(0.047)	(0.048)	(0.051)	(0.232)	(0.238)	(0.044)	(0.044)	(0.043)	(0.048)	(0.128)	(0.143)
N	650,557	650,557	650,557	650,557	638,246	638,246	650,085	650,085	650,085	650,085	637,784	637,784

Standard errors in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table C2: Logit Analyses of MID onset, using Difference from Original Parity Score

	(1)	(2)
Allied	0.084	0.121
	(0.060)	(0.062)
Joint democracy	-0.633***	-0.471***
	(0.075)	(0.077)
Peace years	-0.288***	-0.261***
	(0.011)	(0.011)
Spline 1	-0.001***	-0.001***
	(0.000)	(0.000)
Spline 2	0.001***	0.000***
	(0.000)	(0.000)
Spline 3	-0.000	-0.000
	(0.000)	(0.000)
Contiguity	3.175***	2.381***
	(0.046)	(0.060)
Difference from original parity score	-1.250***	-0.379
(current parity - start parity)	(0.225)	(0.226)
Presence of rivalry		1.951***
		(0.064)
Constant	-4.520***	-4.712***
	(0.043)	(0.046)
N	650,557	650,557

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Adjusting for distance with the measure of parity

Appendix Table C3 provides analyses that adjust the original parity measure based on the distance between states. It is an important robustness check because there may be a loss-of-strength gradient when a state projects power, and distance will attenuate the relative capabilities of both states (Boulding 1962). I use the distance adjustments in Bueno de Mesquita (1981) and Lemke (1995) for these analyses.

Table C3: Logit Analyses of MID onset with distance adjustments for parity

	(1)	(2)	(3)	(4)	(5)	(6)
Allied	0.091	0.132*	0.102	-0.121	0.114	0.152*
	(0.060)	(0.061)	(0.060)	(0.064)	(0.060)	(0.063)
Joint democracy	-0.629***	-0.610***	-0.488***	-0.570***	-0.657***	-0.518***
	(0.076)	(0.076)	(0.076)	(0.077)	(0.076)	(0.077)
Peace years	-0.288***	-0.283***	-0.290***	-0.283***	-0.287***	-0.260***
	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.012)
Spline 1	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Spline 2	0.001***	0.001***	0.001***	0.001***	0.001***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Spline 3	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Contiguity	3.160***	3.107***	3.069***	2.567***	3.175***	2.420***
	(0.047)	(0.047)	(0.047)	(0.055)	(0.047)	(0.060)
Parity (stronger state's share, adjusted for state-to-state distance)	-0.304*	-0.049	-0.078	-0.269	-0.668**	-0.358
	(0.150)	(0.156)	(0.151)	(0.153)	(0.229)	(0.237)
Outlier dummy (3 dyads)		1.757***				
		(0.152)				
Small island in dyad			-3.515***			
			(0.501)			
Western hemisphere				0.904***		
				(0.078)		
Europe				0.569***		
				(0.072)		
Africa				0.047		
				(0.092)		
Middle East				1.266***		
				(0.092)		
Asia				1.455***		
				(0.076)		
Oceania				0.569		
				(0.712)		
Same system entry year				0.587***		
				(0.064)		
Parity score at entry year					0.462*	1.124***
					(0.214)	(0.221)
Presence of rivalry						2.000***
						(0.066)
Constant	-4.225***	-4.488***	-4.320***	-4.501***	-4.265***	-5.323***
	(0.144)	(0.150)	(0.144)	(0.148)	(0.146)	(0.165)
N	650,557	650,557	650,557	650,557	638,246	638,246

Standard errors in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

The estimates in Appendix Table C3 are consistent with those reported in the manuscript. Column 1 replicates the basic model of Table 6 but substitutes the distance-adjusted parity measure, Column 2 adds the outlier dummy variable, Column 3 adds the island-state dummy, and Column 4 reports the results with the regional and system-entry controls. Parity is only statistically significant

without the controls. Columns 2-4 demonstrate that parity, even when adjusted by distance, is spurious to other factors.

The final two models in the table also behave similarly to those reported in the text. Parity is statistically significant and in the expected direction once the dyad's initial parity score is added to the model. However, as with the earlier results, adding a control for the presence of rivalry reveals that the move toward parity is hostility-driven. The statistical significance of parity disappears.

Satisfaction, Parity, and Conflict

A second set of robustness checks adds variables for (dis)satisfaction to the analyses since the effects of parity may be contingent on how each state views the status quo. As Organski (1958) argued, and Organski and Kugler (1980) tested, conflict may be more likely when a dissatisfied challenger is roughly equal in capabilities to a status quo state. Appendix Table C4 provides tests of this argument with a commonly used proxy for state satisfaction with the status quo. As with previous examinations of power transition theory (cf., Efird, Kugler and Genna 2003), I proxy satisfaction using the minimum S score in the dyad of each state with the global leader (Britain, prior to 1945, and the United States after), based on Correlates of War alliance data (Signorino and Ritter 1999).

Table C4 demonstrates that the S score predicts conflict well in only one model. The S measure has a theoretical range of -1 (dissatisfaction) to 1 (satisfaction), so higher values should be associated with less conflict, which is what I find in Column 1. However, the measure is statistically insignificant in Columns 2-6 when I include the various controls for outlier dyads, island states, and regional and time variables.

I also estimated the interaction of parity and satisfaction in each model since the theoretical argument implies an interaction effect. The interaction term does make the parity measure associated with conflict at a statistically significant level in three of the models, but preponderance predicts conflict according to the sign of the relationship. As Appendix Figure C1 shows, too, completely satisfied dyads at preponderance are only marginally less likely to have a dispute than completely satisfied states at parity.[22] Dissatisfaction magnifies the effects of preponderance as these dyads are more likely to have disputes than those at parity, but the confidence intervals are large and the overall effect is minimal. Finally, the interaction term is not significant in the final specification of the model that takes into account rivalry as a predictor of moves toward parity. The standard error is more than twice the size of the coefficient.

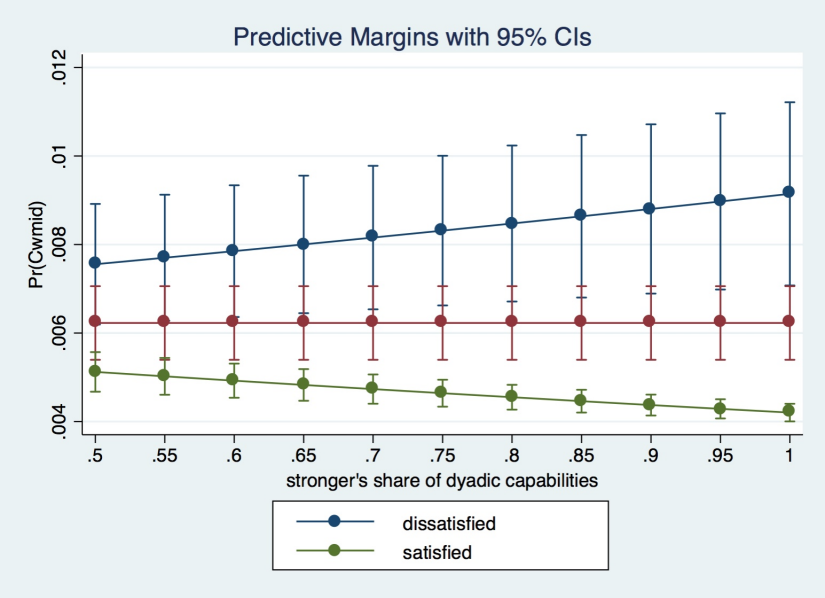
[22]The predicted probabilities are based on the estimates in Model 2, but the other models provide substantively similar results to those reported in Appendix Figure C1 .

Table C4: Logit Analyses of MID onset with satisfaction adjustments for parity

	(1)	(2)	(3)	(4)	(5)	(6)
Allied	0.223***	0.246***	0.216***	0.079	0.239***	0.334***
	(0.063)	(0.063)	(0.063)	(0.067)	(0.063)	(0.066)
Joint democracy	-0.595***	-0.593***	-0.473***	-0.521***	-0.630***	-0.498***
	(0.076)	(0.076)	(0.076)	(0.077)	(0.076)	(0.077)
Peace years	-0.292***	-0.287***	-0.293***	-0.287***	-0.291***	-0.263***
	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.012)
Spline 1	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Spline 2	0.001***	0.001***	0.001***	0.001***	0.001***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Spline 3	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Contiguity	3.212***	3.166***	3.133***	2.603***	3.245***	2.506***
	(0.048)	(0.049)	(0.048)	(0.055)	(0.049)	(0.061)
Parity	-0.091	1.534**	1.956***	1.292*	1.019	0.402
(stronger state's share)	(0.082)	(0.564)	(0.576)	(0.549)	(0.604)	(0.609)
S score (dyadic)	-0.488*	0.704	0.987	0.182	0.736	-1.040
	(0.210)	(0.587)	(0.598)	(0.573)	(0.593)	(0.620)
Parity X S score	-0.681**	-2.077**	-2.444***	-1.976**	-2.312***	-0.323
	(0.221)	(0.687)	(0.700)	(0.667)	(0.696)	(0.723)
Outlier dummy		1.724***				
(3 dyads)		(0.151)				
Small island in dyad			-3.555***			
			(0.502)			
Western hemisphere				1.035***		
				(0.079)		
Europe				0.581***		
				(0.072)		
Africa				0.282**		
				(0.096)		
Middle East				1.319***		
				(0.093)		
Asia				1.751***		
				(0.081)		
Oceania				0.924		
				(0.713)		
Same system entry year				0.470***		
				(0.066)		
Parity score at entry year					0.605*	0.653*
					(0.257)	(0.259)
Presence of rivalry						2.014***
						(0.066)
Constant	-3.674***	-5.018***	-5.211***	-4.742***	-4.924***	-4.586***
	(0.097)	(0.486)	(0.496)	(0.475)	(0.495)	(0.505)
N	649469	649469	649469	649469	637205	637205

Standard errors in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure C1: Graphing the satisfaction and parity interaction



Was the parity-conflict relationship a pre-World War II era phenomenon?

Finally, the last set of analyses assesses whether the conflict-parity relationship is a product of the pre-modern era. Appendix Table C5 estimates the previous models with observations restricted to include only the years between 1816 and 1939. Note that the small island dummy variable is not included in these models since most of these states came into the system after World War II. The Africa and Oceania regional dummies are also excluded for this reason.

Despite the seeming prevalence of war cases at parity prior to World War II, as discussed in the paper, these results suggest parity is unrelated to dispute onset during the pre-World War II era. The outlier dummy remains statistically significant, as do four of the regional dummy variables. However, parity is only statistically significant in the model that also controls for the presence of rivalry, and that model suggests preponderance, not parity, is dispute-prone.

Table C5: Logit Analyses of MID Onset, 1816-1939

	(1)	(2)	(3)	(4)	(5)
Allied	-0.039	-0.005	-0.058	0.146	0.286*
	(0.138)	(0.139)	(0.142)	(0.140)	(0.142)
Joint democracy	-0.305	-0.283	-0.091	-0.388*	-0.059
	(0.169)	(0.169)	(0.172)	(0.169)	(0.171)
Peace years	-0.254***	-0.249***	-0.248***	-0.251***	-0.233***
	(0.020)	(0.020)	(0.020)	(0.020)	(0.021)
Spline 1	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Spline 2	0.001***	0.001***	0.001***	0.001***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Spline 3	-0.000**	-0.000**	-0.000**	-0.000***	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Contiguity	2.179***	2.134***	1.989***	2.114***	1.148***
	(0.082)	(0.084)	(0.094)	(0.084)	(0.109)
Parity	0.066	0.271	0.204	-0.072	1.395**
(stronger state's share)	(0.259)	(0.266)	(0.266)	(0.431)	(0.457)
Outlier dummy		1.364***			
(3 dyads)		(0.264)			
Western hemisphere			0.558***		
			(0.113)		
Europe			-0.494***		
			(0.115)		
Middle East			-0.363		
			(0.463)		
Asia			1.789***		
			(0.212)		
Same system entry year			1.054***		
			(0.103)		
Parity score at entry year				0.106	0.204
				(0.425)	(0.432)
Presence of rivalry					2.224***
					(0.119)
Constant	-4.017***	-4.214***	-4.351***	-3.877***	-5.480***
	(0.227)	(0.234)	(0.237)	(0.240)	(0.282)
N	107724	107724	107724	96479	96479

Standard errors in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Concentrations of high-conflict cases at each parity level

Finally, to help as a first examination of outliers in the parity data, Appendix Table C6 provides a listing of dyads that have five or more disputes at particular interval values of parity (stronger's share of dyadic capabilities). However, not included in this table is the actual conflict density of each interval value, and high-conflict cases such as India-Pakistan (12 disputes at .82) and China-Taiwan (9 disputes at .72) are not necessarily indicative of highly-leveraged dyads in the parity-conflict models. For example, the effects of the island states in the dyad grossly inflate the number of peaceful dyads at preponderance, as I explain in the text on page 22.

Table C6: List of dyads by parity level (5 or more MIDs)

Parity Level	# of MIDs	ccode1	State Name	ccode2	State Name
0.50	8	652	Syria	666	Israel
0.51					
0.52					
0.53					
0.54	5	2	United States	365	Russia
0.55	9	2	United States	365	Russia
0.56					
0.57					
0.58	6	775	Myanmar	800	Thailand
0.59	6	775	Myanmar	800	Thailand
0.60	7	365	Russia	710	China
0.61					
0.62					
0.63	9	731	North Korea	732	South Korea
0.64					
0.65					
0.66					
0.67	6	130	Ecuador	135	Peru
0.68	6	710	China	750	India
0.69					
0.70					
0.71					
0.72					
0.73					
0.74					
0.75					
0.76	9	365	Russia	740	Japan
0.77					
0.78					
0.79					
0.80					
0.81	8	750	India	770	Pakistan
0.82	12	750	India	770	Pakistan
	6	651	Egypt	6	Israel
0.83					
0.84	7	750	India	770	Pakistan
0.85					
0.86					
0.87					
0.88	7	710	China	740	Japan
0.89	5	471	Cameroon	475	Nigeria
0.90	5	750	India	771	Bangladesh
	5	800	Thailand	812	Laos
0.91					
0.92					
0.93	9	710	China	713	Taiwan
0.94	6	710	China	713	Taiwan
0.95	6	552	Zimbabwe	571	Botswana
0.96	7	365	Russia	630	Iran
	5	710	China	840	Philippines
0.97	6	2	United States	70	Mexico
	6	365	Russia	700	Afghanistan
	6	2	United States	731	North Korea
	5	365	Russia	380	Sweden
0.98	7	352	Cyprus	64	Turkey
	7	2	United States	40	Cuba
	6	101	Venezuela	11	Guyana
	5	220	France	616	Tunisia
	5	235	Portugal	255	Germany
0.99	9	2	United States	41	Haiti
	8	2	United States	130	Ecuador
	6	2	United States	42	Dominican Republic
	6	101	Venezuela	200	United Kingdom
	5	200	United Kingdom	678	Yemen Arab Republic
	5	365	Russia	367	Latvia
	5	2	United States	40	Cuba
	5	2	United States	811	Cambodia
	5	365	Russia	385	Norway

Appendix D: Parity and war onset

The final set of supplementary information supports the section titled *Capability Ratios at War Onset* that begins on page 26. First, I provide a list of all Correlates of War wars, sorted by the parity scores of the combatants. I then provide additional figures that describe the capability distributions of war combatants, disaggregated between bilateral and multilateral wars.

CINC scores and War Data

Appendix Table lists all interstate wars in the CoW War Dataset (Sarkees and Wayman 2010), sorted by parity score. Notice that the distribution of these data skew toward preponderance.

Table D1: All Wars Sorted by Parity (CINC, Stronger State's Share)

Year	War #	War Name	Number of Participants	Stronger's Dyadic Share		
				CINC	Milper	Milex
1992	215	Bosnian Independence	3	0.513	0.543	0.520
1929	118	Manchurian	2	0.514	0.752	0.962
1885	70	Second Central American	2	0.516	0.750	1.000
1876	60	First Central American	2	0.520	0.750	1.000
1982	205	War over Lebanon	2	0.523	0.594	0.764
1900	83	Sino-Russian	2	0.523	0.533	0.779
1870	58	Franco-Prussian	5	0.527	0.566	0.565
1879	64	War of the Pacific	3	0.532	0.688	.
1906	88	Third Central American	3	0.543	0.636	0.594
1980	199	Iran-Iraq	2	0.568	0.585	0.500
1969	175	Football War	2	0.583	0.600	0.596
1866	55	Seven Weeks	11	0.597	0.506	0.529
1919	108	Latvian Liberation	5	0.604	0.986	0.963
1884	67	Sino-French	2	0.608	0.655	1.000
1934	125	Saudi-Yemeni	2	0.626	0.818	.
1860	37	Neapolitan	2	0.647	0.667	1.000
1911	97	Italian-Turkish	2	0.649	0.536	0.725
1859	28	Italian Unification	3	0.651	0.593	0.625
1978	190	Ugandian-Tanzanian	3	0.661	0.525	0.923
1941	139	World War II	29	0.663	0.520	0.538
1932	124	Chaco	2	0.669	0.700	0.616
1913	103	Second Balkan	5	0.671	0.504	0.955
1904	85	Russo-Japanese	2	0.675	0.842	0.572
1907	91	Fourth Central American	3	0.676	0.500	1.000
1919	115	Second Greco-Turkish	2	0.677	0.690	0.614
1962	160	Assam	2	0.678	0.742	0.911
1995	217	Cenepa Valley	2	0.682	0.665	0.623
1937	130	Third Sino-Japanese	2	0.687	0.836	0.698
1993	216	Azeri-Armenian	2	0.688	0.682	0.541
1912	100	First Balkan	4	0.698	0.669	0.747
1828	4	First Russo-Turkish	2	0.729	0.829	1.000
1917	106	World War I	15	0.732	0.785	0.624
1938	133	Changkufeng	2	0.736	0.809	0.762
1851	19	La Plata	2	0.737	0.800	.
1931	121	Second Sino-Japanese	2	0.753	0.853	0.752
1863	43	Ecuadorian-Colombian	2	0.765	1.000	.
1975	186	War over Angola	4	0.766	0.588	0.747
1919	109	Russo-Polish	2	0.771	0.838	1.000
1848	10	Austro-Sardinian	4	0.771	0.838	0.627
1982	202	Falkland Islands	2	0.775	0.657	0.854
1950	151	Korean	16	0.786	0.505	0.891
1969	172	War of Attrition	2	0.787	0.697	0.589
1854	22	Crimean	5	0.793	0.538	0.845
1877	61	Second Russo-Turkish	2	0.797	0.646	1.000
1998	219	Badme Border	2	0.802	0.667	0.566
1986	207	War over the Aouzou Strip	2	0.813	0.805	0.967
1846	7	Mexican-American	2	0.822	0.661	0.643
1947	147	First Kashmir	2	0.822	0.531	1.000
1965	166	Second Kashmir	2	0.824	0.815	0.808
1919	112	Hungarian Adversaries	3	0.825	0.942	0.829
1900	82	Boxer Rebellion	6	0.828	0.719	0.955
1823	1	Franco-Spanish War	2	0.829	0.692	1.000
1999	223	Kargil War	2	0.836	0.688	0.798
1866	52	Naval War	3	0.842	0.849	0.832
1894	73	First Sino-Japanese	2	0.845	0.923	1.000
1973	181	Yom Kippur War	6	0.845	0.853	0.646
1967	169	Six Day War	4	0.847	0.828	0.609
1948	148	Arab-Israeli	6	0.851	0.573	0.635
1971	178	Bangladesh	2	0.861	0.794	0.726
1860	34	Italian-Roman	2	0.862	0.906	0.933
1864	49	Lopez	3	0.874	0.531	1.000
1919	112	Hungarian Adversaries	3	0.886	0.802	0.992
1987	208	Sino-Vietnamese Border War	2	0.892	0.737	1.000
1848	13	First Schleswig-Holstein	2	0.894	0.833	0.873

Table D1: All Wars Sorted by Parity (CINC, Stronger State's Share)

Year	War #	War Name	Number of Participants	Stronger's Dyadic Share CINC	Milper	Milex
1977	189	Vietnamese-Cambodian	2	0.899	0.898	.
1977	187	Second Ogaden War	3	0.901	0.889	0.966
1859	31	First Spanish-Moroccan	2	0.908	0.925	1.000
1919	116	Franco-Turkish	2	0.913	0.948	0.950
1897	76	Greco-Turkish	2	0.920	0.946	0.866
1898	79	Spanish-American	2	0.921	0.607	0.910
1909	94	Second Spanish-Moroccan	2	0.922	0.949	1.000
1935	127	Conquest of Ethiopia	2	0.923	0.932	1.000
1979	193	Sino-Vietnamese Punitive	2	0.930	0.876	1.000
1958	159	Taiwan Straits	2	0.935	0.835	0.959
1954	153	Off-shore Islands	2	0.936	0.837	0.974
1956	155	Sinai War	4	0.941	0.948	0.972
1920	117	Lithuanian-Polish	2	0.948	0.951	0.711
1991	211	Gulf War	14	0.953	0.778	0.981
1862	40	Franco-Mexican	2	0.953	0.951	1.000
1940	145	Franco-Thai	2	0.958	1.000	0.998
1918	107	Estonian Liberation	3	0.958	1.000	0.986
1958	158	Ifni War	3	0.964	0.983	0.988
1864	46	Second Schleswig-Holstein	3	0.969	0.941	0.960
1956	156	Soviet Invasion of Hungary	2	0.971	0.960	0.992
1849	16	Roman Republic	4	0.974	0.986	1.000
1970	176	Communist Coalition	4	0.974	0.902	0.993
1968	170	Second Laotian	4	0.977	0.894	0.994
1856	25	Anglo-Persian	2	0.981	0.955	1.000
1882	65	Conquest of Egypt	2	0.981	0.943	0.996
1965	163	Vietnam War	8	0.983	0.942	0.993
1974	184	Turco-Cypriot	2	0.983	0.981	0.984
1939	142	Russo-Finnish	2	0.987	0.980	0.989
1999	221	War for Kosovo	8	0.993	0.972	0.996
2001	225	Invasion of Afghanistan	6	0.994	1.000	0.999

Appendix Figure D2 provides additional graphs of the capability distributions among war combatants that were not included in the text. These two sets of graphs divide war participants between cases of dyadic versus multilateral wars. Only military personnel in multilateral conflicts provides any support for the argument that wars are between coalitions approximately equal in capabilities, and even here the relationship is bimodal, with wars between coalitions at preponderance occurring nearly as often. Once again, there is little support for a connection between parity and conflict.

Figure D2: Capability Differences Disaggregated by Dyadic versus Multilateral