Appendices for “Crisis Bargaining and Nuclear Blackmail”

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This document contains two appendices associated with the article "Crisis Bargaining and Nuclear Blackmail" (*International Organization* 67:1: 173–95). The file `Sechser-Fuhrmann-Appendices.do`, available at `http://dvn.iq.harvard.edu/dvn/dv/tsechser`, performs the operations described herein.

Appendix A

Robustness Checks

In "Crisis Bargaining and Nuclear Blackmail" (Sechser and Fuhrmann 2013), we employ the Militarized Compellent Threats dataset (Sechser 2011) to evaluate the effect of nuclear weapons on the success and failure of coercive threats. The primary results from the article are reported in Table 1.[1] The key independent variables are as follows:[2]

- NUCLEAR CHALLENGER. Dichotomous variable coded 1 if the challenger in a dyad possesses at least one nuclear weapon in a given year, and 0 otherwise.
- NUCLEAR TARGET. Dichotomous variable coded 1 if the target in a dyad possesses at least one nuclear weapon in a given year, and 0 otherwise.
- CHALLENGER ARSENAL SIZE. Natural logarithm of the total number of nuclear weapons possessed by the challenger.
- NUCLEAR SUPERIORITY. Coded 1 if the challenger has more nuclear weapons than the target, and 0 otherwise.
- NUCLEAR RATIO. Proportion of nuclear capabilities controlled by the challenger in each dyad.
- DIFFERENCE IN ARSENAL SIZE. Natural logarithm of the difference between the arsenal sizes of the challenger and target.

The results in Model 2 yield the marginal effects displayed in Figure 1.[3]

[1] This table is reported as Table 1 in "Crisis Bargaining and Nuclear Blackmail" (p. 184).
[2] See Sechser and Fuhrmann (2013, 182–85) for additional detail.
[3] This figure is also reported as Figure 1 in the article (p. 186).

	1	*2*	*3*	*4*	*5*	*6*	*7*
NUCLEAR CHALLENGER	−0.290	$-0.459^{\dagger}$					$-0.758^{\dagger}$
	(0.252)	(0.253)					(0.398)
NUCLEAR TARGET		−0.505					
		(0.840)					
NUCLEAR CHALLENGER × NUCLEAR TARGET		1.547					
		(1.146)					
CHALLENGER ARSENAL SIZE			0.002				
			(0.035)				
NUCLEAR SUPERIORITY				−0.274			
				(0.251)			
NUCLEAR RATIO					−0.537		
					(0.464)		
DIFFERENCE IN ARSENAL SIZE						0.001	
						(0.035)	
STAKES	0.022	0.002	0.037	0.019	0.024	0.036	−0.112
	(0.200)	(0.203)	(0.202)	(0.200)	(0.200)	(0.202)	(0.226)
NUCLEAR CHALLENGER × STAKES							0.693
							(0.436)
CAPABILITY RATIO	−0.311	−0.374	−0.476	−0.322	−0.304	−0.473	−0.281
	(0.397)	(0.398)	(0.393)	(0.396)	(0.398)	(0.393)	(0.399)
DISPUTE HISTORY	−0.032	$-0.044^{\star}$	$-0.038^{\dagger}$	−0.032	−0.032	$-0.038^{\dagger}$	−0.029
	(0.023)	(0.022)	(0.022)	(0.024)	(0.024)	(0.022)	(0.024)
RESOLVE	$1.108^{\star\star}$	$1.110^{\star\star}$	$1.073^{\star\star}$	$1.101^{\star\star}$	$1.096^{\star\star}$	$1.074^{\star\star}$	$1.111^{\star\star}$
	(0.250)	(0.254)	(0.254)	(0.249)	(0.250)	(0.254)	(0.252)
CONSTANT	$-1.029^{\star\star}$	$-0.919^{\star}$	$-0.932^{\star}$	$-1.018^{\star}$	$-0.766^{\dagger}$	$-0.935^{\star}$	$-0.966^{\star}$
	(0.399)	(0.395)	(0.399)	(0.399)	(0.441)	(0.399)	(0.406)
N	236	236	236	236	236	236	236
Pseudo R^2	0.103	0.116	0.099	0.103	0.103	0.099	0.110

NOTE: Robust standard errors in parentheses, clustered by dyad. ** $p < 0.01$, * $p < 0.05$, † $p < 0.10$.

Table 1. *Probit estimates of compellent threat success.*

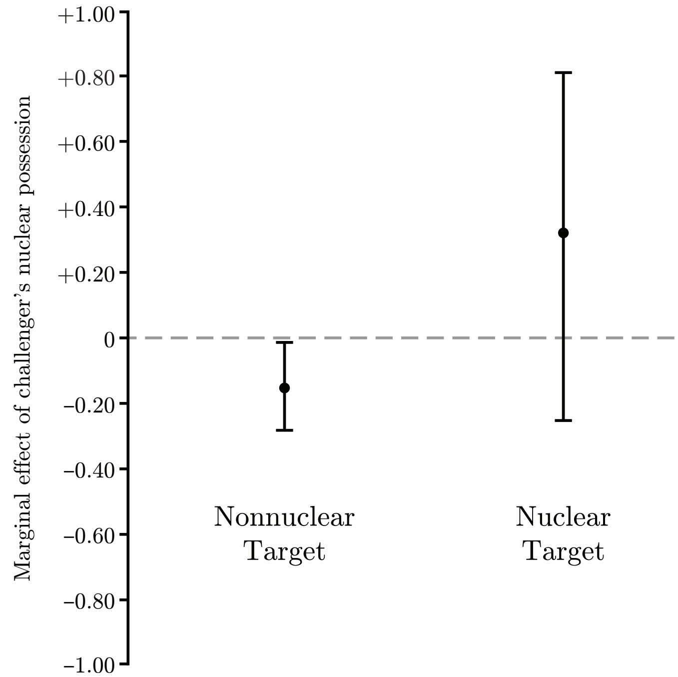

Figure 1. *The marginal effect of* NUCLEAR CHALLENGER$_{0\to 1}$ *on the probability of successful compellent threats (Model 2 estimates; 90% confidence intervals shown).*

The article described several ways in which we modified the original regressions:

1. **Limited uses of force.** Whereas the original coding scheme for the dependent variable (COMPELLENCE SUCCESS) defined a successful threat as one that achieved compliance with no military force, we created a new dependent variable that reclassified compellent threats as successful even if the challenger used limited military force, as long as the target suffered fewer than 100 fatalities (Table 2).

2. **Partial successes.** We recoded the dependent variable using the above 100-fatality threshold as well as a more lenient standard for target compliance, classifying threats as successful if the target complied with any – as opposed to all – of the challenger's demands (Table 3).

3. **Pre-nuclear era.** We replicated the original regressions using a limited sample that includes only post-1945 observations (Table 4).

4. **Resolve.** It could be the case that nuclear weapons embolden challengers to escalate crises after making threats, in which case the effects of nuclear possession might manifest themselves through the RESOLVE variable. To account for this possibility, we excluded RESOLVE from the original models (Table 5).

5. **Undeclared nuclear states.** One might suspect that nuclear weapons are useful only if it is widely known that the challenger possesses them. To address this possibility, we recoded the nuclear status variables to exclude states that had not publicly tested nuclear weapons (Table 6).

6. **Outlying challengers.** To ensure that very successful or unsuccessful challengers are not skewing the findings, we repeated the main regressions while excluding the most unsuccessful nuclear challenger (the United States; Table 7) and the most successful nonnuclear challenger (Germany; Table 8).

None of these modifications alter the main substantive conclusion of the article: neither nuclear possession nor nuclear superiority are associated with more effective compellent threats. The only two possible exceptions to this statement can be found in Models 28 and 55, in which the variable NUCLEAR CHALLENGER × STAKES is positive and statistically significant. Because the key variable in these cases is an interaction term, we cannot look at statistical significance alone – we must evaluate marginal effects in order to assess the overall impact of nuclear possession on compellent threat outcomes (Brambor et al. 2006). Using *Clarify* (King et al. 2000), we calculated the marginal effect of simultaneously changing NUCLEAR CHALLENGER and the associated interaction term from 0 to 1 in high-stakes crises. The 90% confidence interval for this marginal effect includes zero in both models (Model 28: $-0.113, +0.285$; Model 55: $-0.170, +0.170$), indicating that the net impact of a challenger's possession of nuclear weapons is indistinguishable from zero, even in high-stakes crises.

Modification: Limited uses of force permitted

	8	*9*	*10*	*11*	*12*	*13*	*14*
NUCLEAR CHALLENGER	−0.299	−0.549⋆					−0.516
	(0.244)	(0.249)					(0.412)
NUCLEAR TARGET		5.629⋆⋆					
		(0.630)					
NUCLEAR CHALLENGER × NUCLEAR TARGET		−4.280					
		(0.000)					
CHALLENGER ARSENAL SIZE			0.008				
			(0.033)				
NUCLEAR SUPERIORITY				−0.278			
				(0.244)			
NUCLEAR RATIO					−0.849†		
					(0.439)		
DIFFERENCE IN ARSENAL SIZE						0.007	
						(0.032)	
STAKES	0.144	0.146	0.160	0.141	0.140	0.160	0.076
	(0.195)	(0.202)	(0.198)	(0.195)	(0.195)	(0.198)	(0.222)
NUCLEAR CHALLENGER × STAKES							0.330
							(0.471)
CAPABILITY RATIO	−0.660	−0.550	−0.858⋆	−0.674†	−0.576	−0.855⋆	−0.647
	(0.403)	(0.415)	(0.399)	(0.402)	(0.410)	(0.398)	(0.405)
DISPUTE HISTORY	−0.042†	−0.052⋆	−0.049⋆	−0.042†	−0.040†	−0.049⋆	−0.040†
	(0.024)	(0.022)	(0.023)	(0.024)	(0.024)	(0.023)	(0.024)
RESOLVE	1.148⋆⋆	1.130⋆⋆	1.106⋆⋆	1.141⋆⋆	1.151⋆⋆	1.107⋆⋆	1.149⋆⋆
	(0.234)	(0.239)	(0.238)	(0.233)	(0.233)	(0.238)	(0.234)
CONSTANT	−0.624	−0.653	−0.506	−0.612	−0.250	−0.508	−0.590
	(0.406)	(0.409)	(0.406)	(0.405)	(0.424)	(0.406)	(0.413)
N	236	236	236	236	236	236	236
Pseudo R^2	0.139	0.165	0.134	0.138	0.144	0.134	0.140

NOTE: Robust standard errors in parentheses, clustered by dyad. ⋆⋆ $p < 0.01$, ⋆ $p < 0.05$, † $p < 0.10$.

Table 2. *Probit estimates of compellent threat success.*

Modification: Limited uses of force and partial successes permitted

	15	*16*	*17*	*18*	*19*	*20*	*21*
NUCLEAR CHALLENGER	−0.284	−0.531*					−0.294
	(0.243)	(0.245)					(0.391)
NUCLEAR TARGET		5.759**					
		(0.699)					
NUCLEAR CHALLENGER × NUCLEAR TARGET		−4.255					
		(0.000)					
CHALLENGER ARSENAL SIZE			−0.002				
			(0.032)				
NUCLEAR SUPERIORITY				−0.279			
				(0.246)			
NUCLEAR RATIO					−0.922*		
					(0.429)		
DIFFERENCE IN ARSENAL SIZE						−0.004	
						(0.032)	
STAKES	−0.089	−0.105	−0.069	−0.094	−0.102	−0.069	−0.093
	(0.171)	(0.176)	(0.174)	(0.171)	(0.171)	(0.174)	(0.194)
NUCLEAR CHALLENGER × STAKES							0.016
							(0.433)
CAPABILITY RATIO	−0.569	−0.463	−0.730†	−0.574	−0.455	−0.720†	−0.568
	(0.378)	(0.388)	(0.374)	(0.377)	(0.375)	(0.373)	(0.379)
DISPUTE HISTORY	−0.036†	−0.046*	−0.041*	−0.036†	−0.033	−0.041*	−0.036†
	(0.021)	(0.020)	(0.021)	(0.022)	(0.020)	(0.021)	(0.021)
RESOLVE	1.006**	0.981**	0.979**	1.000**	1.011**	0.981**	1.006**
	(0.219)	(0.225)	(0.221)	(0.218)	(0.218)	(0.221)	(0.219)
CONSTANT	−0.283	−0.289	−0.200	−0.276	0.118	−0.206	−0.281
	(0.340)	(0.339)	(0.339)	(0.339)	(0.355)	(0.339)	(0.337)
N	236	236	236	236	236	236	236
Pseudo R^2	0.105	0.134	0.101	0.105	0.112	0.101	0.105

NOTE: Robust standard errors in parentheses, clustered by dyad. ** $p < 0.01$, * $p < 0.05$, † $p < 0.10$.

Table 3. *Probit estimates of compellent threat success.*

Modification: Pre-1945 observations excluded

	22	*23*	*24*	*25*	*26*	*27*	*28*
NUCLEAR CHALLENGER	−0.171	−0.344					−1.051⋆
	(0.302)	(0.306)					(0.432)
NUCLEAR TARGET		−0.139					
		(0.920)					
NUCLEAR CHALLENGER × NUCLEAR TARGET		1.143					
		(1.171)					
CHALLENGER ARSENAL SIZE			0.033				
			(0.041)				
NUCLEAR SUPERIORITY				−0.179			
				(0.296)			
NUCLEAR RATIO					−0.407		
					(0.539)		
DIFFERENCE IN ARSENAL SIZE						0.032	
						(0.040)	
STAKES	−0.087	−0.098	−0.071	−0.093	−0.090	−0.072	−0.573
	(0.263)	(0.270)	(0.267)	(0.265)	(0.262)	(0.267)	(0.367)
NUCLEAR CHALLENGER × STAKES							1.304⋆⋆
							(0.495)
CAPABILITY RATIO	−0.259	−0.166	−0.613	−0.261	−0.197	−0.607	−0.178
	(0.553)	(0.596)	(0.550)	(0.537)	(0.545)	(0.548)	(0.567)
DISPUTE HISTORY	−0.018	−0.033	−0.026	−0.017	−0.017	−0.026	−0.008
	(0.024)	(0.022)	(0.023)	(0.024)	(0.024)	(0.023)	(0.024)
RESOLVE	0.660⋆	0.656†	0.537	0.657⋆	0.659⋆	0.540	0.726⋆
	(0.336)	(0.345)	(0.356)	(0.333)	(0.334)	(0.355)	(0.366)
CONSTANT	−0.826†	−0.809	−0.603	−0.818†	−0.661	−0.607	−0.656
	(0.492)	(0.519)	(0.509)	(0.485)	(0.513)	(0.508)	(0.505)
N	121	121	121	121	121	121	121
Pseudo R^2	0.045	0.067	0.048	0.045	0.046	0.048	0.084

NOTE: Robust standard errors in parentheses, clustered by dyad. ⋆⋆ p <0.01, ⋆ p <0.05, † p <0.10.

Table 4. *Probit estimates of compellent threat success.*

Modification: RESOLVE variable dropped

	29	*30*	*31*	*32*	*33*	*34*	*35*
NUCLEAR CHALLENGER	−0.146	−0.324					−0.606
	(0.243)	(0.242)					(0.397)
NUCLEAR TARGET		−0.342					
		(0.871)					
NUCLEAR CHALLENGER × NUCLEAR TARGET		1.464					
		(1.172)					
CHALLENGER ARSENAL SIZE			0.023				
			(0.034)				
NUCLEAR SUPERIORITY				−0.153			
				(0.244)			
NUCLEAR RATIO					−0.343		
					(0.430)		
DIFFERENCE IN ARSENAL SIZE						0.023	
						(0.034)	
STAKES	0.161	0.144	0.170	0.158	0.159	0.169	0.027
	(0.197)	(0.199)	(0.198)	(0.197)	(0.196)	(0.198)	(0.222)
NUCLEAR CHALLENGER × STAKES							0.695
							(0.433)
CAPABILITY RATIO	−0.513	−0.553	−0.675†	−0.510	−0.490	−0.671†	−0.485
	(0.391)	(0.390)	(0.386)	(0.390)	(0.387)	(0.386)	(0.392)
DISPUTE HISTORY	−0.029	−0.041†	−0.035	−0.028	−0.029	−0.035	−0.026
	(0.022)	(0.021)	(0.021)	(0.022)	(0.022)	(0.021)	(0.022)
CONSTANT	−0.143	−0.052	−0.071	−0.143	0.015	−0.073	−0.076
	(0.348)	(0.344)	(0.348)	(0.347)	(0.395)	(0.348)	(0.356)
N	236	236	236	236	236	236	236
Pseudo R^2	0.028	0.042	0.029	0.028	0.029	0.029	0.035

NOTE: Robust standard errors in parentheses, clustered by dyad. ** $p < 0.01$, * $p < 0.05$, † $p < 0.10$.

Table 5. *Probit estimates of compellent threat success.*

Modification: Nuclear possession restricted to declared nuclear states

	36	*37*	*38*	*39*	*40*	*41*	*42*
NUCLEAR CHALLENGER	−0.172	−0.349					−0.491
	(0.261)	(0.256)					(0.442)
NUCLEAR TARGET		−0.523					
		(0.845)					
NUCLEAR CHALLENGER × NUCLEAR TARGET		1.503					
		(1.155)					
CHALLENGER ARSENAL SIZE			0.004				
			(0.035)				
NUCLEAR SUPERIORITY				−0.130			
				(0.261)			
NUCLEAR RATIO					−0.274		
					(0.480)		
DIFFERENCE IN ARSENAL SIZE						0.004	
						(0.034)	
STAKES	0.037	0.024	0.037	0.036	0.039	0.037	−0.039
	(0.202)	(0.203)	(0.202)	(0.202)	(0.202)	(0.202)	(0.226)
NUCLEAR CHALLENGER × STAKES							0.451
							(0.467)
CAPABILITY RATIO	−0.381	−0.440	−0.485	−0.404	−0.390	−0.482	−0.364
	(0.392)	(0.393)	(0.391)	(0.391)	(0.393)	(0.391)	(0.393)
DISPUTE HISTORY	−0.035	−0.046*	−0.038†	−0.035	−0.036	−0.038†	−0.033
	(0.023)	(0.021)	(0.022)	(0.023)	(0.023)	(0.022)	(0.023)
RESOLVE	1.103**	1.116**	1.070**	1.095**	1.094**	1.071**	1.119**
	(0.254)	(0.258)	(0.255)	(0.254)	(0.254)	(0.255)	(0.256)
CONSTANT	−1.003*	−0.911*	−0.925*	−0.985*	−0.861*	−0.927*	−0.980*
	(0.402)	(0.399)	(0.399)	(0.401)	(0.431)	(0.399)	(0.404)
N	236	236	236	236	236	236	236
Pseudo R^2	0.100	0.112	0.099	0.100	0.100	0.099	0.103

NOTE: Robust standard errors in parentheses, clustered by dyad. ** $p < 0.01$, * $p < 0.05$, † $p < 0.10$.

Table 6. *Probit estimates of compellent threat success.*

Modification: Most unsuccessful nuclear challenger (United States) excluded

	43	*44*	*45*	*46*	*47*	*48*
NUCLEAR CHALLENGER	−0.578†	−0.672⋆				
	(0.303)	(0.323)				
NUCLEAR TARGET		−0.632				
		(0.827)				
NUCLEAR CHALLENGER × NUCLEAR TARGET		1.171				
		(1.142)				
CHALLENGER ARSENAL SIZE			−0.055			
			(0.051)			
NUCLEAR SUPERIORITY				−0.543†		
				(0.303)		
NUCLEAR RATIO					−0.716	
					(0.590)	
DIFFERENCE IN ARSENAL SIZE						−0.054
						(0.051)
STAKES	−0.036	−0.045	−0.016	−0.043	−0.034	−0.015
	(0.219)	(0.219)	(0.221)	(0.219)	(0.219)	(0.221)
CAPABILITY RATIO	−0.464	−0.549	−0.565	−0.479	−0.492	−0.568
	(0.413)	(0.416)	(0.406)	(0.412)	(0.415)	(0.406)
DISPUTE HISTORY	−0.059⋆	−0.064⋆	−0.061⋆⋆	−0.058⋆	−0.059⋆	−0.061⋆⋆
	(0.024)	(0.025)	(0.023)	(0.025)	(0.024)	(0.023)
RESOLVE	1.057⋆⋆	1.061⋆⋆	1.045⋆⋆	1.045⋆⋆	1.030⋆⋆	1.045⋆⋆
	(0.264)	(0.267)	(0.266)	(0.264)	(0.264)	(0.266)
CONSTANT	−0.750†	−0.662	−0.716†	−0.732†	−0.383	−0.714†
	(0.399)	(0.404)	(0.400)	(0.399)	(0.482)	(0.400)
N	216	216	216	216	216	216
Pseudo R^2	0.130	0.134	0.121	0.128	0.123	0.121

NOTE: Robust standard errors in parentheses, clustered by dyad. ⋆⋆ p <0.01, ⋆ p <0.05, † p <0.10.

Table 7. *Probit estimates of compellent threat success.*

Modification: Most successful nonnuclear challenger (Germany) excluded

	49	*50*	*51*	*52*	*53*	*54*	*55*
NUCLEAR CHALLENGER	−0.251	−0.420†					−0.730†
	(0.256)	(0.254)					(0.399)
NUCLEAR TARGET		−0.518					
		(0.841)					
NUCLEAR CHALLENGER × NUCLEAR TARGET		1.541					
		(1.146)					
CHALLENGER ARSENAL SIZE			0.008				
			(0.036)				
NUCLEAR SUPERIORITY				−0.237			
				(0.255)			
NUCLEAR RATIO					−0.466		
					(0.468)		
DIFFERENCE IN ARSENAL SIZE						0.007	
						(0.035)	
STAKES	0.010	−0.007	0.019	0.007	0.012	0.018	−0.132
	(0.201)	(0.203)	(0.203)	(0.201)	(0.201)	(0.203)	(0.227)
NUCLEAR CHALLENGER × STAKES							0.719†
							(0.434)
CAPABILITY RATIO	−0.385	−0.443	−0.565	−0.396	−0.380	−0.562	−0.365
	(0.402)	(0.404)	(0.399)	(0.401)	(0.402)	(0.399)	(0.404)
DISPUTE HISTORY	−0.032	−0.044*	−0.038†	−0.032	−0.032	−0.038†	−0.029
	(0.023)	(0.022)	(0.022)	(0.024)	(0.023)	(0.022)	(0.024)
RESOLVE	1.044**	1.046**	1.004**	1.037**	1.033**	1.004**	1.045**
	(0.251)	(0.256)	(0.256)	(0.251)	(0.252)	(0.256)	(0.253)
CONSTANT	−0.940*	−0.833*	−0.830*	−0.930*	−0.711	−0.832*	−0.868*
	(0.396)	(0.392)	(0.396)	(0.396)	(0.440)	(0.396)	(0.403)
N	224	224	224	224	224	224	224
Pseudo R^2	0.097	0.111	0.094	0.097	0.097	0.094	0.105

NOTE: Robust standard errors in parentheses, clustered by dyad. ** p <0.01, * p <0.05, † p <0.10.

Table 8. *Probit estimates of compellent threat success.*

Appendix B

Heckman Selection Models

We reported in "Crisis Bargaining and Nuclear Blackmail" that our main findings do not change when we jointly model compellent threat initiation and outcome using a bivariate probit model that is commonly referred to as a Heckman probit model.[4] This appendix provides further details about the specification and findings of these two-stage selection models.

Model Specification

Heckman models depend on appropriate exclusion restrictions (Heckman 1979). In other words, for the model to be properly identified, there must be at least one variable in the selection equation (threat initiation) that is excluded from the outcome equation (threat success). The excluded variable must be strongly associated with the former outcome and unrelated to the latter. We satisfy this requirement by including POST-1945 in our threat initiation equation. This variable is coded 1 in all years after 1945 and 0 otherwise.

To constitute a satisfactory exclusion restriction, POST-1945 must meet two requirements. First, it must be associated with the *initiation* of compellent threats. We believe there are good reasons to believe that it meets this condition. As several scholars have argued, the international order that emerged after the defeat of the Axis powers in World War II sought to establish norms raising the costs of international aggression (e.g., Fazal 2004). For example, the U.N. Charter, signed on June 26, 1945, states that "All Members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any state." These principles, if effective, would reduce the frequency of compellent threats. Indeed, we find that the overall rate of militarized compellent threats declined after 1945. Nearly as many threats were issued in the 27 years from 1918 to 1944 (120) as were made between 1945 and 2001 (122). This is striking because, statistically speaking, the earlier period contained roughly 80 percent fewer compellence "opportunities," defined as directed-dyad years. The uncensored dataset we use below contains

[4] For examples of uses of Heckman models in political science, see Reed (2000); Lemke and Reed (2001); Jensen (2003); Beardsley and Asal (2009).

about 24,000 directed-dyad-year observations between 1918 and 1944, but more than 117,000 observations from 1945 to 2001. This suggests that the emergence of the postwar order had a powerful impact on the frequency of military blackmail.

Second, POST-1945 must be unrelated to the *outcomes* of compellent threats. We find that this is also the case: POST-1945 is statistically insignificant when we include it in our models of compellence outcomes (see Table 9), and is statistically insignificant in a simple bivariate regression as well. There is scant evidence that compellence somehow became "harder" during the post-war era. Examples abound of successful compellence after 1945: India and Indonesia both used threats in 1962 to compel Portugal and the Netherlands, respectively, to return colonial territory; Lesotho complied with a 1994 South African demand to reinstate its democratically elected government; and a compellent threat issued by Turkey in 1998 successfully curtailed Syria's support of the Kurdish PKK rebellion. In sum, the variable POST-1945 meets both criteria necessary to constitute a valid exclusion restriction.

In addition to the various indicators of nuclear capability, we include two variables from the censored model in the selection equation: CAPABILITY RATIO and DISPUTE HISTORY. These variables are often included in models of threat initiation or crisis onset. Additionally, we include a variable that counts the number of years that have passed without compellent threats within each dyad (TIME), its square (TIME^2), and its cube (TIME^3). These three variables control for possible temporal dependence in our data (Carter and Signorino 2010).

Results

Table 10 presents the findings from the censored probit analysis. These models emulate the models reported in Table 1 using the Heckman method. The estimation sample for our threat initiation model includes all politically relevant dyads from 1918 to 2001.

The results in the threat success equation (see Table 10) are similar to the findings from the standard probit analysis. The nuclear capability variables are either statistically insignificant or significant but negative, suggesting that nuclear weapons possession is not associated with more successful threats. In addition, the correlation between the disturbance terms in the two equations (ρ) is statistically insignificant in all seven models. This suggests that our initial findings appear not to be biased due to the exclusion of some missing explanatory variable that predicts both threat initiation and success. Overall, these results indicate that states possessing nuclear weapons are not more likely than nonnuclear countries to make successful compellent threats, even when we account for the factors that motivate states to issue demands in the first place.

Modification: POST-1945 variable included

	56	*57*	*58*	*59*	*60*	*61*	*62*
NUCLEAR CHALLENGER	−0.150	−0.326					−0.621
	(0.285)	(0.293)					(0.415)
NUCLEAR TARGET		−0.381					
		(0.853)					
NUCLEAR CHALLENGER × NUCLEAR TARGET		1.440					
		(1.162)					
CHALLENGER ARSENAL SIZE			0.026				
			(0.038)				
NUCLEAR SUPERIORITY				−0.128			
				(0.286)			
NUCLEAR RATIO					−0.314		
					(0.525)		
DIFFERENCE IN ARSENAL SIZE						0.025	
						(0.038)	
STAKES	0.003	−0.015	0.001	0.002	0.004	0.000	−0.135
	(0.201)	(0.203)	(0.203)	(0.201)	(0.201)	(0.203)	(0.226)
NUCLEAR CHALLENGER × STAKES							0.709
							(0.436)
CAPABILITY RATIO	−0.334	−0.383	−0.490	−0.345	−0.318	−0.486	−0.305
	(0.402)	(0.401)	(0.394)	(0.401)	(0.403)	(0.394)	(0.404)
DISPUTE HISTORY	−0.034	−0.046⋆	−0.040†	−0.034	−0.033	−0.040†	−0.031
	(0.024)	(0.023)	(0.024)	(0.025)	(0.025)	(0.024)	(0.025)
RESOLVE	1.085⋆⋆	1.086⋆⋆	1.038⋆⋆	1.080⋆⋆	1.080⋆⋆	1.039⋆⋆	1.085⋆⋆
	(0.249)	(0.252)	(0.255)	(0.249)	(0.252)	(0.255)	(0.250)
POST-1945	−0.207	−0.203	−0.323	−0.215	−0.215	−0.320	−0.217
	(0.238)	(0.236)	(0.229)	(0.238)	(0.236)	(0.229)	(0.238)
CONSTANT	−0.899⋆	−0.801†	−0.731†	−0.886⋆	−0.749†	−0.736†	−0.827†
	(0.425)	(0.416)	(0.422)	(0.424)	(0.447)	(0.423)	(0.437)
N	236	236	236	236	236	236	236
Pseudo R^2	0.107	0.119	0.107	0.106	0.107	0.107	0.113

NOTE: Robust standard errors in parentheses, clustered by dyad. ⋆⋆ p <0.01, ⋆ p <0.05, † p <0.10.

Table 9. *Probit estimates of compellent threat success.*

	63	64	65	66	67	68	69
Compellent Threat Success							
NUCLEAR CHALLENGER	−0.257	−0.410					$-0.692^{\dagger}$
	(0.264)	(0.287)					(0.405)
NUCLEAR TARGET		−0.356					
		(0.897)					
NUCLEAR CHALLENGER × NUCLEAR TARGET		1.428					
		(1.229)					
CHALLENGER ARSENAL SIZE			0.012				
			(0.035)				
NUCLEAR SUPERIORITY				−0.242			
				(0.261)			
NUCLEAR RATIO					−0.522		
					(0.478)		
DIFFERENCE IN ARSENAL SIZE						0.010	
						(0.035)	
STAKES	0.033	0.005	0.027	0.029	0.032	0.027	−0.099
	(0.204)	(0.206)	(0.202)	(0.204)	(0.204)	(0.202)	(0.232)
NUCLEAR CHALLENGER × STAKES							0.647
							(0.431)
CAPABILITY RATIO	−0.358	−0.427	−0.562	−0.369	−0.335	−0.555	−0.331
	(0.451)	(0.432)	(0.422)	(0.447)	(0.438)	(0.422)	(0.456)
DISPUTE HISTORY	−0.043	$-0.059^{\star}$	$-0.056^{\star}$	−0.043	−0.044	$-0.055^{\star}$	−0.040
	(0.031)	(0.029)	(0.028)	(0.032)	(0.031)	(0.028)	(0.031)
RESOLVE	$1.045^{\star\star}$	$1.039^{\star\star}$	$0.989^{\star\star}$	$1.037^{\star\star}$	$1.031^{\star\star}$	$0.990^{\star\star}$	$1.040^{\star\star}$
	(0.255)	(0.258)	(0.259)	(0.255)	(0.258)	(0.259)	(0.256)
CONSTANT	−0.403	−0.131	0.118	−0.374	−0.089	0.105	−0.306
	(1.264)	(1.249)	(1.215)	(1.252)	(1.178)	(1.211)	(1.293)
Compellent Threat Initiation							
NUCLEAR CHALLENGER	−0.071	−0.139					−0.071
	(0.086)	(0.086)					(0.086)
NUCLEAR TARGET		$-0.599^{\star\star}$					
		(0.217)					
NUCLEAR CHALLENGER × NUCLEAR TARGET		$0.617^{\dagger}$					
		(0.336)					
CHALLENGER ARSENAL SIZE			−0.016				
			(0.012)				
NUCLEAR SUPERIORITY				−0.030			
				(0.086)			
NUCLEAR RATIO					0.192		
					(0.126)		
DIFFERENCE IN ARSENAL SIZE						−0.013	
						(0.012)	
CAPABILITY RATIO	$0.454^{\star\star}$	$0.349^{\star\star}$	$0.473^{\star\star}$	$0.437^{\star\star}$	$0.354^{\star\star}$	$0.462^{\star\star}$	$0.454^{\star\star}$
	(0.088)	(0.087)	(0.088)	(0.088)	(0.095)	(0.089)	(0.088)
DISPUTE HISTORY	$0.063^{\star\star}$	$0.061^{\star\star}$	$0.063^{\star\star}$	$0.063^{\star\star}$	$0.063^{\star\star}$	$0.063^{\star\star}$	$0.063^{\star\star}$
	(0.007)	(0.008)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
POST-1945	$-0.470^{\star\star}$	$-0.395^{\star\star}$	$-0.460^{\star\star}$	$-0.485^{\star\star}$	$-0.523^{\star\star}$	$-0.468^{\star\star}$	$-0.470^{\star\star}$
	(0.091)	(0.088)	(0.088)	(0.091)	(0.085)	(0.090)	(0.091)
CONSTANT	$-2.608^{\star\star}$	$-2.540^{\star\star}$	$-2.619^{\star\star}$	$-2.597^{\star\star}$	$-2.641^{\star\star}$	$-2.613^{\star\star}$	$-2.608^{\star\star}$
	(0.142)	(0.136)	(0.142)	(0.141)	(0.118)	(0.142)	(0.142)
ρ	−0.163	−0.212	−0.285	−0.168	−0.183	−0.282	−0.172
	(0.333)	(0.349)	(0.330)	(0.330)	(0.322)	(0.328)	(0.337)
Observations	129,352	129,352	129,352	129,352	129,352	129,352	129,352

NOTE: Robust standard errors in parentheses, clustered by dyad. ** $p < 0.01$, * $p < 0.05$, † $p < 0.10$.

Table 10. *Heckman probit estimates of compellent threat success.*

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