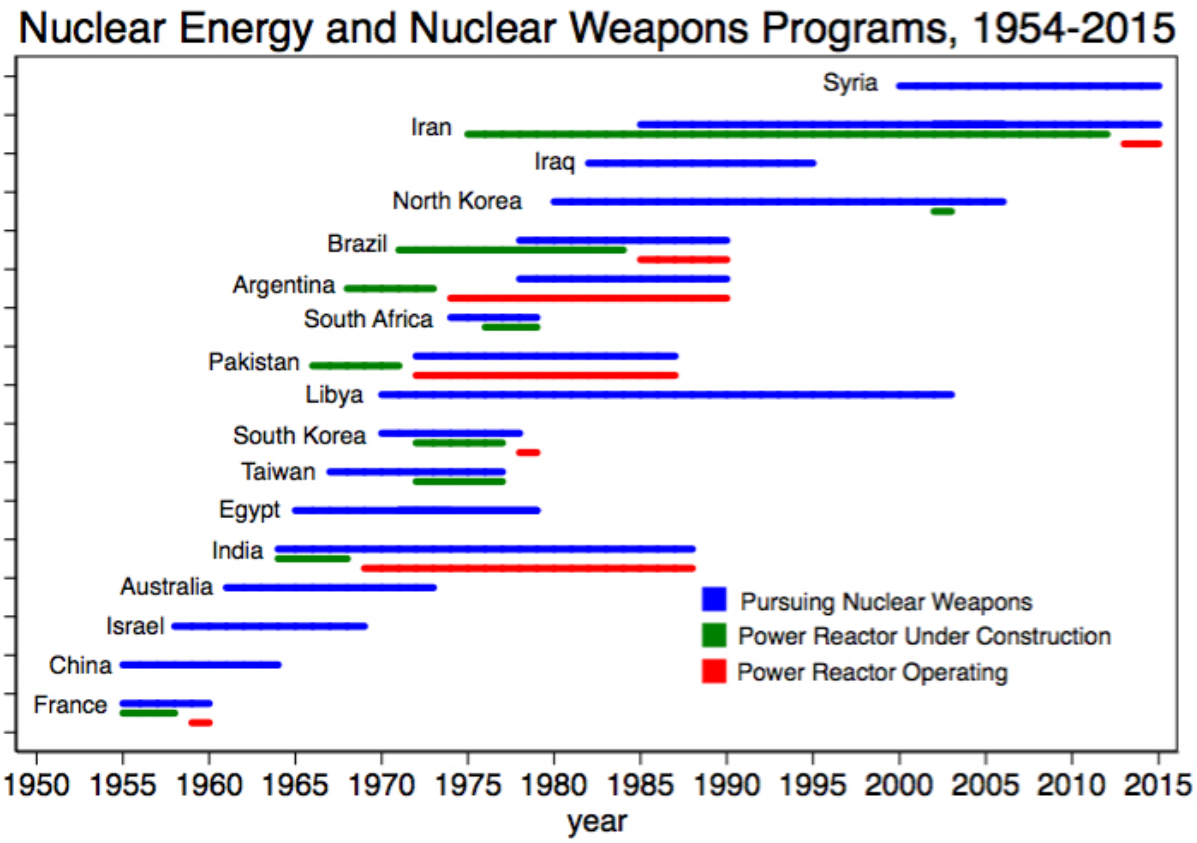
Online Appendix for "Why Nuclear Energy Programs Rarely Lead to Proliferation," *International Security,* Fall 2017.

Figure A1: Status of Nuclear Energy Programs for Proliferators



Note: this figure illustrates the status of nuclear energy programs for countries pursuing nuclear weapons (prior to acquisition). To capture the beginning of operation for Iran's Bushehr reactor, I extend the figure beyond 2009, assuming that Iran and Syria's nuclear weapons programs extended until 2015.

Table A1: Proliferation and Energy Program Dates for Nuclear Pursuers, 1954-

Country	**Explore**	**Pursue**	**Acquire**	**1st Power Reactor Construction**	**1st Power Reactor Operation**
France	1946-1953	1954-1959	1960	1955	1959
China		1955-1963	1964	1987	1994
Israel	1949-1957	1958-1968	1969		
Australia	1956-1960	1961-1973			
India	1954-1963	1964-1987	1988	1964	1969
Egypt	1960-1964	1965-1974			
Taiwan	1987-1988	1967-1977		1972	1978
South Korea	1959-1969	1970-1978		1972	1978
Libya		1970-2003			
Pakistan		1972-1986	1987	1966	1972
South Africa	1969-1973	1974-1978	1979-1991	1976	1984
Argentina	1968-1977	1978-1990		1968	1974
Brazil	1953-1977	1978-1990		1971	1985
North Korea	1965-1979	1980-2005	2006	2002	
Iraq	1976-1981	1982-1995			
Iran	1976-1984	1985-		1975	2013
Syria		2000-			

Explore, pursue, and acquire dates are from Way in appendix in Way and Weeks (2014).

Power reactor dates are from the World Nuclear Association.

Table A2: Pursuit of Nuclear Weapons, 1954-2000, Basic Models

	(1)	(2)	(3)
Reactor under construction	0.998		
	(0.594)*		
Reactor operating		-0.310	
		(1.079)	
Number of operating reactors			-0.348
			(0.282)
t	0.541	0.517	0.509
	(0.266)**	(0.273)*	(0.272)*
t^2	-0.018	-0.017	-0.017
	(0.010)*	(0.010)	(0.010)
t^3	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
Constant	-10.545	-10.300	-10.232
	(2.199)***	(2.231)***	(2.218)***
N	6,198	6,198	6,198

Clustered standard errors in parentheses * $p<0.1$; ** $p<0.05$; *** $p<0.01$

Table A3: Pursuit of Nuclear Weapons, 1954-2000, Including Capacity Controls

	(1)	(2)	(3)
Reactor under construction	0.337		
	(0.906)		
Reactor operating		-0.690	
		(1.113)	
Number of operating reactors			-0.603
			(0.478)
Industrial capacity threshold	1.980	2.162	2.191
	(0.826)**	(0.684)***	(0.666)***
GDP per capita	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
GDP per capita squared	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)
t	0.586	0.557	0.544
	(0.280)**	(0.285)*	(0.286)*
t^2	-0.020	-0.019	-0.018
	(0.011)*	(0.011)*	(0.011)*
t^3	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
Constant	-11.378	-11.172	-11.043
	(2.142)***	(2.170)***	(2.166)***
N	5,800	5,800	5,800

Clustered standard errors in parentheses * $p<0.1$; ** $p<0.05$; *** $p<0.01$

Table A4: Pursuit of Nuclear Weapons, 1954-2000, Including Capacity and Political Controls

	(1)	(2)	(3)
Reactor under construction	-0.048		
	(1.013)		
Reactor operating		-0.604	
		(1.482)	
Number of operating reactors			-0.620
			(0.563)
Industrial capacity threshold	2.087	2.118	2.167
	(0.909)**	(0.776)***	(0.759)***
GDP per capita	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
GDP per capita squared	-0.000	-0.000	-0.000
	(0.000)*	(0.000)	(0.000)
Alliance w/ nuclear power	0.414	0.440	0.488
	(0.622)	(0.621)	(0.616)
Interstate rivalry	1.572	1.560	1.590
	(0.780)**	(0.768)**	(0.752)**
MIDs, 5-year moving average	0.754	0.753	0.751
	(0.207)***	(0.193)***	(0.193)***
Polity score	-0.025	-0.025	-0.024
	(0.048)	(0.048)	(0.047)
Trade openness	-0.005	-0.005	-0.004
	(0.013)	(0.013)	(0.013)
t	0.838	0.838	0.827
	(0.327)**	(0.323)***	(0.327)**
t^2	-0.027	-0.027	-0.027
	(0.011)**	(0.011)**	(0.011)**
t^3	0.000	0.000	0.000
	(0.000)**	(0.000)**	(0.000)**
Constant	-16.164	-16.127	-15.989
	(2.926)***	(2.908)***	(2.908)***
N	5,298	5,298	5,298

Clustered standard errors in parentheses * $p<0.1$; ** $p<0.05$; *** $p<0.01$

Table A5: Pursuit of Nuclear Weapons, 1954-2000, Including NPT Ratification Control

	(1)	(2)	(3)
Reactor under construction	0.204		
	(0.877)		
Reactor operating		-0.472	
		(1.547)	
Number of operating reactors			-0.618
			(0.589)
NPT Ratification	-2.630	-2.587	-2.583
	(0.964)***	(0.910)***	(0.909)***
Industrial capacity threshold	2.337	2.406	2.417
	(0.821)***	(0.770)***	(0.750)***
GDP per capita	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
GDP per capita squared	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)
Alliance w/ nuclear power	0.450	0.510	0.555
	(0.558)	(0.565)	(0.563)
Interstate rivalry	1.336	1.336	1.363
	(0.782)*	(0.739)*	(0.724)*
MIDs, 5-year moving average	0.767	0.770	0.767
	(0.199)***	(0.196)***	(0.197)***
Polity score	-0.027	-0.028	-0.024
	(0.045)	(0.047)	(0.046)
Trade openness	0.005	0.004	0.004
	(0.011)	(0.012)	(0.013)
t	0.622	0.614	0.611
	(0.295)**	(0.290)**	(0.298)**
t^2	-0.018	-0.018	-0.017
	(0.010)*	(0.010)*	(0.010)*
t^3	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
Constant	-14.745	-14.659	-14.579
	(2.729)***	(2.615)***	(2.669)***
N	5,261	5,261	5,261

Clustered standard errors in parentheses * $p<0.1$; ** $p<0.05$; *** $p<0.01$

Table A6: Pursuit of Nuclear Weapons, 1954-2000, Including Nuclear Cooperation Control

	(1)	(2)	(3)
Reactor under construction	-0.181		
	(0.918)		
Reactor operating		-0.834	
		(1.636)	
Number of operating reactors			-0.793
			(0.649)
NCA agreements	0.040	0.044	0.056
	(0.043)	(0.046)	(0.040)
Industrial capacity threshold	1.920	1.885	1.869
	(0.983)*	(0.863)**	(0.840)**
GDP per capita	0.001	0.000	0.000
	(0.000)	(0.000)	(0.000)
GDP per capita squared	-0.000	-0.000	-0.000
	(0.000)*	(0.000)*	(0.000)
Alliance w/ nuclear power	0.362	0.359	0.390
	(0.649)	(0.652)	(0.652)
Interstate rivalry	1.759	1.757	1.860
	(0.897)**	(0.875)**	(0.862)**
MIDs, 5-year moving average	0.743	0.734	0.729
	(0.204)***	(0.188)***	(0.188)***
Polity score	-0.025	-0.022	-0.018
	(0.050)	(0.051)	(0.051)
Trade openness	-0.004	-0.003	-0.002
	(0.012)	(0.012)	(0.013)
t	0.829	0.826	0.813
	(0.309)***	(0.297)***	(0.293)***
t^2	-0.027	-0.027	-0.027
	(0.011)***	(0.010)***	(0.010)***
t^3	0.000	0.000	0.000
	(0.000)**	(0.000)**	(0.000)**
Constant	-16.364	-16.255	-16.141
	(2.842)***	(2.785)***	(2.741)***
N	5,298	5,298	5,298

Clustered standard errors in parentheses * $p<0.1$; ** $p<0.05$; *** $p<0.01$

Table A7: Pursuit of Nuclear Weapons, 1954-2000, Including Indig. Nuclear Resources Control

	(1)	(2)	(3)
Reactor under construction	-0.010		
	(0.997)		
Reactor operating		-0.664	
		(1.483)	
Number of operating reactors			-0.636
			(0.552)
Indig. nuclear resources	0.203	0.207	0.214
	(0.216)	(0.208)	(0.207)
Industrial capacity threshold	1.635	1.679	1.717
	(1.017)	(0.819)**	(0.803)**
GDP per capita	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
GDP per capita squared	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)
Alliance w/ nuclear power	0.278	0.311	0.355
	(0.665)	(0.645)	(0.641)
Interstate rivalry	1.588	1.575	1.610
	(0.801)**	(0.782)**	(0.766)**
MIDs, 5-year moving average	0.711	0.711	0.707
	(0.217)***	(0.203)***	(0.202)***
Polity score	-0.031	-0.032	-0.032
	(0.048)	(0.048)	(0.047)
Trade openness	-0.003	-0.003	-0.002
	(0.013)	(0.013)	(0.013)
t	0.788	0.781	0.763
	(0.301)***	(0.294)***	(0.293)***
t^2	-0.026	-0.026	-0.025
	(0.010)**	(0.010)**	(0.010)**
t^3	0.000	0.000	0.000
	(0.000)**	(0.000)**	(0.000)**
Constant	-16.203	-16.135	-15.984
	(2.769)***	(2.705)***	(2.664)***
N	5,298	5,298	5,298

Clustered standard errors in parentheses * $p<0.1$; ** $p<0.05$; *** $p<0.01$

Table A8: Pursuit of Nuclear Weapons, 1954-2000, Including Sens. Nuclear Assistance Control

	(1)	(2)	(3)
Reactor under construction	-0.038		
	(1.113)		
Reactor operating		-0.699	
		(1.709)	
Number of operating reactors			-0.676
			(0.501)
Sensitive nuclear assistance	1.548	1.570	1.869
	(0.967)	(0.968)	(1.023)*
Industrial capacity threshold	1.884	1.924	1.963
	(0.981)*	(0.832)**	(0.801)**
GDP per capita	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
GDP per capita squared	-0.000	-0.000	-0.000
	(0.000)**	(0.000)*	(0.000)
Alliance w/ nuclear power	0.583	0.615	0.716
	(0.652)	(0.649)	(0.646)
Interstate rivalry	1.532	1.530	1.605
	(0.810)*	(0.792)*	(0.782)**
MIDs, 5-year moving average	0.762	0.760	0.759
	(0.212)***	(0.195)***	(0.198)***
Polity score	-0.021	-0.021	-0.017
	(0.051)	(0.051)	(0.050)
Trade openness	-0.006	-0.006	-0.005
	(0.013)	(0.013)	(0.015)
t	0.901	0.902	0.919
	(0.286)***	(0.282)***	(0.288)***
t^2	-0.030	-0.030	-0.031
	(0.010)***	(0.010)***	(0.010)***
t^3	0.000	0.000	0.000
	(0.000)***	(0.000)***	(0.000)***
Constant	-16.672	-16.633	-16.697
	(2.602)***	(2.571)***	(2.559)***
N	5,298	5,298	5,298

Clustered standard errors in parentheses * $p<0.1$; ** $p<0.05$; *** $p<0.01$

Table A9: Exploration of Nuclear Weapons, 1954-2000, Basic Models

	(1)	(2)	(3)
Reactor under construction	0.986		
	(0.618)		
Reactor operating		-0.007	
		(0.999)	
Number of operating reactors			-0.003
			(0.070)
t	0.238	0.215	0.215
	(0.143)*	(0.148)	(0.151)
t^2	-0.008	-0.007	-0.007
	(0.007)	(0.007)	(0.007)
t^3	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
Constant	-7.888	-7.631	-7.630
	(0.886)***	(0.908)***	(0.916)***
N	6,014	6,014	6,014

Clustered standard errors in parentheses * $p<0.1$; ** $p<0.05$; *** $p<0.01$

Table A10: Exploration of Nuclear Weapons, 1954-2000, Including Capacity Controls

	(1)	(2)	(3)
Reactor under construction	0.435		
	(1.110)		
Reactor operating		-0.580	
		(1.155)	
Number of operating reactors			0.067
			(0.165)
Industrial capacity threshold	1.130	1.422	1.262
	(0.890)	(0.598)**	(0.605)**
GDP per capita	0.001	0.001	0.001
	(0.000)*	(0.000)*	(0.000)*
GDP per capita squared	-0.000	-0.000	-0.000
	(0.000)**	(0.000)**	(0.000)**
t	0.246	0.213	0.242
	(0.132)*	(0.136)	(0.136)*
t^2	-0.007	-0.006	-0.007
	(0.007)	(0.007)	(0.007)
t^3	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
Constant	-9.239	-9.023	-9.263
	(1.230)***	(1.187)***	(1.309)***
N	5,616	5,616	5,616

Clustered standard errors in parentheses * $p<0.1$; ** $p<0.05$; *** $p<0.01$

Table A11: Exploration of Nuclear Weapons, 1954-2000, Including Capacity and Political Controls

	(1)	(2)	(3)
Reactor under construction	0.191		
	(1.166)		
Reactor operating		-0.800	
		(1.270)	
Number of operating reactors			0.056
			(0.239)
Industrial capacity threshold	1.238	1.500	1.275
	(1.113)	(0.957)	(0.974)
GDP per capita	0.001	0.001	0.001
	(0.000)***	(0.000)**	(0.000)***
GDP per capita squared	-0.000	-0.000	-0.000
	(0.000)**	(0.000)**	(0.000)**
Alliance w/ nuclear power	-0.051	0.095	-0.051
	(0.703)	(0.793)	(0.779)
Interstate rivalry	1.294	1.368	1.283
	(0.827)	(0.828)*	(0.806)
MIDs, 5-year moving average	0.725	0.719	0.730
	(0.273)***	(0.276)***	(0.275)***
Polity score	-0.105	-0.107	-0.105
	(0.060)*	(0.061)*	(0.061)*
Trade openness	0.000	0.002	0.000
	(0.009)	(0.009)	(0.009)
t	0.226	0.202	0.229
	(0.138)	(0.147)	(0.140)
t^2	-0.007	-0.006	-0.007
	(0.006)	(0.007)	(0.006)
t^3	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
Constant	-11.497	-11.511	-11.552
	(2.159)***	(2.191)***	(2.245)***
N	5,114	5,114	5,114

Clustered standard errors in parentheses * $p<0.1$; ** $p<0.05$; *** $p<0.01$

Table A12: Jo and Gartzke Codings, 1954-2000, Including Capacity Controls

	(1)	(2)	(3)
Reactor under construction	0.846		
	(0.830)		
Reactor operating		0.083	
		(0.937)	
Number of operating reactors			-0.138
			(0.223)
Industrial capacity threshold	3.230	3.521	3.547
	(1.009)***	(0.851)***	(0.860)***
GDP per capita	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)
GDP per capita squared	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)
t	-0.023	-0.064	-0.076
	(0.189)	(0.193)	(0.182)
t^2	0.010	0.012	0.012
	(0.011)	(0.011)	(0.011)
t^3	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)
Constant	-7.173	-6.951	-6.842
	(0.851)***	(0.834)***	(0.806)***
N	5,659	5,659	5,659

Clustered standard errors in parentheses * $p<0.1$; ** $p<0.05$; *** $p<0.01$

Table A13: Bleek (2010) Codings, 1954-2000, Including Capacity Controls

	(1)	(2)	(3)
Reactor under construction	1.374		
	(0.991)		
Reactor operating		0.572	
		(1.166)	
Number of operating reactors			0.034
			(0.113)
Industrial capacity threshold	3.326	3.753	3.786
	(1.170)***	(1.021)***	(1.064)***
GDP per capita	-0.000	-0.000	-0.000
	(0.001)	(0.001)	(0.001)
GDP per capita squared	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)
t	0.189	0.165	0.131
	(0.172)	(0.164)	(0.137)
t^2	-0.005	-0.003	-0.002
	(0.010)	(0.010)	(0.009)
t^3	0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)
Constant	-7.624	-7.584	-7.374
	(0.967)***	(0.747)***	(1.093)***
N	5,845	5,845	5,845

Clustered standard errors in parentheses * $p<0.1$; ** $p<0.05$; *** $p<0.01$

Table A14: Pursuit of Nuclear Weapons, 1954-2000, ReLogit Estimator

	(1)	(2)	(3)
Reactor under construction	-0.073		
	(1.011)		
Reactor operating		-0.349	
		(1.479)	
Number of operating reactors			0.007
			(0.561)
Industrial capacity threshold	2.036	2.039	2.076
	(0.906)**	(0.774)***	(0.757)***
GDP per capita	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
GDP per capita squared	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)
Alliance w/ nuclear power	0.364	0.387	0.436
	(0.620)	(0.620)	(0.614)
Interstate rivalry	1.426	1.409	1.459
	(0.778)*	(0.766)*	(0.750)*
MIDs, 5-year moving average	0.703	0.704	0.700
	(0.207)***	(0.193)***	(0.192)***
Polity score	-0.026	-0.025	-0.026
	(0.048)	(0.048)	(0.047)
Trade openness	-0.002	-0.002	-0.001
	(0.013)	(0.013)	(0.013)
t	0.650	0.656	0.631
	(0.327)**	(0.322)**	(0.326)*
t^2	-0.022	-0.022	-0.021
	(0.011)**	(0.011)**	(0.011)*
t^3	0.000	0.000	0.000
	(0.000)*	(0.000)*	(0.000)*
Constant	-13.599	-13.611	-13.330
	(2.919)***	(2.901)***	(2.901)***
N	5,298	5,298	5,298

Clustered standard errors in parentheses * $p<0.1$; ** $p<0.05$; *** $p<0.01$

Table A15: Pursuit of Nuclear Weapons, 1954-2000, Inc. Warsaw Pact and NATO Control (Firth Logit estimator to account for separation).

	(1)	(2)	(3)
Reactor under construction	-0.638		
	(0.861)		
Reactor operating		-1.256	
		(1.109)	
Number of operating reactors			-0.039
			(0.073)
Warsaw Pact Member	-1.423	-1.186	-1.384
	(1.590)	(1.611)	(1.606)
NATO Member	-2.296	-2.324	-2.344
	(1.582)	(1.566)	(1.542)
Industrial capacity threshold	2.818	2.562	2.471
	(0.736)***	(0.698)***	(0.742)***
GDP per capita	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)
GDP per capita squared	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
Alliance w/ nuclear power	1.075	0.964	0.978
	(0.591)*	(0.558)*	(0.565)*
Interstate rivalry	1.122	1.234	1.158
	(0.713)	(0.723)*	(0.716)
MIDs, 5-year moving average	0.765	0.729	0.750
	(0.183)***	(0.177)***	(0.179)***
Polity score	-0.043	-0.030	-0.033
	(0.043)	(0.045)	(0.045)
Trade openness	0.003	0.003	0.002
	(0.008)	(0.008)	(0.008)
t	0.629	0.665	0.626
	(0.292)**	(0.325)**	(0.375)*
t^2	-0.021	-0.023	-0.021
	(0.010)**	(0.011)**	(0.013)
t^3	0.000	0.000	0.000
	(0.000)*	(0.000)*	(0.000)
Constant	-13.190	-13.412	-13.084
	(2.703)***	(3.019)***	(3.359)***
N	5,298	5,298	5,298

Clustered standard errors in parentheses * $p<0.1$; ** $p<0.05$; *** $p<0.01$

Table A16: Pursuit of Nuclear Weapons, 1954-2000, Inc. Foreign-Deployed Nukes Control

	(1)	(2)	(3)
Reactor under construction	-0.133		
	(1.012)		
Reactor operating		-0.499	
		(1.559)	
Number of operating reactors			-0.575
			(0.574)
Foreign-deployed nukes	-0.733	-0.689	-0.665
	(1.003)	(1.012)	(1.011)
Industrial capacity threshold	2.143	2.127	2.177
	(0.877)**	(0.754)***	(0.736)***
GDP per capita	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
GDP per capita squared	-0.000	-0.000	-0.000
	(0.000)*	(0.000)*	(0.000)
Alliance w/ nuclear power	0.511	0.501	0.547
	(0.565)	(0.584)	(0.579)
Interstate rivalry	1.595	1.587	1.621
	(0.752)**	(0.745)**	(0.724)**
MIDs, 5-year moving average	0.758	0.752	0.750
	(0.201)***	(0.186)***	(0.186)***
Polity score	-0.022	-0.020	-0.018
	(0.048)	(0.050)	(0.048)
Trade openness	-0.006	-0.006	-0.005
	(0.013)	(0.013)	(0.014)
t	0.860	0.868	0.861
	(0.322)***	(0.322)***	(0.328)***
t^2	-0.028	-0.029	-0.028
	(0.011)***	(0.011)***	(0.011)***
t^3	0.000	0.000	0.000
	(0.000)**	(0.000)**	(0.000)**
Constant	-16.386	-16.382	-16.268
	(2.839)***	(2.868)***	(2.905)***
N	5,298	5,298	5,298

Clustered standard errors in parentheses * $p<0.1$; ** $p<0.05$; *** $p<0.01$

Table A17: Nuclear Energy Programs and Acquisition, 1954-Present, Bleek (2010) Codings

	Did Not Acquire	**Acquired**	**% Acquired**
No Energy Program	Libya, Iraq	China, Israel, North Korea	3/5 (60%)
Energy Program	Brazil, Iran, South Korea, Yugoslavia	France, India, Pakistan, South Africa	4/8 (50%)

Table A18: Nuclear Energy Programs and Acquisition, 1954-Present, Jo and Gartzke Codings

	Did Not Acquire	**Acquired**	**% Acquired**
No Energy Program	Iraq	China, Israel, North Korea	3/4 (75%)
Energy Program	Argentina, Brazil, Iran, Romania, South Korea, Sweden, Taiwan, Yugoslavia,	France, India, Pakistan, South Africa	4/12 (33%)

Figure A2: Energy Programs and the Frequency of Underestimates

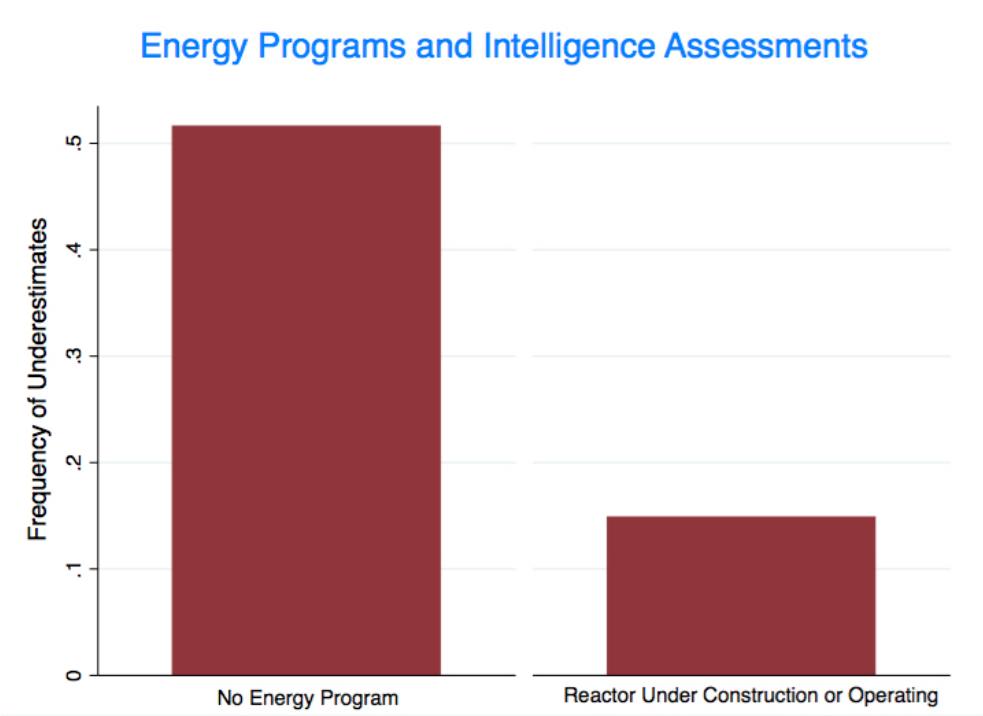


Table A19: Nuclear Energy Programs and the Likelihood of Underestimating Nuclear Programs

	Power Reactor Operating or Under Construction	**Operating Power Reactor**	**Number of Operating Power Reactors**
Base Model (n=60)	-1.81 (0.69)***	-1.64 (1.18)	-1.57 (1.18)
+ Controls (n=60)	-2.89 (0.97)***	-0.73 (1.56)	-0.76 (1.35)

* p<.10 ** p<.05 *** p<.01

Each cell shows the results of a different logit model. Cell entries are logit coefficients for the measures of nuclear energy programs, with clustered standard errors in parentheses. Controls include the year of the assessment and separate dummy variables for whether the proliferator is a US ally or US adversary.

Figure A3: Energy Programs and the Frequency of Correct Estimates

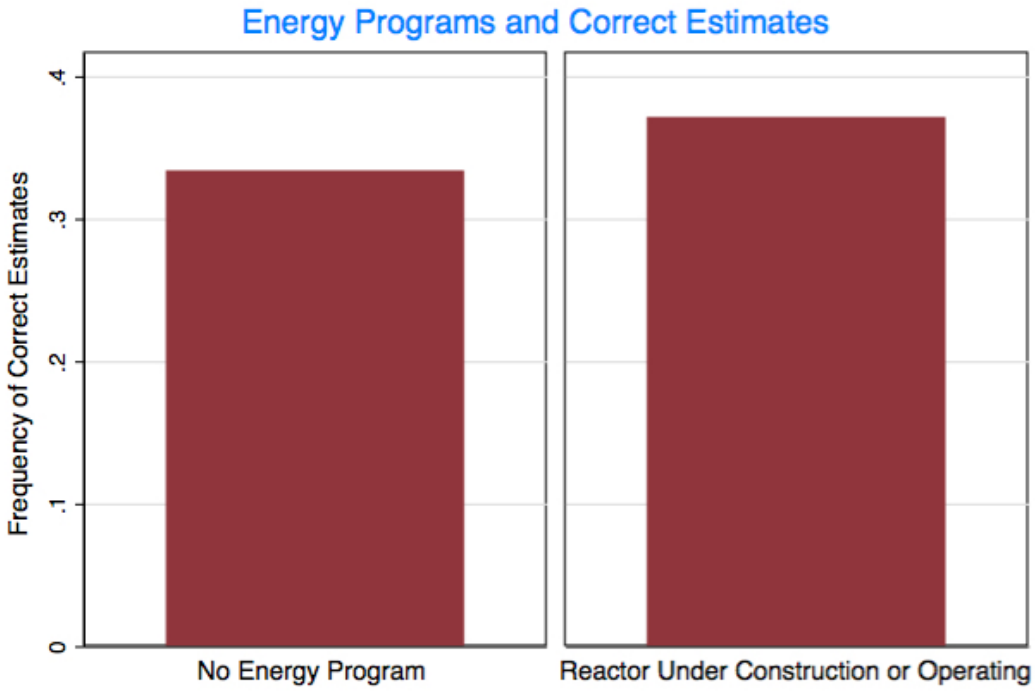


Figure A4: Energy Programs and the Frequency of Overestimates

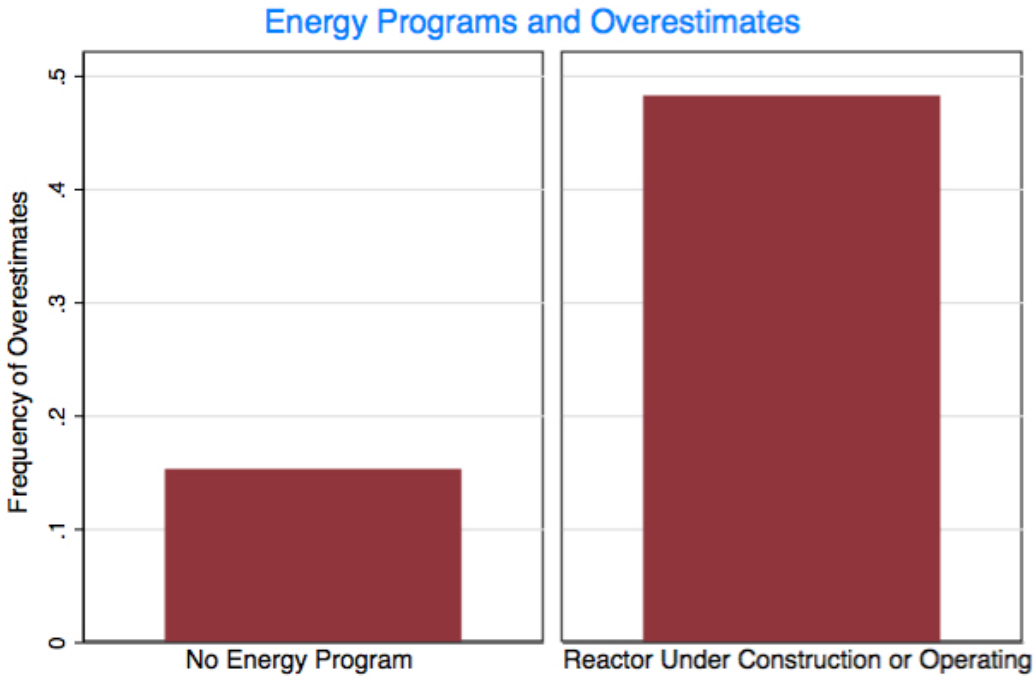


Table A20: Nuclear Energy Programs and U.S. Intelligence Estimates, Multinomial Logit Models

	Power Reactor Operating or Under Construction	**Operating Power Reactor**	**Number of Operating Power Reactors**
Underestimate (n=60)	-1.58 (1.01)	-1.39 (1.48)	-1.42 (1.32)
Overestimate (n=60)	2.24 (0.88)**	-1.61 (0.94)*	-1.62 (0.87)*

* p<.10 ** p<.05 *** p<.01

Each column shows the results of a different multinomial logit model where an accurate assessment is the base category. Cell entries are multinomial logit coefficients for the measures of nuclear energy programs, with clustered standard errors in parentheses. All models control for the year of the assessment and separate dummy variables for whether the proliferator is a US ally or US adversary.

Figure A5: Energy Programs and the Frequency of US Nonproliferation Sanctions

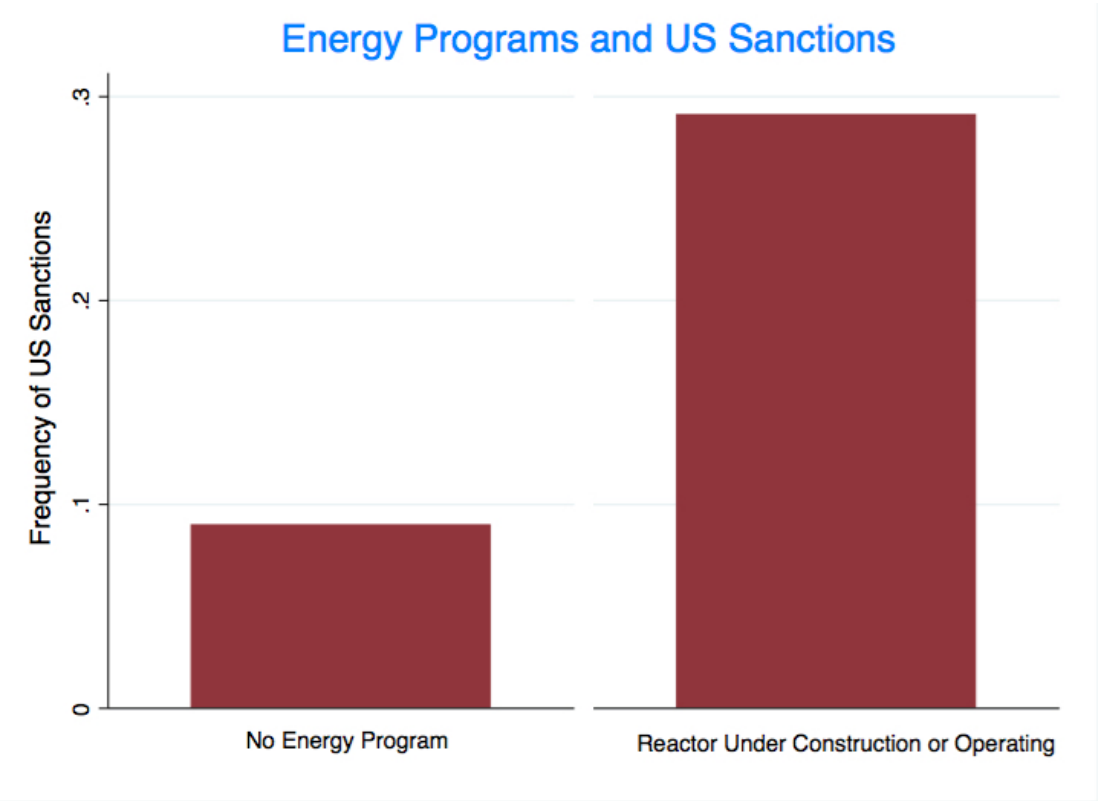


Table A21: Nuclear Energy Programs and Likelihood of U.S. Sanctions Imposition, 1945-2000

	Power Reactor Operating or Under Construction	**Operating Power Reactor**	**Number of Operating Power Reactors**
t, t^2, and t^3 (n=231)	1.35 (0.63)**	0.70 (0.53)	0.23 (0.13)*
+ Controls (n=231)	1.31 (0.45)***	0.56 (0.53)	-0.07 (0.28)

* p<.10 ** p<.05 *** p<.01

Each cell shows the result of a different logit model. Cell entries are logit coefficients for the measures of nuclear energy programs, with clustered standard errors in parentheses. Controls include a dummy variable for the post-1976 era and separate dummy variables for whether the proliferator is a US ally or US adversary.

Table A22: Pursuit of Nuclear Weapons, 1968-2000, Including Capacity and Political Controls

	(1)	(2)	(3)
Reactor under construction	0.835		
	(1.283)		
Reactor operating		0.070	
		(1.387)	
Number of operating reactors			-0.416
			(0.478)
Industrial capacity threshold	1.877	2.230	2.308
	(1.254)	(0.978)**	(0.934)**
GDP per capita	0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)
GDP per capita squared	-0.000	-0.000	-0.000
	(0.000)*	(0.000)*	(0.000)
Alliance w/ nuclear power	0.575	0.746	0.828
	(0.905)	(0.961)	(0.979)
Interstate rivalry	2.261	2.190	2.130
	(0.923)**	(0.922)**	(0.839)**
MIDs, 5-year moving average	0.574	0.626	0.624
	(0.342)*	(0.321)*	(0.322)*
Polity score	-0.062	-0.080	-0.078
	(0.104)	(0.095)	(0.094)
Trade openness	-0.007	-0.007	-0.006
	(0.014)	(0.015)	(0.015)
t	1.288	1.208	1.112
	(0.594)**	(0.512)**	(0.469)**
t^2	-0.044	-0.041	-0.038
	(0.020)**	(0.017)**	(0.016)**
t^3	0.000	0.000	0.000
	(0.000)**	(0.000)**	(0.000)**
Constant	-20.788	-20.258	-19.089
	(5.007)***	(4.490)***	(3.969)***
N	3,980	3,980	3,980

Clustered standard errors in parentheses * $p<0.1$; ** $p<0.05$; *** $p<0.01$

Table A23: Nuclear Energy Programs and Acquisition, 1968-Present, Way Codings

	Did Not Acquire	**Acquired**	**% Acquired**
No Energy Program	Australia, Egypt, Libya, Iraq, Syria	Israel, North Korea	2/7 (28.6%)
Energy Program	Taiwan, South Korea, Argentina, Brazil, Iran	India, Pakistan, South Africa	3/8 (37.5%)

Table A24: Nuclear Energy Programs and Potential Vulnerability to Outside Pressure.

	Avg. Trade Openness	**Frequency of US Economic Aid**	**Frequency of US Military Aid**	**Frequency of Nuclear Ally**
No Energy Program	57.09	0.74	0.55	0.39
Power Reactor Operating or Under Construction	43.11	0.41	0.41	0.66

Country-years from 1954-2000. Trade openness = value of imports + exports as % of GDP.