

Spreading Temptation: Proliferation and Peaceful Nuclear Cooperation Agreements

Author Matthew Fuhrmann

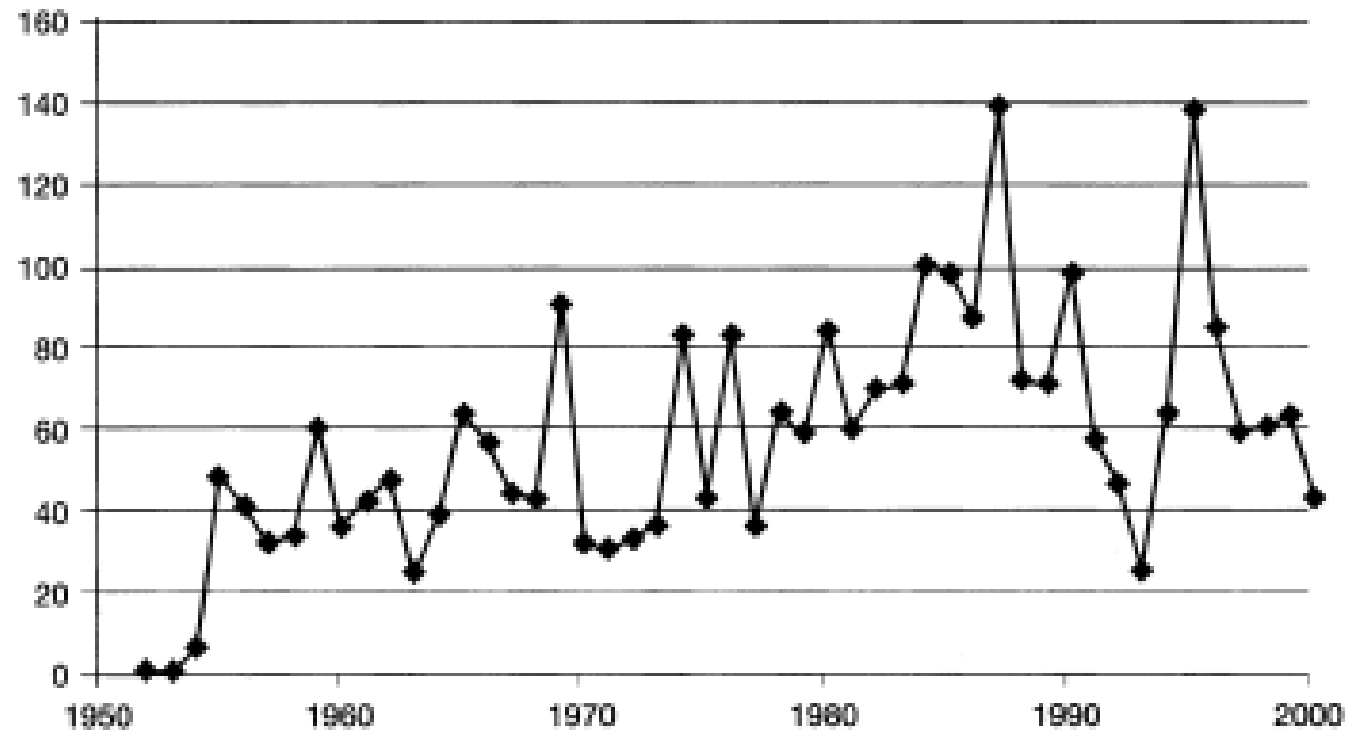
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Hypotheses

- Hypothesis 1: Countries receiving peaceful nuclear assistance are more likely to begin nuclear weapons programs.
- Hypothesis 2: Countries receiving peaceful nuclear assistance are more likely to begin nuclear weapons programs when a security threat arises.
- Hypothesis 3: Countries receiving peaceful nuclear assistance are more likely to acquire nuclear weapons.
- Hypothesis 4: Countries facing security threats and receiving peaceful nuclear assistance are more likely to acquire weapons.

Statistical Tests

Figure 1. Total Number of Nuclear Cooperation Agreements Signed, 1950–2000



SOURCES: Matthew Fuhrmann, "Taking a Walk on the Supply Side: The Determinants of Civilian Nuclear Cooperation," *Journal of Conflict Resolution*, Vol. 53, No. 2 (April 2009), pp. 181–208; and James F. Keeley, "A List of Bilateral Civilian Nuclear Cooperation Agreements," University of Calgary, 2003.

Table 1. Top Recipients of Nuclear Cooperation Agreements, 1945–2000

Country	Total Number of Agreements
United States	396
France	221
Germany	171
Russia	136
United Kingdom	133
Japan	122
Italy	112
Belgium	93
Argentina	92
Netherlands	80
Canada	77
Brazil	70
Spain	70
Switzerland	68
Luxembourg	63
Sweden	56
Denmark	55
China	53
South Korea	49
India	39
Ireland	36
Romania	35
Portugal	33
Czechoslovakia (1945–91)	30
Greece	30
Egypt	29
Finland	29
Poland	28
Australia	25
Indonesia	22

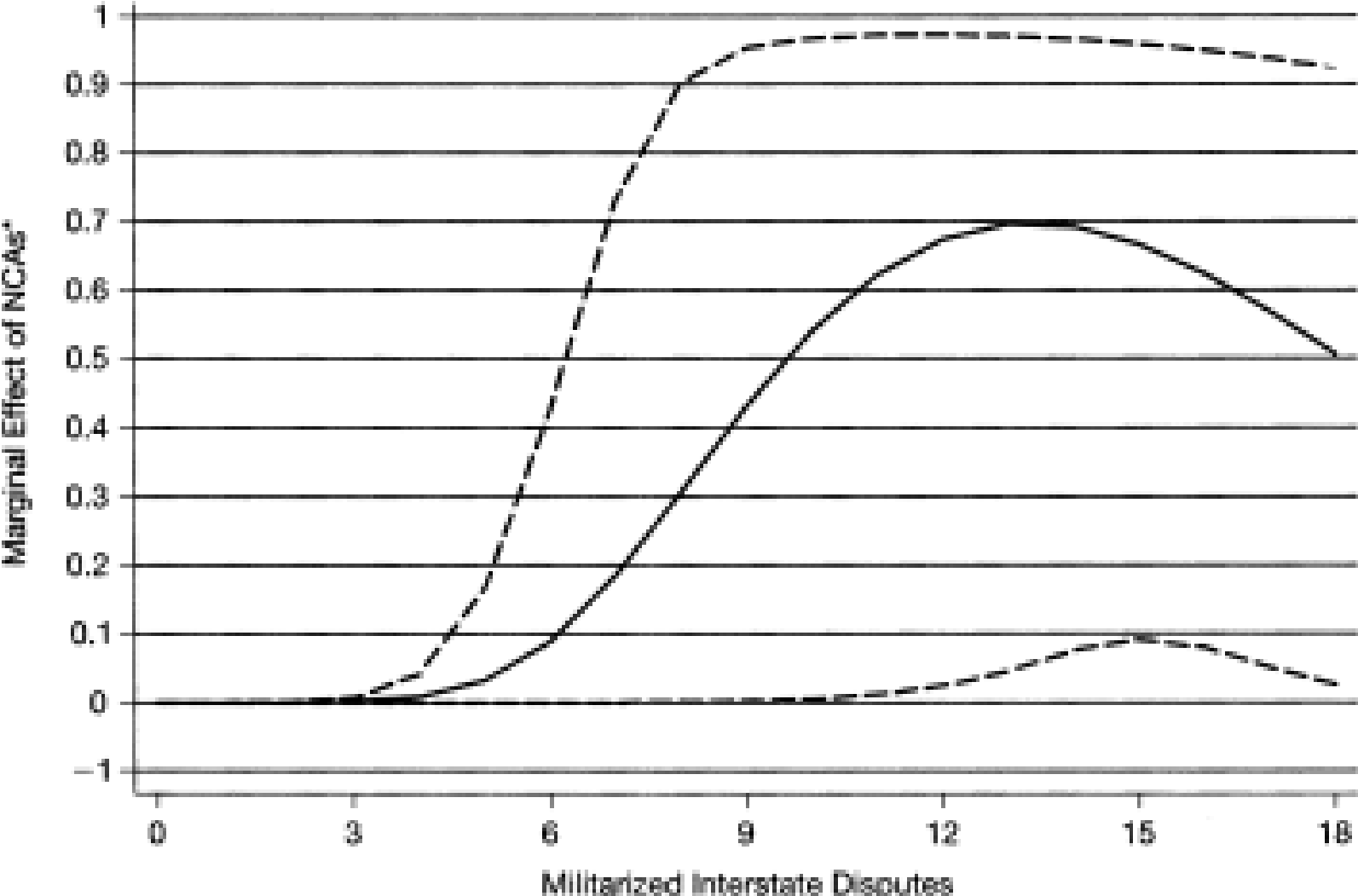
NOTE: summary statistics: $N = 186$; mean = 15.34; minimum = 0; maximum = 396

Table 4. Determinants of Nuclear Weapons Proliferation, 1945–2000

Atomic Assistance	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Peaceful nuclear cooperation	0.023*** (0.009)	0.062*** (0.023)	0.016** (0.007)	0.049*** (0.018)	0.019*** (0.006)	0.055*** (0.020)	0.004 (0.011)	0.014 (0.033)
Militarized disputes	0.152*** (0.040)	0.286*** (0.095)	0.132*** (0.030)	0.265*** (0.066)	0.107** (0.047)	0.206 (0.126)	0.069* (0.041)	0.155 (0.121)
Peaceful nuclear cooperation × militarized disputes			0.025** (0.010)	0.057*** (0.022)			0.013** (0.006)	0.024** (0.011)
Control Variables								
Nuclear protection	0.085 (0.264)	0.105 (0.742)	0.043 (0.274)	0.005 (0.775)	-0.297 (0.348)	-0.544 (1.042)	-0.340 (0.360)	-0.693 (1.121)
Nuclear Nonproliferation Treaty	-1.040** (0.463)	-2.375* (1.286)	-1.168** (0.536)	-2.642* (1.435)				
Democracy	-0.000 (0.016)	0.007 (0.045)	-0.006 (0.016)	-0.008 (0.042)	0.016 (0.016)	0.025 (0.053)	0.010 (0.017)	0.011 (0.055)
Democratization	-0.014 (0.022)	-0.034 (0.065)	-0.015 (0.024)	-0.036 (0.075)	-0.036 (0.035)	-0.079 (0.103)	-0.036 (0.040)	-0.099 (0.127)
Economic openness	0.002 (0.005)	0.008 (0.013)	0.001 (0.005)	0.008 (0.015)	0.003 (0.003)	0.014 (0.012)	0.003 (0.003)	0.015 (0.009)
Liberalization	-0.001 (0.006)	-0.004 (0.017)	0.003 (0.006)	0.019 (0.017)	0.005 (0.004)	0.040*** (0.012)	0.005 (0.003)	0.036*** (0.011)
GDP per capita	0.000* (0.000)	0.000 (0.000)	0.000** (0.000)	0.001 (0.000)	0.000 (0.000)	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)	-0.000** (0.000)	-0.000*** (0.000)	-0.000 (0.000)	-0.000** (0.000)	-0.000 (0.000)
Industrial capacity threshold	0.874*** (0.334)	2.150** (0.875)	0.878*** (0.340)	2.219*** (0.861)	1.259*** (0.233)	2.666** (1.056)	1.268*** (0.248)	2.867*** (1.099)
Rivalry	0.909*** (0.317)	2.385** (0.975)	0.758*** (0.286)	1.863** (0.616)	0.884** (0.394)	1.977 (1.286)	0.769* (0.404)	1.688 (1.323)
No proliferation years	0.012 (0.009)	0.031 (0.026)	0.007 (0.009)	0.015 (0.026)	-0.017** (0.008)	-0.038 (0.024)	-0.021** (0.009)	-0.049* (0.026)
Constant	-4.510*** (0.459)	-9.280*** (1.195)	-4.417*** (0.430)	-9.097*** (1.067)	-4.431*** (0.481)	-8.787*** (1.433)	-4.232*** (0.461)	-8.155*** (1.264)
Observations	5,511	5,511	5,511	5,511	5,702	5,702	5,702	5,702

NOTE: Robust standard errors in parentheses; *significant at 0.10; **significant at 0.05; ***significant at 0.01. GDP = gross domestic product.

Figure 2. Marginal Effect of Nuclear Assistance on Weapons Program Onset as Number of Disputes Increases



You Guys are Probably Bored, I'll Wrap it Up

- Argues that civilian assistance and weapons proliferation are linked
- These links reduce the expected costs of a nuclear weapons program
- There is no such thing as "proliferation-proof" atomic assistance.
- "atoms for peace" policies have facilitate nuclear proliferation
- Nuclear suppliers should avoid the temptation of short-term economic or political gains.
- Why do suppliers provide civilian assistance?