MARKET RULES:
The Incidental Relationship between
Democratic Compatibility and International Commerce

By

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Data Appendix

We use constant 1995 U.S. dollars to measure exports and GDP in order to minimize the effects of inflation and increases in prices over time. GDP in current prices was first converted to billions of U.S. dollars by dividing GDP in national currencies by the average exchange rate for that year. Data for the average exchange rates per U.S. dollar from 1962 to 1967 were taken from line (rf) of the International Financial Statistics Yearbook, 1992 for all countries except Russia. Data for the average exchange rates per U.S. dollar from 1968 to 1997 were taken form line (rf) of the International Financial Statistics Yearbook, 1998 for all countries except Russia. The average exchange rate of the Russian Ruble per U.S. dollar form 1962 to 1989 was extracted form the Penn World Tables data series at the University of Toronto. The average exchange rate of the Russian Ruble per U.S. dollars from 1993 to 1995 was taken from the World Bank's World Development Indicators, CD-ROM, 1997. The average exchange rate of the Russian Ruble per U.S. dollars from 1996 to 1997 was taken from line (rf) of the International Financial Statistics Yearbook, 1998. The average exchange rate of the Russian Ruble per U.S. dollars for the years 1990 to 1992 was estimated using the average exchange rate for 1993. GDP data from 1962-1967 was taken from the International Financial Statistics Yearbook, 1992 for all countries except Russia. GDP data from 1968-1997 is taken from the International Financial Statistics Yearbook, 1998 for all countries except Russia. GDP data for Russia from 1962 to 1969 was taken from Brian R. Mitchell, International Historical Statistics: Europe, 1750-1993 (4th edition, New York: Stockton Press, 1998). GDP data for Russia from 1970 to 1995 were taken from the World Bank's World Development Indicators, CD-ROM, 1997. GDP data for Russia from 1996 to 1997 were taken from the International Financial Statistics Yearbook, 1998.

Population data (POP) are reported in thousands. For all countries with the exception of Japan, population data from 1962 to 1993 were taken from Brian R. Mitchell's International Historical Statistics: Europe, 1750-1993, London: Stockton Press, 1995; Brian R. Mitchell's International Historical Statistics: Africa, Asia and Oceania, 1750-1993, London: Stockton Press, 1995; Brian R. Mitchell's International Historical Statistics: The Americas, 1750-1993, 4th edition, New York: Stockton Press, 1995. For all countries with the exception of Japan, population data from 1994 to 1997 were taken from the International Financial Statistics Yearbook 1998. Population data for Japan from 1962 to 1988 were taken from Brian R. Mitchell's International Historical Statistics: Africa, Asia and Oceania, 1750-1993, London: Stockton Press, 1995; and population data for Japan for 1989 to 1997 were taken from the International Financial Statistics Yearbook 1998.

The data for geographical distance between capitals was collected from Gary L. Fitzpatrick and Marilyn J. Modlin. Direct-Line Distances, U.S. Edition (Metuchen, N.J.: The Scarecrow Press, Inc., 1986).

Data for general exports were taken from various issues of The Direction of Trade Statistics Yearbook. The data for 1962 through 1978 were taken from The Direction of Trade Data set stored at the ICPSR (except for China and the USSR). Chinese and Soviet general trade data were gathered from Brian Mitchell's International Historical Statistics: Africa, Asia, and Oceania 1750-1993, 4th edition. Exports from the USSR to all countries except China for 1962 and 1963 were available. Therefore, imports to the USSR were used instead for the remaining dyads with China. The 1985 volume was used for data from 1979 through 1984. The 1992 volume was used for data from 1985 through 1990 (except for Soviet data where it was used from 1985 through 1991). The 1998 volume was used for data from 1991 through 1997 (except for Russian data where it was used form 1992 through 1997).

ADDITIONAL RESULTS

We developed the gravity model in Table 2 based upon a specific view of the most-plausible causal order among a host of variables. The possibility that some readers might prefer alternate modeling choices brings up the question of how much each addition to the baseline model contributed to the stark reversal of the democratic dyad coefficient. We therefore ran a series of restricted models. These models will not be properly specified, since we have wrongly constrained some coefficients from our full model to be zero, but they allow us to compare the relative influence of various controls.

Table 2b reveals the separate effect of each of our model changes. Model 1 is the baseline gravity model with only a variable for joint democracy added. That dummy variable is positive and significant. Models 2-4 then show the effect of each package of substantive variables. Model 2, for example, illustrates that including the other three political variables only slightly waters down the estimated democratic dyad effect. Model 3 shows that simply adding the cultural variables have roughly the same impact; culture matters but its inclusion leaves the estimated effect of joint democracy in place. Rather, as Model 4 indicates, the conclusion that democracies somehow favor each other as trading partners primarily results from ignoring the longstanding relationship between political and economic freedoms. Democracies import more and export

more than other countries. Carried out through a data-generation process that is multiplicative – in which active economies produce a disproportionate gravitational pull on each other's goods, even when they have homothetic preferences – this vibrancy causes democracies to trade more with each other. But joint democracy does not have an additional multiplier effect beyond what the domestic influences would lead one to expect.

Table 2b. Control Variables and the Effect of Mutual Democracy

Explanatory Variables	Model 1	Model 2	Model 3	Model 4	Full Model
GDP of the Exporter	1.35 +++	1.35 +++	1.35 +++	1.22 +++	1.22 +++
	(0.03)	*(0.03)*	*(0.03)*	*(0.03)*	*(0.03)*
GDP of the Importer	1.10 +++	1.10 +++	1.10 +++	1.10 +++	1.10 +++
	(0.03)	*(0.03)*	*(0.03)*	*(0.03)*	*(0.03)*
Population of The Exporter	-0.23 ***	-0.23 ***	-0.23 ***	-0.06 ***	-0.05 ***
	(0.04)	*(0.04)*	*(0.04)*	*(0.04)*	*(0.04)*
Population of The Importer	-0.12 ***	-0.12 ***	-0.12 ***	-0.07 ***	-0.10 ***
	(0.03)	*(0.03)*	*(0.03)*	*(0.03)*	*(0.03)*
Distance	-1.35 +++	-1.20 +++	-1.23 +++	1.40 +++	-1.20 +++
	(0.02)	*(0.02)*	*(0.02)*	*(0.02)*	*(0.02)*
Linguistic Similarity		0.05 +++			0.04 +++
		(0.01)			*(0.01)*
Religious Similarity		0.03 +++			0.02 +++
		(0.01)			*(0.01)*
Militarized Interstate Dispute			-1.98 +++		-2.10 +++
			(0.40)		*(0.40)*
Common Alliance			0.98 +++		0.65 +++
			(0.11)		*(0.13)*
Overlapping Alliance Portfolio			0.31 +++		0.43 +++
			(0.08)		*(0.11)*
Democratic Dyads	2.18 +++	2.10 +++	2.10 +++	-0.05	-0.11 +++
	(0.12)	*(0.11)*	*(0.11)*	*(1.13)*	*(0.13)*
Exporters' Level Of Democracy				0.80 ***	0.81 ***
				(0.04)	*(0.05)*
Importers' Level Of Democracy				0.48 ***	0.50 ***
				(0.03)	*(0.03)*
Constant	-4.98 ***	-6.30 ***	-5.46 ***	-6.42 ***	-7.91 ***
	(0.22)	*(0.26)*	*(0.22)*	*(0.24)*	*(0.30)*
Observations	255600	255600	255600	255600	255600
R-Squared	0.54	0.55	0.55	0.56	0.56

Panel Corrected Standard Errors are in parentheses.
*** /+++ means p < .01 **/++ means p < .05 */+ means p < .1
"*"signifies two-tailed test and "+" signifies one-tailed test.
Note: One-tailed tests apply when the sign of the hypothesis is clear.