International Trade and Public Protest:

Evidence from Russian Regions*

Online Appendix

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Abstract

How does economic globalization influence domestic political stability? Building on innovations in trade theory, we argue that international trade amplifies political discontent and protest in contexts in which trade losers concentrate, but has a pacifying effect in contexts dominated by beneficiaries of free trade. We examine this argument focusing on variation in Russian regions. Using negative binomial regression models on data from 2007-2012, we show that regional education levels condition the effect of trade intensity on protest frequency. High exposure to trade leads to more protests in regions with low average education levels, but fewer protests in regions in which residents are well-educated. Probing the underlying mechanism, we find that the effect of trade on regional economic welfare is conditioned by education levels, that poorly educated Russians face more economic difficulties when they live in regions exposed to trade, and that economically aggrieved individuals participate more in protests.

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Replication materials for this article are available on the ISQ Dataverse (https://dataverse.harvard.edu/dataverse/isq).

Table A1: Descriptive Statistics for Regional Protest and Welfare Analysis

	N	Mean	SD	Min	Max
Grassroots (IKD) protest	428	14.11	41.58	0.00	406.00
Economic protest	428	5.34	16.21	0.00	173.00
MMA protest	428	3.67	11.47	0.00	112.00
ICEWS protest	428	3.36	10.56	0.00	111.00
Elite-led protest	428	10.76	9.74	0.00	62.00
Regional trade exposure (ln)	422	3.19	0.78	0.65	5.10
Secondary education share	428	12.91	5.75	0.83	29.93
Regional FDI exposure (ln)	424	0.66	0.58	0.00	3.55
Population size	427	1.93	1.75	0.05	11.92
Urban population share	428	71.43	10.93	27.10	100.00
GRP per capita (ln)	428	12.16	0.53	11.10	14.10
GRP growth	427	0.14	0.20	-0.43	0.83
Unemployment rate	428	7.07	2.55	0.80	21.70
Newspaper coverage (ln)	428	6.63	0.73	4.58	8.94
Distance to Moscow (ln)	428	6.97	1.61	0.00	9.38
Road density (ln)	428	4.50	1.32	-0.22	7.68
Natural resource rents	428	7.37	12.00	0.00	55.70
Press freedom	426	2.05	0.66	1.00	3.00
KPRF mandate share	419	10.15	6.07	0.00	33.00
Russian population share	428	82.93	16.65	9.20	90.00

Table A2: Descriptive Statistics for Individual Economic Risk Analysis

	N	Mean	SD	Min	Max
Unemployed, but wants work	124153	0.14	0.35	0.00	1.00
Concerned about necessities	122752	3.77	1.25	1.00	5.00
Dissatisfied with economy	123215	3.66	1.13	1.00	5.00
Lower perceived social rank	120086	6.00	1.39	1.00	9.00
Trade exposure	123932	3.39	0.84	0.92	5.13
Education level	124007	3.40	1.15	0.00	5.00
FDI exposure	92396	0.67	0.56	0.00	3.13
Female	124224	0.53	0.50	0.00	1.00
Age in years	124220	33.61	11.81	13.00	101.00
Income	119571	6.93	3.71	0.00	14.63
Married	123906	0.51	0.50	0.00	1.00
Second job	124026	0.03	0.17	0.00	1.00
Self-employed	115585	0.03	0.17	0.00	1.00
Public sector	113010	0.34	0.48	0.00	1.00
Urban	124224	2.18	1.22	1.00	4.00

Table A3: Descriptive Statistics for Individual Protest Participation Analysis

	N	Mean	SD	Min	Max
Protest participation	2294	0.17	0.38	0.00	1.00
Satisfaction with life	4481	4.86	2.30	1.00	10.00
Satisfaction with economy	4478	6.21	2.47	1.00	10.00
Perception income inequality	4291	6.25	3.34	1.00	10.00
Gone without enough food	2482	1.58	0.84	1.00	4.00
Gone without cash income	2474	2.42	1.03	1.00	4.00
Female	4533	0.55	0.50	0.00	1.00
Age	4533	43.90	17.19	16.00	91.00
Income decile	4122	4.94	2.20	1.00	10.00
Married	4491	0.58	0.49	0.00	1.00
Unemployed	4533	0.04	0.20	0.00	1.00
Importance of politics	4413	2.11	0.89	1.00	4.00
Education level	4496	4.39	1.06	1.00	6.00

Table A4: International Trade and Regional Public Protest – Additional Control Variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Trade exposure	0.415*	0.379	0.585**	0.376	0.532**	0.459*	0.604**	0.564**	0.551**
	(0.24)	(0.25)	(0.24)	(0.25)	(0.24)	(0.24)	(0.24)	(0.24)	(0.24)
Trade * education	-0.041**	-0.042**	-0.051***	-0.043**	-0.049***	-0.040**	-0.058***	-0.048***	-0.048***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
% pop. with at least	0.082	0.070	0.081	0.079	0.074	0.059	0.104*	0.063	0.086
secondary education	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Population size	0.474***	0.409***	0.477***	0.386***	0.407***	0.512***	0.546***	0.452***	0.429***
	(0.07)	(0.07)	(0.07)	(0.08)	(0.08)	(0.08)	(0.07)	(0.07)	(0.07)
Urban population	0.017	0.022**	0.019*	0.021**	0.018*	0.018*	0.013	0.017*	0.014
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
GRP per capita	-0.644***	0.006	-0.410***	0.335	-0.663***	-0.579***	-0.839***	-0.831***	-0.541***
	(0.13)	(0.24)	(0.16)	(0.27)	(0.14)	(0.13)	(0.14)	(0.18)	(0.13)
GRP growth	-0.416**	-0.659***	-0.489**	-0.755***	-0.466**	-0.501**	-0.269	-0.456**	-0.470**
	(0.21)	(0.21)	(0.20)	(0.21)	(0.20)	(0.20)	(0.20)	(0.21)	(0.21)
Unemployment rate	-0.028	-0.013	-0.042	-0.005	-0.032	-0.039	-0.042	-0.040	-0.041
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Newspaper coverage	-0.048	-0.012	-0.067	-0.014	-0.035	-0.016	-0.069	-0.079	-0.035
	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)
Distance to Moscow	0.185**	0.208***	0.214***	0.215***	0.190**	0.171**	0.236***	0.179**	0.155**
	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
Road density	-0.146	-0.125	-0.050	-0.061	-0.108	-0.137	-0.250**	-0.252**	-0.333**
	(0.10)	(0.10)	(0.11)	(0.10)	(0.10)	(0.10)	(0.10)	(0.12)	(0.13)
Population density	0.061	-0.070	0.055	-0.078	-0.007	-0.009	-0.024	0.040	0.029
	(0.08)	(0.12)	(0.07)	(0.11)	(0.10)	(0.09)	(0.11)	(0.09)	(0.09)

FDI inflows	0.709***	0.108	0.075	0.086	0.118	0.123	0.116	0.140	0.092
	(0.23)	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)
FDI inflows * education	-0.051***								
	(0.02)								
Costs of living		-0.000***							
		(0.00)							
% below subsistence			0.043**						
			(0.02)						
Costs of goods/services				-0.000***					
				(0.00)					
Economic inequality					5.387				
					(4.30)				
Interregional migration						-0.000*			
						(0.00)			
Infant mortality							-0.140***		
							(0.03)		
Life expectancy								0.086*	
								(0.05)	
Public expenditure index									-0.397**
									(0.18)
Constant	5.361**	-1.597	1.248	-5.229	3.296	4.443**	9.097***	2.554	5.731***
	(2.15)	(2.96)	(2.69)	(3.27)	(2.42)	(2.12)	(2.39)	(2.40)	(2.16)
# of observations	427	427	427	427	427	427	427	425	427
# of regions	75	75	75	75	75	75	75	75	75
Prob > Chi2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Log likelihood	-1245.42	-1244.66	-1247.13	-1241.78	-1248.59	-1247.21	-1240.65	-1241.06	-1246.69
AIC	2524.83	2523.32	2528.27	2517.57	2531.18	2528.42	2515.29	2516.12	2527.37

Table A5: International Trade and Regional Public Protest – Additional Robustness Tests

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Trade exposure	0.299	0.908***	0.736***	0.180	0.018	0.189	0.752***	0.676***	0.501
	(0.21)	(0.25)	(0.24)	(0.20)	(0.17)	(0.13)	(0.25)	(0.24)	(0.50)
Trade * education	-0.038**	-0.126***	-0.047***	-0.023*	0.006	-0.027***	-0.060***	-0.057***	-0.055*
	(0.02)	(0.03)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.03)
Education share	0.051	0.306***	0.096**	-0.016	-0.077***		0.167***	0.177***	0.115
	(0.06)	(0.11)	(0.04)	(0.04)	(0.03)		(0.06)	(0.05)	(0.11)
Population size	0.448***	0.535***	0.548***	0.472***	0.426***	0.285***	0.666***	0.770***	0.398**
	(0.07)	(0.08)	(0.08)	(0.07)	(0.07)	(0.10)	(0.08)	(0.10)	(0.17)
Urban population	0.011	0.023**	0.022*	0.010	0.003	0.002	0.032***	0.021**	0.018
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
GRP per capita	-0.616***	-0.614***	-0.607***	-0.651***	-0.658***	-0.644***	-0.269	-0.309	-0.687***
	(0.14)	(0.14)	(0.14)	(0.14)	(0.15)	(0.13)	(0.21)	(0.20)	(0.25)
GRP growth	-0.457**	-0.466**	-0.460**	-0.415**	-0.437**	-0.441**	-0.534*	-0.548*	0.184
	(0.21)	(0.20)	(0.20)	(0.21)	(0.21)	(0.22)	(0.30)	(0.30)	(0.33)
Unemployment rate	-0.035	-0.053*	-0.047	-0.037	-0.025	-0.028	-0.066**	-0.089**	0.003
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.05)
Newspaper coverage	-0.060	-0.023	-0.031	-0.105	-0.130	-0.032	-0.270**	-0.284**	-0.304*
	(0.12)	(0.11)	(0.11)	(0.11)	(0.11)	(0.12)	(0.12)	(0.13)	(0.16)
Distance to Moscow	0.187**	0.201**	0.189**	0.185**	0.175**	0.107	0.301***	0.405***	0.208
	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.09)	(0.10)	(0.12)	(0.16)
Road density	-0.060	-0.137	-0.113	-0.104	-0.138	-0.298**	0.166*	-0.057	0.570*
	(0.11)	(0.12)	(0.11)	(0.11)	(0.12)	(0.15)	(0.10)	(0.12)	(0.34)
Population density	0.061	0.302**	0.155**	0.054	0.027	0.070	0.031	0.004	0.170**
	(0.08)	(0.13)	(0.08)	(0.08)	(0.10)	(0.11)	(0.07)	(0.07)	(0.07)

FDI inflows	0.065	0.107	0.088	0.082	0.066	0.072	0.181	0.332***	0.277
	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)	(0.11)	(0.12)	(0.12)	(0.19)
Natural resources	0.011	0.005	0.006	0.012	0.012		-0.000	-0.011	0.054**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)		(0.01)	(0.01)	(0.02)
Press freedom	0.051	0.043	0.050	0.058	0.070		0.152	0.160	-0.105
	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)		(0.10)	(0.10)	(0.17)
KPRF mandate share	-0.027**	-0.023**	-0.025**	-0.026**	-0.026**		-0.022*	-0.021*	-0.055***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)		(0.01)	(0.01)	(0.02)
Russian population	0.006	0.006	0.006	0.007	0.003		0.010**	0.005	0.023***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)		(0.01)	(0.01)	(0.01)
Constant	5.313**	2.559	3.241	7.012***	8.580***	9.308***	-2.371	0.060	1.888
	(2.28)	(2.27)	(2.31)	(2.14)	(2.17)	(2.18)	(2.68)	(2.77)	(3.59)
# of observations	416	416	416	416	416	419	416	416	209
# of regions	74	74	74	74	74	72			37
Prob > Chi2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Log likelihood	-1221.65	-1213.72	-1213.22	-1220.44	-1221.91	-876.75	-1262.37	-1251.72	-561.84
AIC	2483.31	2467.44	2466.44	2480.87	2483.83	1779.49	2576.73	2563.43	1163.68

Negative binomial regression models with regional-level random effects; standard errors in parentheses; significance levels: *** < 0.01, ** < 0.05, * < 0.1.

- Model 1: baseline model, but regional education share extrapolated from average between 2003-2010 (instead of 2007-2010).
- Model 2: baseline model, but regional education share restricted to population with at least tertiary (instead of secondary) education.
- Model 3: baseline model, but regional education share based on an index that weigh secondary education share one time and tertiary education share two times.
- Model 4: baseline model, but exposure to exports (instead of exports plus imports).
- Model 5: baseline model, but exposure to imports (instead of exports plus imports).
- Model 6: baseline model, but including regional fixed effects (instead of random effects), which is why the time-invariant secondary education share is omitted.
- Model 7: baseline model, but including dummy variables from Russia's 12 economic regions.
- Model 8: baseline model, but including dummy variables from Russia's 8 federal districts.
- Model 9: baseline model, but including smaller regions (defined as all regions below median region size) only.