

Did Postcommunist Privatization Increase Mortality?

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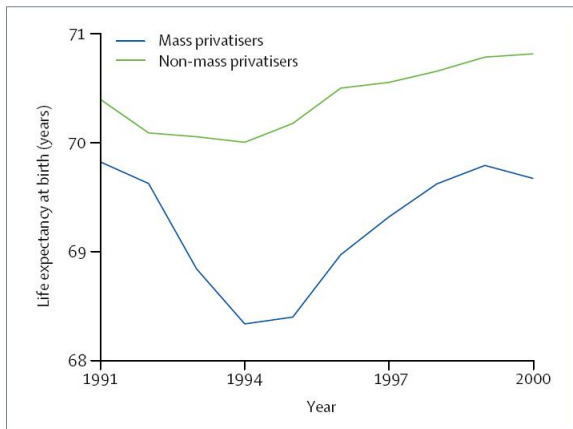
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Postcommunist transition:

- Transformation of political and economic institutions
- Dramatic increases in mortality
- Stress \Rightarrow mortality (e.g., Cornia and Paniccà, 2000; Brainerd and Cutler, 2005)

Explaining Postcommunist Mortality...

Stuckler, King, and McKee (*Lancet*, 2009): mass privatization \Rightarrow 13-percent increase in adult male mortality.



Did Privatization Kill Millions?

Economist, January 22, 2009: “Mass Murder and the Market”



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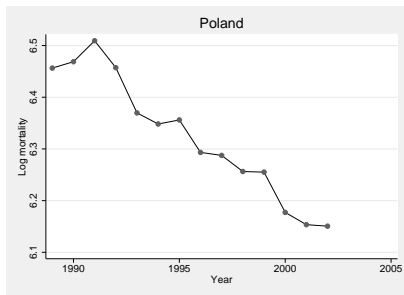
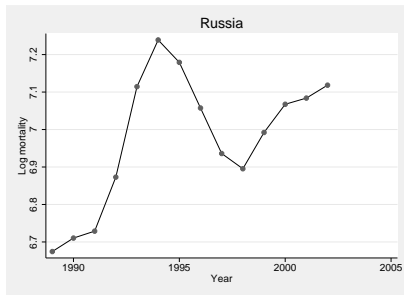
- ① Robustness
 - Country-specific mortality trends
 - Lagged effects
 - War
- ② Alternative research design
 - Russian regions
- ③ Mechanisms
 - Privatization and unemployment

Privatization and Mortality: Replicated *Lancet* Results

DV: Log age-standardized mortality rate for working-age men			
	Full Sample	FSU	EE
Mass privatization	0.141***	0.158***	-0.005
Log income	-0.135***	-0.105**	-0.073**
Price liberalization	0.008	0.019	-0.015
Forex/trade liberalization	0.012	0.017	0.009
Democracy	-0.011**	-0.016**	0.014**
War	0.275***	0.288***	0.151***
Population dependency	0.018***	0.018***	0.002
Urbanization	0.035***	0.054***	-0.006
Higher education	-0.305***	-0.329**	-0.650**

Estimated coefficients reported. Country fixed effects included in all regressions.

Country-Specific Trends



Lagged Effects

Proposed mechanism: economic outcomes (privatization) \Rightarrow
unemployment \Rightarrow mortality

Lagged effects:

- Privatization
- Income
- Price liberalization
- Forex/trade liberalization

Country	Year	War	War deaths
Tajikistan	1992	1	20,000
Tajikistan	1993	1	20,000
Tajikistan	1994	1	500
Tajikistan	1995	1	500
Tajikistan	1996	1	300
Tajikistan	1997	1	24
Croatia	1991	1	4,525
Croatia	1992	1	50
Croatia	1993	1	0
Croatia	1994	1	0
Croatia	1995	1	0

Privatization and Mortality: Robustness

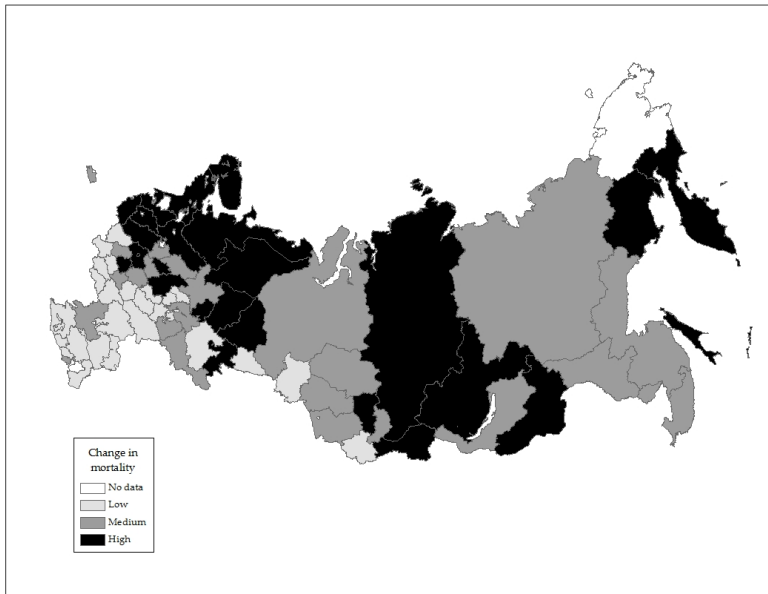
DV: Log age-standardized mortality rate for working-age men			
	Full Sample	FSU	EE
Lancet specification	0.141***	0.158***	-0.005
One-year lags	0.096***	0.108**	-0.046
Two-year lags	0.048	0.063*	-0.060*
Country-specific trends	0.055**	0.093**	-0.022
Substituting war deaths for war dummy	0.102***	0.113**	0.013
One-year lags & trends	-0.004	0.034	-0.053
One-year lags & war deaths	0.063**	0.062	-0.030
Two-year lags & trends	-0.066**	-0.042	-0.038
Two-year lags & war deaths	0.028	0.036	-0.060*
Country-specific trends & war deaths	0.032	0.058*	-0.025
One-year lags & trends & war deaths	-0.012	0.013	-0.047
Two-year lags & trends & war deaths	-0.061**	-0.042	-0.038

Each entry is the estimated effect of mass privatization from a regression of log mortality on various country characteristics. Country fixed effects and full set of *Lancet* covariates included in all regressions.

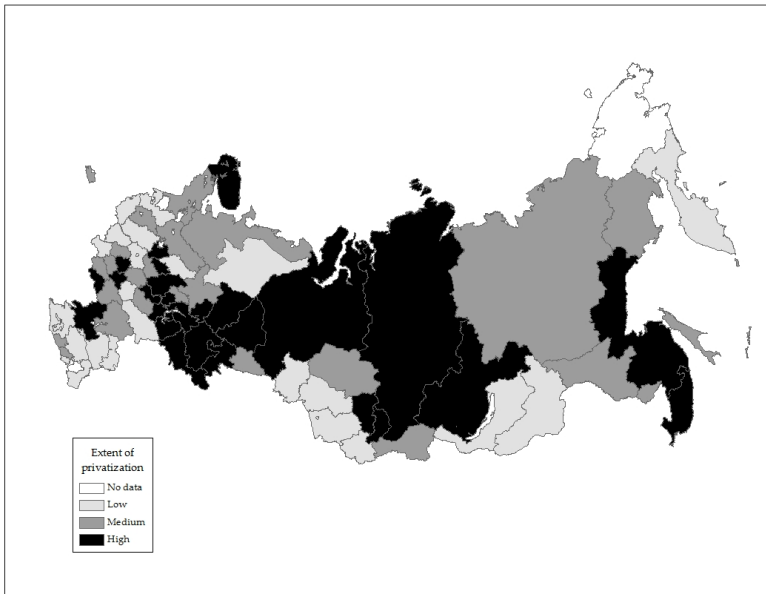
Research Design: Level of Analysis

- Cross-country analysis: much heterogeneity difficult to hold constant
- Within-country analysis
 - 70+ Russian regions
 - Measures of privatization:
 - Share of employment in privatized firms, 1995
 - Share of manufacturing employment in privatized firms, 1994
 - Mortality by gender, age, cause of death
 - Data coverage

Change in Mortality for Working-Age Males, 1990–1995



Share of Employment in Privatized Firms, 1995



Regional Determinants of Change in Mortality in Russia

DV: Change in Mortality for Working-Age Men, 1990 to 1995

Privatized employment	-0.130	-0.136		
Privatized manufacturing employment			-0.188**	-0.189**
Log initial mortality		-0.035		0.012
Log income	0.004	0.002	-0.003	-0.002
Population dependency	-1.570**	-1.504**	-1.704**	-1.726**
Urbanization	0.639***	0.639***	0.640***	0.642***
Higher education	-0.859*	-0.870*	-1.006**	-1.006**
Proportion Muslim	-0.100	-0.120	-0.133*	-0.126
Mean January temperature	-0.002	-0.003	-0.001	-0.001

Estimated coefficients reported.

Regional Determinants of Change in Mortality in Russia by Cause of Death

DV: Change in mortality for working-age men, 1990 to 1995

	Infectious diseases	Cancer	Circulatory system	Respiratory system	Digestive system	External causes
Privatized employment	-0.872*	0.040	0.133	-0.506	-0.051	-0.511
Log income	0.000	0.125*	0.176*	-0.419*	0.047	-0.032
Population dependency	-0.127	-1.301**	-0.920	-6.483***	0.646	-0.466
Urbanization	1.102***	-0.081	0.295*	1.618***	1.149***	1.193***
Higher education	-1.366	-0.426	-0.587	-0.905	-0.981	-1.383*
Proportion Muslim	0.059	-0.018	-0.048	-0.269	-0.185	-0.168
Mean January temperature	-0.011**	-0.000	-0.002	-0.010**	-0.003	-0.003

Estimated coefficients reported.

Regional Determinants of Change in Mortality in Russia by Cause of Death

DV: Change in mortality for working-age men, 1990 to 1995

	Infectious diseases	Cancer	Circulatory system	Respiratory system	Digestive system	External causes
Privatized manufacturing employment	-0.073	0.115	-0.019	-0.018	0.001	-0.287*
Log income	0.032	0.131*	0.169*	-0.399*	0.049	-0.029
Population dependency	-0.356	-1.229**	-0.902	-6.603***	0.636	-0.737
Urbanization	0.764**	-0.098	0.355***	1.414***	1.128***	1.066***
Higher education	-0.734	-0.303	-0.725	-0.505	-0.937	-1.346*
Proportion Muslim	0.040	0.002	-0.050	-0.275	-0.185	-0.222
Mean January temperature	-0.009	-0.001	-0.003	-0.009*	-0.003	-0.000

Estimated coefficients reported.

Privatization and Mortality in Russian Regions: Panel Regressions

	DV: Log mortality for general population			
	Baseline	One-year lags	Two-year lags	2-year lags & trends
Privatized employment	0.612***	0.107***	-0.285***	-0.506***
Log income	-0.071***	-0.141***	-0.052***	-0.041***
Population dependency	-2.671***	-3.101***	-3.246***	-1.910***
Urbanization	-0.523	0.037	0.346	-0.280

Estimated coefficients reported. Regional fixed effects included in all regressions.

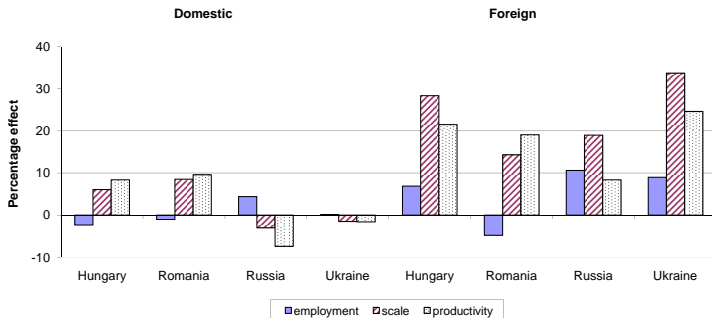
Privatization and Mortality in Russian Regions: Panel Regressions

DV: Log mortality for general population				
	Baseline	One-year lags	Two-year lags	2-year lags & trends
Privatized mfg employment	0.228***	0.067***	-0.092***	-0.154***
Log income	-0.052***	-0.138***	-0.062***	-0.059***
Population dependency	-2.373***	-2.777***	-3.265***	-1.397**
Urbanization	0.057	0.152	0.371	-0.413

Estimated coefficients reported. Regional fixed effects included in all regressions.

Privatization and Mortality: Mechanisms

- Proposed mechanism: economic outcomes (privatization) \Rightarrow unemployment \Rightarrow mortality
- Brown, Earle, and Telegdy (2009): very small, sometimes negative impact of domestic privatization on employment



Privatization and Mortality: Mechanisms

DV: Log male unemployment rate			
	Full Sample	FSU	EE
Lancet-type specification	0.677***	0.684**	-0.028
One-year lags	0.693***	0.447	0.034
Country-specific trends	-0.003	-0.027	-0.283***
One-year lags & trends	0.034	0.141	-0.314**

Each entry is the estimated effect of mass privatization from a regression of log unemployment on various country characteristics. Country fixed effects and full set of *Lancet* covariates included in all regressions.

Conclusions and Further Work

Did privatization kill millions? Probably not.

What did? Possible directions for future research:

- Anticipation (contemporaneous vs. lagged effects)
- Clustering