

Economic Genocide in the Post-Communist Countries?

The New Insights from Russian Towns

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Privatization and Mortality

“Mass Privatization and the Postcommunist Mortality Crisis” in *The Transformation of State Socialism: System Change, Capitalism or Something Else* (2007). (Lawrence King and David Stuckler) Edited by David Lane. Palgrave. Pp. 179-197. 2007.

Reprinted in Russian in “Massovaya privatizatsiya i krizis smertnosti v postkommunisticheskikh stranakh.” *Mir Rossii Sotsiologija*. (Russian Sociology). June 2007, 16(3): 112-136.

“Rapid Large-Scale Privatization and Death Rates in Ex-Communist Countries: an analysis of stress-related and health system mechanisms.” (Lawrence King, David Stuckler and Patrick Hamm) 2009. *International Journal of Health Services*. Volume 39 (3): 461-489.

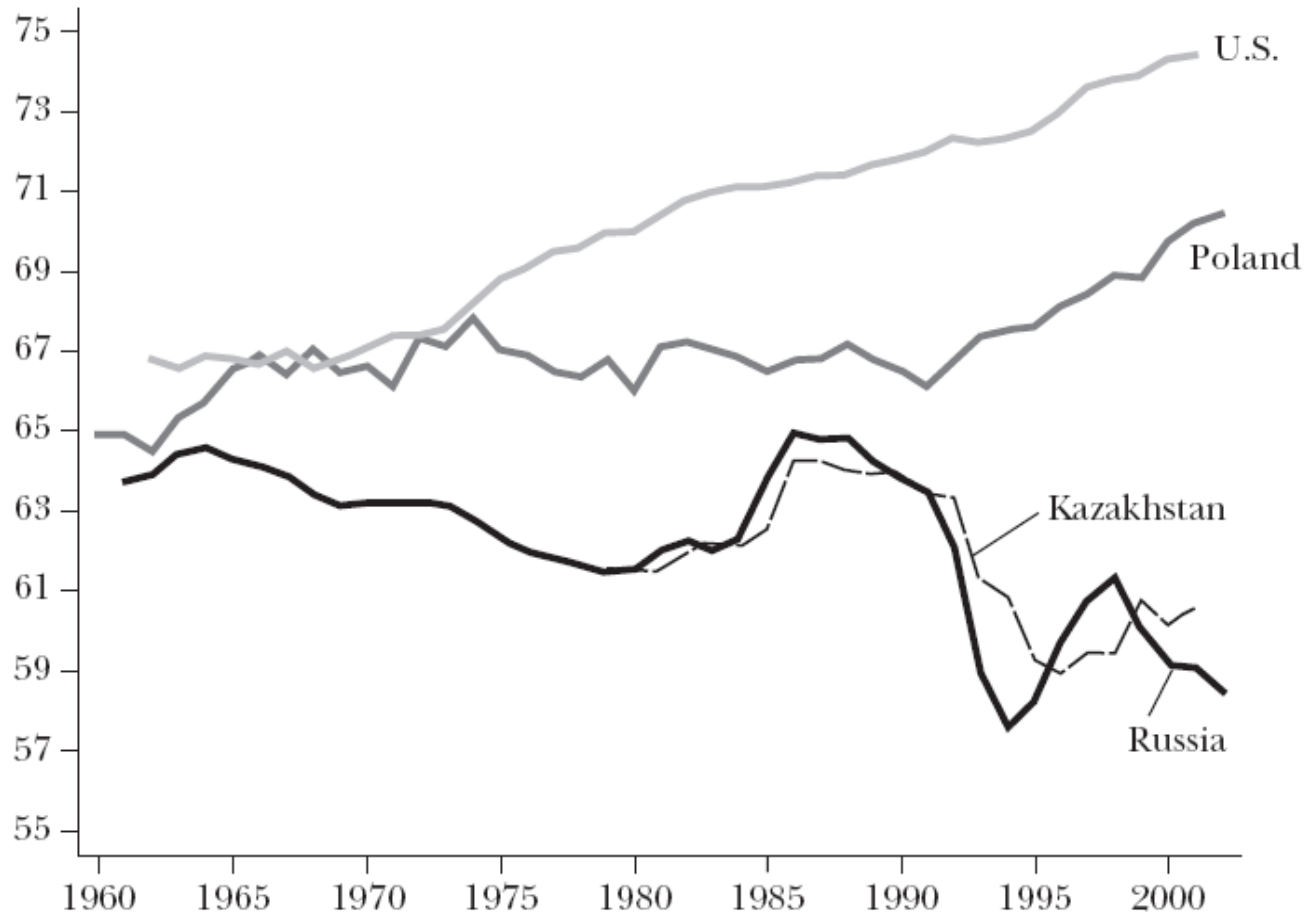
“Mass privatisation and the post-communist mortality crisis: a cross-national analysis” (David Stuckler, Larry King and Martin McKee). 2009. *The Lancet*. Jan. 31, Vol. 373, No. 9661: 399-407.

Reported in the *New York Times*, *Financial Times*, *Economist*, *BBC radio*, *NPR* and many other outlets globally. Comment by Sir Michael Marmot and Martin Bobak in *The Lancet* Jan.15, 2009.

Comment posted by Joseph Stiglits on *NYT* website. Debate with Jeffrey Sachs in *Financial Times*. Comment on media coverage of the findings in *British Journal of Medicine*.

Post-Communist Mortality Crisis

Trends in Male Life Expectancy at Birth, 1958–2002



“Despite economists’ reputation for never being able to agree on anything, there is a striking degree of unanimity in the advice that has been provided to the nations of Eastern Europe and the former Soviet Union (FSU). The legions of economists who have descended on the formerly Communist economies have provided advice very similar The three “-ations”—privatization, stabilization, and liberalization—must all be completed as soon as possible.”

Lawrence Summers (1994: 252-253)

Theories of Privatization

Neoliberal Theory

- Policy innovation: Mass Privatization - private ownership superior to state ownership
- More important political logic:
 1. privatization eliminates the power base of the communists, and
 2. must privatize during the "exceptional period" when there was a window of opportunity before anti-reform coalition of managers and workers in SOEs forms

Neoclassical Sociological Theory

- Mass Privatization destroys firms creating a vicious circle of firm and state failure resulting in "patrimonial capitalism"
- Strategic ownership via competitive ownership after state-sponsored restructuring is the best way to privatize, creating "liberal capitalism"

Possible Mechanisms Linking Mass Privatization and Increased Mortality

Privatization → Unemployment → Stress → Mortality

Privatization → Loss of firm provided
medical care → Mortality

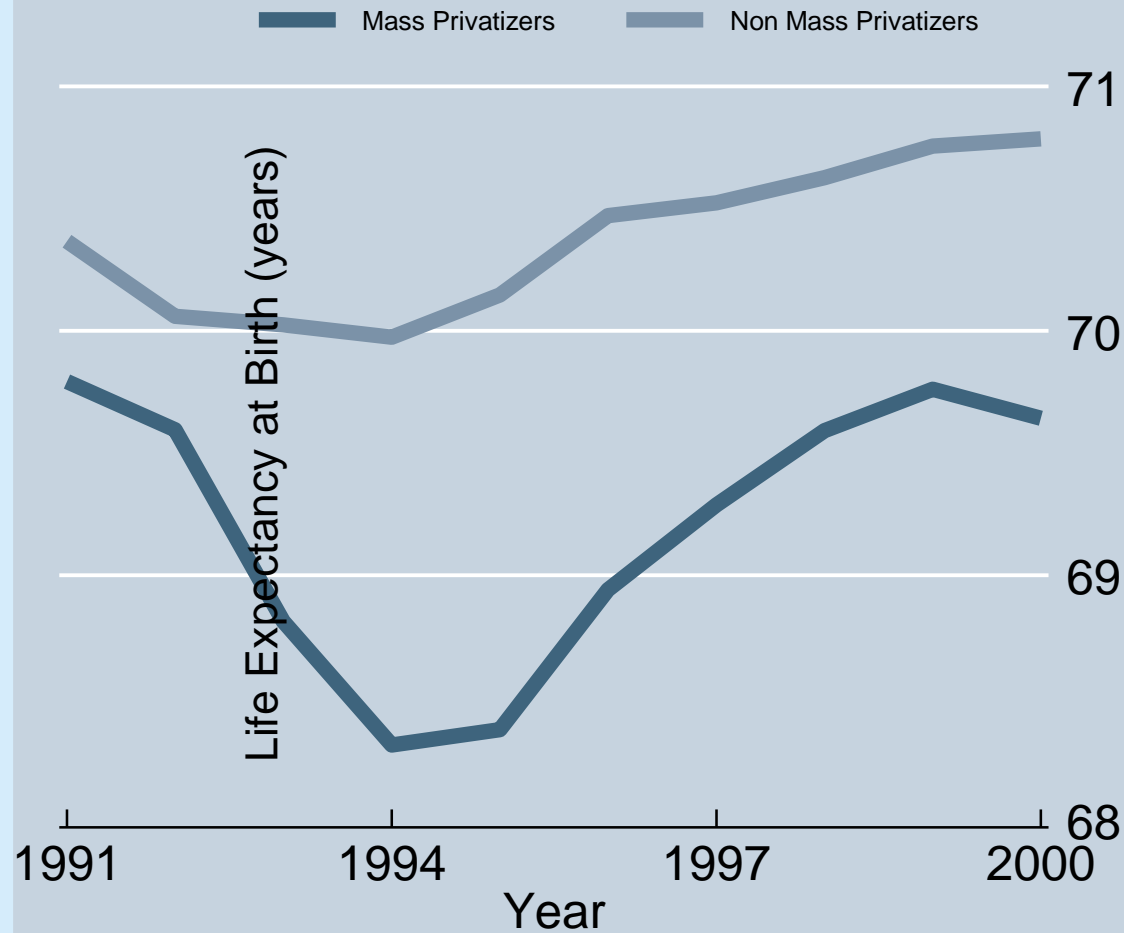
Privatization → Loss of firm provided → Stress → Mortality
social consumption

Privatization → Firm failure → Stress → Mortality
→ Economic decline → Mortality

Privatization → Fiscal crisis/state failure → Stress → Mortality
→ Less health spending → Mortality
→ Increased violence → Mortality

Privatization → Inequality → Status loss → Mortality

Mass Privatization and Life Expectancy Postcommunist Countries



Data Source: WHO European Health for All Database 2007

Mass Privatization and Adult Mortality Rates

Belarus and Russia



Data Source: WHO European Health for All Database 2007

Table 2. Effect of Privatization on Male Life Expectancy in Transition Countries, 1991-2002

Covariates	(1)	(2)	(3)
Mass Privatization	-1.58 (0.23)***	—	—
EBRD Average Privatization Index	—	-0.49 (0.18)**	—
EBRD Cumulative Privatization Index	—	—	-0.03 (0.03)
Log(GDP per capita)	1.61 (0.30)***	1.81 (0.30)***	1.79 (0.35)***
EBRD Price Liberalization Index	-0.22 (0.15)	-0.26 (0.14)	-0.28 (0.15)
Heritage Foundation Democracy Index	0.24 (0.05)***	0.25 (0.06)***	0.22 (0.06)***
Military Conflict	-0.74 (0.29)**	-0.64 (0.30)*	-0.63 (0.31)*
Percentage of Population Urban	-0.63 (0.14)***	-0.45 (0.13)***	-0.39 (0.14)**
Population Dependency Ratio	-0.08 (0.08)	-0.15 (0.06)	-0.16 (0.07)*
Percentage of Population with Tertiary Education	-0.01 (0.01)	-0.02 (0.02)	-0.01 (0.02)

Table 3. Effects of Mass Privatization and Log GDP per Capita on Log Male Death Rates in 25 Transition Countries by Age, 1991-2002

Covariates	Infant ^a	Under-5 ^a	5-14	15-59	60+
Mass Privatization	2.92%* (1.44)	2.00% (1.49)	0.20% (0.95)	13.51%*** (2.31)	1.32%*** (0.38)
Log GDP per capita	-0.10%*** (0.01)	-0.11%*** (0.01)	-0.05%*** (0.01)	-0.14%*** (0.03)	-0.02%** (0.01)

Denialism at The Economist



PRIVATISATION AND MORTALITY: CRITIQUES

- Gerry, C. 2012 "Re-visiting the mass privatisation-mortality debate: A response to Stuckler, King and McKee". *Social Science & Medicine* 75: 32-5
- Gerry, C. 2012. "The journals are full of great studies, but can we believe the statistics? Revisiting the mass privatisation and mortality debate". *Social Science & Medicine*, 75(1): 14-22.
- Gentile, M. 2012. "Debate: Mass Privatisation, Unemployment and Mortality". *Europe-Asia Studies* 43(4): 785-7.
- Earle, J. and S. Gehlbach. 2011. "Did Post-communist Privatization Increase Mortality?". *Comparative Economic Studies* 53: 239–60.
- Earle, J. and S. Gehlbach. 2010. "Correspondence on Stuckler, King and McKee's "Mass Privatization and the Post-Communist Mortality Crisis: A Cross-National Analysis"". *The Lancet* 375(9712): 372-4.
- Earle, J. 2009. "Mass Privatization and Mortality". *The Lancet* 373(9671): 1247.
- Gerry, C., T. Mickiewicz, and Z. Nikoloski. 2009. "Did mass privatization really increase post-communist mortality?". *The Lancet* 375(9712): 371.

PRIVATISATION AND MORTALITY: RESPONSES

- Stuckler, D., L. King and M. McKee. 2012. "The disappearing health effects of rapid privatization: a case of statistical obscurantism?" *Social Science and Medicine* 75(1): 23-31.
- Stuckler, D., L. King and M. McKee. 2012. "Debate: Response to Michael Gentile 'Mass Privatisation, Unemployment and Mortality'". *Europe-Asia Studies* 64(5): 949–53.
- Stuckler, D., L. King and M. McKee. 2010. "Reply to Earle and Gerry" (with David Stuckler and Martin McKee). *The Lancet* 375(9712): 372-4.
- Stuckler, D., L. King and M. McKee. 2009. "Mass privatisation and mortality — Authors' reply". *The Lancet* 373(9671): 1247-8.
- Stuckler, D., L. King and M. McKee. 2009. "How to make a mortality crisis disappear: statistical manipulation". *The Lancet* 373(9671). Web appendix. Pp.1-33.

PrivMort

- Multi-disciplinary project in the subfield of the Political Economy of Public Health
- Russia, Belarus and Hungary
- Funded by the ERC – 3,5 million EUR
- About 300,000 respondents and relatives in total
- PI: Lawrence King
- Senior investigators: Ivan Szelenyi, Michael Marmot, Vladimir Popov, Martin Bobak, Mike Murphy, Martin McKee, Irina Kolesnikova
- Research Team: Darja Irdam, Mihaly Fazekas, Gábor Scheiring, Katarzyna Doniec, Aytalina Azarova, Alexi Gugushvili

Main Objectives

- 1) to test the theory on the link between privatization and mortality
- 2) to understand whether the post-Soviet mortality in general and the privatization-induced mortality in particular are moderated by class and occupational position
- 3) to examine the effect of class, life-style habits and community factors on health outcomes of the post-Soviet transitions

PrivMort Data

I - Settlement-level

- Economic characteristics of the settlement
- Privatization processes
- Mortality
- Other socio-economic indicators

PrivMort Data

II – Individual-level – Respondents

- Non-fatal outcomes of transitions
- Education
- Labor market situation
- Religion and other social indicators
- Economic welfare
- Self-reported health behaviour

PrivMort Data

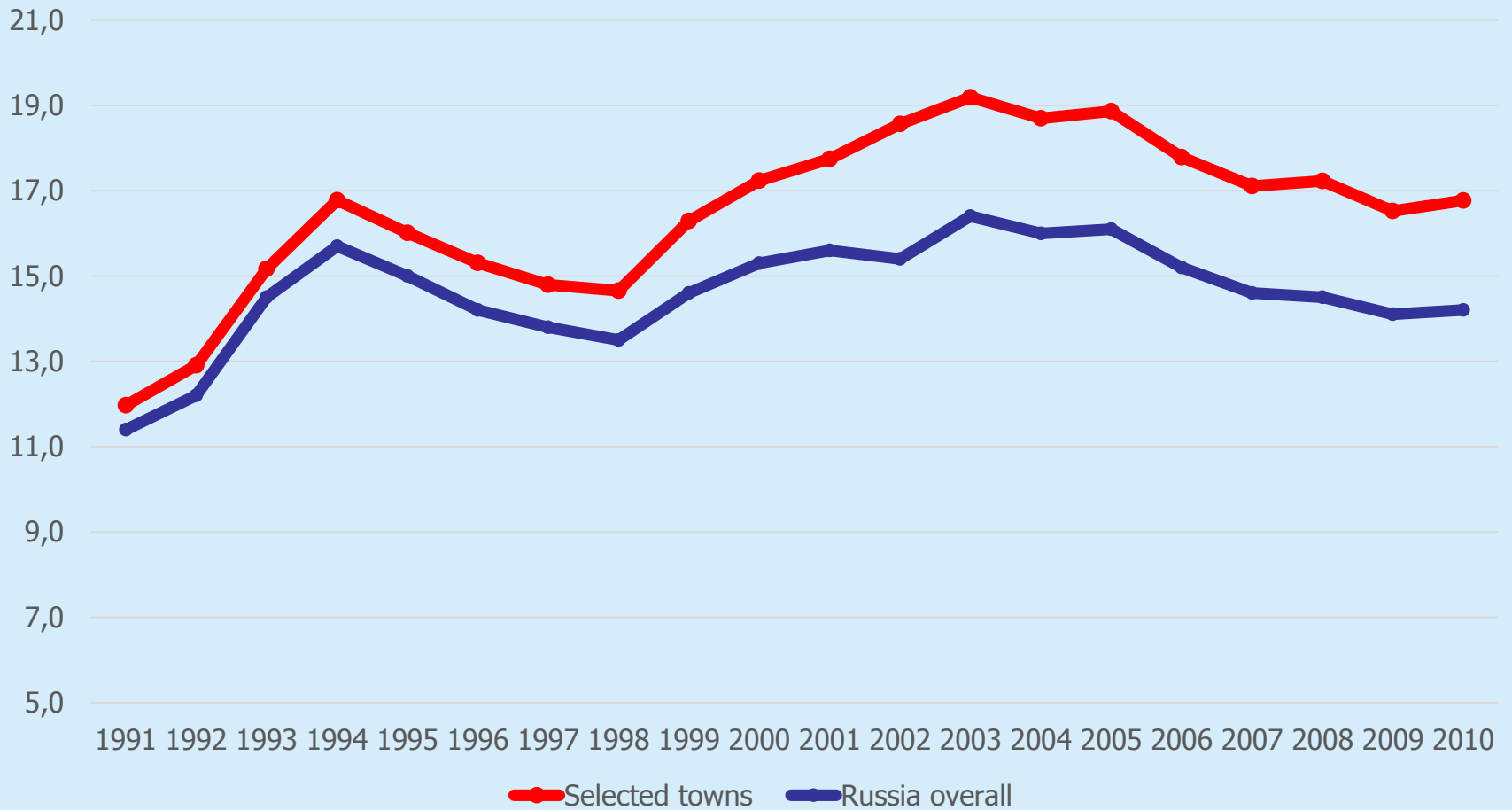
II – Individual-level – Relatives

- Similar, but more detailed socio-economic characteristics
- Migration
- Mortality and morbidity

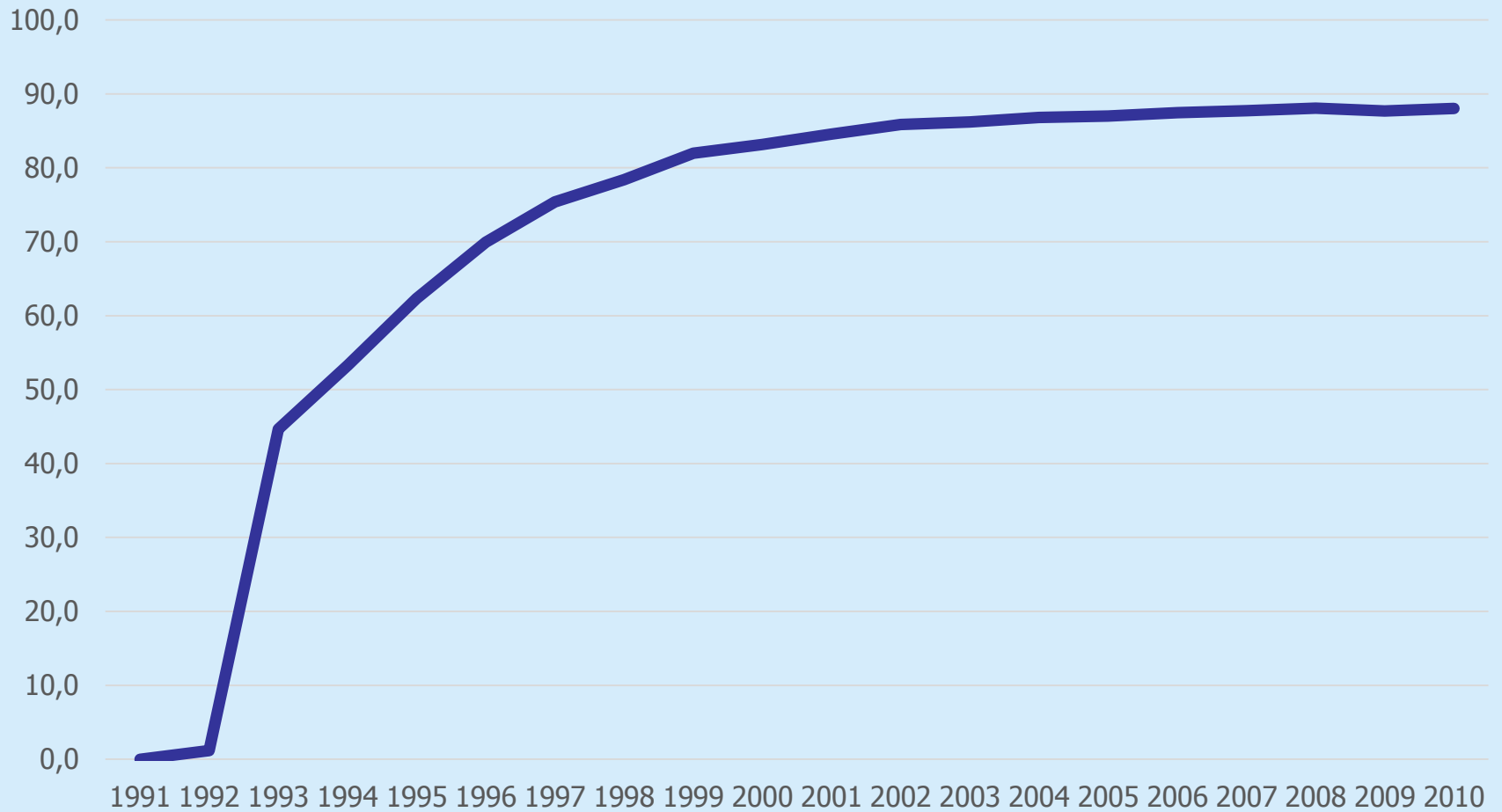
Preliminary results of settlement-level analysis in Russia

- The European part of the country
- Settlements with 10,000-100,000 inhabitants
- Data available for 536 towns from 1990 to 2010 (various official sources)
- Privatization variable – share of private ownership of main enterprise in mono-industrial towns (the average of the main enterprises in multi-industrial towns)
- Statistical method – Various specification of fixed-effects models (selection is based on Robust Hausman test)

Crude death rate (per 1,000 people)



Share of privatized enterprises in the selected towns



Crude death rate (per 1,000 people). Pooled time-series fixed- and random-effects models with continuous privatization variable

	M1:FE	M2:FE	M3:FE	M4:FE	M5:FE	M6:FE	M7:FE	M8:FE	M9:FE	M10:RE
Share of privatized enterprises (0-100%)	0.03***	0.02***	0.03***	0.03***	0.02***	0.02***	0.03***	0.03***	0.02***	0.01***
Mono-industrial towns										-0.48
Privatized * mono towns										0.00**
Industry output in constant prices (1991)		-0.00***							-0.00**	-0.00***
Share of lose-making enterprises(0-100%)		0.01							-0.01	-0.00*
CPI (in comparison to 1991)		-0.00***							0.00***	0.00**
Employees in industry (per 10,000)			0.00***						0.00*	0.00
Unemployment rate (current)			-0.00						-0.02***	-0.02***
Number of physicians (per 10,000)				0.00					0.00	-0.02***
Number of nurses (per 10,000)				0.00					0.00***	0.00
Hospital beds (per 10,000)				-0.00**					-0.01***	0.01***
Alcohol consumption					0.51***				0.46***	0.38***
Alcohol prices					-0.00***				-0.00***	-0.00***
Old-age dependency ratio						0.02***			0.02***	0.02***
Number of birth (per 10,000)						-0.09			-0.02	-0.18***
Number of divorces (per 10,000)						0.10***			0.15*	0.11***
Number of libraries (per 10,000)							-0.11***		-0.10*	-0.04
Number of cultural institutions (per 10,000)							-0.02		0.01	0.04
Net migration (per 1,000)								0.01	-0.00	0.01
Pollutants, '000 tones (per 10,000)								-0.00**	0.00	0.00
R-Squared										
Within	0.25	0.25	0.23	0.24	0.33	0.34	0.24	0.25	0.35	0.33
Between	0.04	0.09	0.04	0.03	0.03	0.16	0.02	0.04	0.01	0.24
Overall	0.11	0.13	0.09	0.08	0.13	0.18	0.09	0.10	0.08	0.23
Number of observations	5,250	3,796	4,750	4,985	5,213	4,635	5,056	4,869	2,806	2,806
Number of towns	532	523	525	529	532	505	528	522	468	468

***, **, and * significant at 0.01, 0.05, and 0.10 levels.

Crude death rate (per 1,000 people). Pooled time-series fixed-effects models with a dummy variable of towns with 50% or more privatization

	M1:FE	M2:FE	M3:FE	M4:FE	M5:FE	M6:FE	M7:FE	M8:FE	M9:FE
50% enterprises or more in private ownership	2.30***	1.73***	2.11***	2.17***	1.61***	1.38***	2.17***	2.26***	0.82***
Industry output in constant prices (1991)		-0.00***							-0.00**
Share of lose-making enterprises(0-100%)		0.01							-0.01
CPI (in comparison to 1991)		-0.00***							0.00***
Employees in industry (per 10,000)			0.00						0.00
Unemployment rate (current)			0.00						-0.02***
Number of physicians (per 10,000)				0.00					0.00
Number of nurses (per 10,000)				0.00					0.00
Hospital beds (per 10,000)				-0.00***					-0.01***
Alcohol consumption					0.56***				0.50***
Alcohol prices					-0.00***				-0.00***
Old-age dependency ratio						0.02***			0.02***
Number of birth (per 10,000)						-0.16***			-0.07*
Number of divorces (per 10,000)						0.10***			0.15***
Number of libraries (per 10,000)							-0.14***		-0.11**
Number of cultural institutions (per 10,000)							-0.02		0.01
Net migration (per 1,000)								0.00	-0.00
Pollutants, `000 tones (per 10,000)								-0.00**	0.00
R-Squared									
Within	0.25	0.25	0.23	0.24	0.33	0.34	0.24	0.25	0.35
Between	0.04	0.09	0.04	0.03	0.03	0.16	0.02	0.04	0.01
Overall	0.11	0.13	0.09	0.08	0.13	0.18	0.09	0.10	0.08
Number of observations	5,250	3,796	4,750	4,985	5,213	4,635	5,056	4,869	2,806
Number of towns	532	523	525	529	532	505	528	522	468

***, **, and * significant at 0.01, 0.05, and 0.10 levels.

Further robustness checks. Crude death rate (per 1,000 people). Pooled time-series fixed-effects models

Following Gerry (2012) and Earle and Scott's (2011) criticism, we also include in the regressions lagged privatization variable and country-specific time trend.

	M1:FE	M2:FE	M3:FE	M4:FE	M5:FE	M6:FE	M7:FE	M8:FE	M9:FE
1st specification									
1 year lagged privatization	0.02***	0.02***	0.02***	0.01***	0.01***	0.01***	0.01***	0.01***	0.01***
Controls variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2nd specification									
Current privatization	0.02***	0.01***	0.01***	0.01***	0.01***	0.01***	0.01***	0.01***	0.01***
1 year lagged privatization	0.01***	0.01***	0.01***	0.01***	0.00**	0.00***	0.01***	0.01***	0.00***
Controls variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3rd specification									
Current privatization	0.01***	0.01***	0.01***	0.01***	0.01***	0.01***	0.01***	0.01***	0.01***
Time trend	0.38***	0.34***	0.25***	0.25***	0.18***	0.25***	0.25***	0.27***	0.28***
Controls variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4th specification									
Current privatization	0.01***	0.01***	0.01***	0.01***	0.01***	0.01***	0.01***	0.01***	0.01***
1 year lagged privatization	-0.01***	0.00	-0.00	-0.00	-0.00*	-0.00	-0.00	-0.00	-0.00
Time trend	0.37***	0.29***	0.18***	0.20***	0.12***	0.22***	0.18***	0.20***	0.27***
Controls variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5th specification									
Current privatization	0.01***	0.01***	0.01***	0.01***	0.01***	0.01***	0.01***	0.01***	0.01***
Time trend	0.14***	0.14***	0.13***	0.15***	0.05***	0.17***	0.14***	0.14***	0.15***
1 year lagged death rates	0.34***	0.47***	0.34***	0.33***	0.38***	0.32***	0.34***	0.37***	0.42***
Controls variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

***, **, and * significant at 0.01, 0.05, and 0.10 levels.

Research Horizons

Propensity Score Matching in Russia

30 towns in total:

- 15 monotowns with mass privatisation
- 10 monotowns with gradual privatisation
- 5 multitowns with both fast and slow privatisation

Propensity Score Matching in Russia

Matching done based on:

- Crude death rates per 1000 population in 1991
- Pre-reform population
- Dependency ratio in 1991
- Average wage in US dollars in 1992
- Number of physicians per 10,000 population in 1991
- Floor area per person in 1991
- Death rates from alcohol poisoning per 100,000 population in 1991
- Emission of pollutants into atmosphere from stationary sources, total, thousand tons in 1991

Differences in average values for PSM covariates in Treatment and Control groups: Mass vs Gradual Privatization

PSM Covariates	Mean	
	Treated:Fast	Control:Slow
Death ratio, per 1000	12.20	12.90
population	29800	26400
dependency ratio	0.80	0.82
wages in USD	17.90	14.80
alcohol poisoning per 100,000	16.60	16.43
number of physicians per 10,000	32.20	30.78
floor area, square meters	16.42	16.70
pollution	1.41	0.50

Feedback is more than welcome

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Table 1. Descriptions of Rapid Structural Privatization Variables from the Enterprise Bank for Reconstruction and Development

Measure of Privatization	Description of Coding	Mean Score	
		1991	2002
Mass Privatization	<p>Scale: 0 prior to implementation, 1 thereafter</p> <p>0 Country did not implement a program that transferred the ownership of at least 25% of large-state owned enterprises to the private sector through vouchers and give-aways to firm insiders.</p> <p>1 Country implemented a program that transferred the ownership of at least 25% of large-state owned enterprises to the private sector through vouchers and give-aways to firm insiders.</p>	0	0.44
EBRD Small-Scale Privatization Index [†]	<p>Scale: 1 to 4, 4* (coded as 4.3)</p> <p>1 Little progress</p> <p>2 Substantial share privatized</p> <p>3 Comprehensive program almost ready for implementation</p> <p>4 Complete privatization of small companies with tradable ownership rights</p> <p>4+ Standards and performance typical of advanced industrial economies: no state ownership of small enterprises; effective tradability of land</p>	1.41	3.84
EBRD Large-Scale Privatization Index [†]	<p>Scale: 1 to 4, 4* (coded as 4.3)</p> <p>1 Little private ownership</p> <p>2 Comprehensive scheme almost ready for implementation; some sales completed</p> <p>3 More than 25 per cent of large-scale enterprise assets in private hands or in the process of being privatized (with the process having reached a stage at which the state has effectively ceded its ownership rights), but possibly with major unresolved issues regarding corporate governance.</p> <p>4 More than 50 per cent of state-owned enterprise and farm assets in private ownership and significant progress on corporate governance of these enterprises.</p> <p>4+ Standards and performance typical of advanced industrial economies: more than 75 per cent of enterprise assets in private ownership with effective corporate governance</p>	1.12	3.05

Note: Mean scores presented for 25 transition countries. [†] - Variable definitions were originally developed in 1994 but were refined and amended in later reports; Presented definition are quoted directly from the EBRD 1999 Transition Report. “Transition indicator scores reflect the judgment of the EBRD’s Office of the Chief Economist about country-specific progress in transition” (EBRD 2007).

Web Annex A2. Effects of Mass Privatization and Log GDP per Capita on Pathways of Population Health Impacts

Determinant	Alcohol Consumption (Liters per Capita)	Log Male Alcohol Death Rates	Log Male Heart Disease Death Rates	Log Male Suicide Rates	Homicide Rates	Log Male Unemployment Rates	Log Crime Rates
Mass Privatization	0.81 (0.24)***	14.64% (4.21)**	5.98% (1.85)***	16.86% (4.51)***	5.60 (1.85)**	44.83% (13.62)***	4.19% (4.13)
Log GDP per Capita	-0.04 (0.30)	-0.11% (0.06)	-0.10% (0.02)***	0.04% (0.08)	-0.88 (2.45)	-0.66% (0.15)***	-0.23% (0.05)***

Note: Robust panel-corrected standard errors in parentheses. Results presented from seven separate regression models. Two-way fixed effects models, using Prais-Winsten transformation to adjust for country-specific serial correlation, control for the effects of EBRD price liberalization index, occurrence of military conflict, percentage of population urban, age-dependency ratio, and percentage population with tertiary education.

* = p<0.05, ** = p<0.01, *** = p<0.001 (two-tailed tests).

Mass Privatization and Life Expectancy

Region	Country	Mass Privatization	Year	Life Expectancy Change (1989-2002)^o
<i>Balkans</i>	Georgia	Yes	1995	1.04 / 1.43%
	Armenia	Yes	1994	2.81 / 3.89%
	Azerbaijan	No	-	-5.11 / -7.35%
<i>Baltics</i>	Lithuania	Yes	1993	1.29 / 1.83%
	Estonia	No	-	1.71 / 2.46%
	Latvia	Yes	1994	1.53 / 2.21%
<i>Central Asia</i>	Kyrgyz Republic	Yes	1994	-3.52 / -5.14%
	Uzbekistan	No	-	-2.50 / -3.61%
	Kazakhstan	Yes	1994	-6.66 / -9.79%
	Turkmenistan	No	-	-1.25 / -1.90%
	Tajikistan	No	-	-3.99 / -5.68%
<i>Central Eastern European</i>	Czech Republic	Yes	1994	3.50 / 4.88%
	Slovenia	No	-	0.94 / 3.73%
	Slovakia	No	-	2.73 / 1.30%
	Poland	No	-	3.55 / 5.00%
<i>Former Soviet Union</i>	Hungary	No	-	3.09 / 4.44%
	Russia	Yes	1992	-3.57 / -5.16%
	Ukraine	Yes	1995	-0.59 / -0.86%
	Belarus	No	-	-2.20 / -3.13%
	<i>SEE</i>	Romania	Yes	1995
Bulgaria		No	-	0.31 / 0.44%
Bosnia		No	-	0.96 / 1.31%
Macedonia		No	-	1.60 / 2.22%
Croatia		No	-	1.80 / 2.50%
Albania		No	-	1.85 / 2.56%
Moldova		Yes	1994	-0.55 / -0.81%
Total Δ		Avg. Δ Privatization		
	Avg. Δ Non-Privatization			+0.23 / 0.36%
<i>Difference of Avg. LE Average LE Difference¹</i>	Δ Privatization – Δ NonPrivatization			-0.61 / -0.97%
	Avg LE Privatization – Avg LE NonPrivatization			-0.90

Sources: World Development Indicators 2005 and EBRD 1992 and 1996 *Transition Reports*. ^o

– when available, otherwise longest difference available; ¹ – includes data from all periods, equivalent to the unadjusted estimate of life expectancy (LE) on mass privatization;

Correlation coefficients: $R_{LE}=-0.29$, $R_{LEmale}=-0.33$, $R_{LEfemale}=-0.20$.

Mass Privatization and % GDP per capita Growth 1989-2003

Variable	Model 1 [†]	Model 2	Model 3	Model 4
Mass privatization	-46.209** (14.773)	-45.073** (13.156)	-51.209*** (12.005)	-48.681*** (11.942)
Initial GDP per capita (log) ¹⁷	–	-11.543 (6.597)	-23.774** (7.510)	-27.129** (7.784)
Initial population (log)	–	15.130** (4.982)	14.774** (4.461)	14.467** (4.389)
Presence of oil	–	-24.423 (19.045)	0.884 (19.565)	2.855 (19.277)
Military conflict	–	-6.464 (3.423)	-6.140 (3.067)	-5.200 (3.093)
Transition progress	–	–	38.740* (14.694)	29.184 (16.074)
CEEB	–	–	–	26.842 (19.855)
Constant	28.799* (13.212)	-120.026 (107.604)	-123.415 (96.332)	-79.001 (100.184)
Adj. R2	0.180	0.528	0.622	0.635
N	30	30	30	30

Note: Numbers in parentheses are standard errors

p<0.05; ** p<0.01; *** p<0.001

[†] Indicates that robust errors were employed to correct for heteroskedasticity

Mass Privatization and EBRD Quality of Governance Index (1= worst, 3= best)

Variable	Model 5	Model 6	Model 7	Model 8
Mass privatization	-0.446** (0.118)	-0.36** (0.123)	-0.368** (0.123)	-0.361** (0.112)
Initial GDP per capita (log)	–	0.107 (0.109)	0.08 (0.123)	0.036 (0.115)
Initial population (log)	–	-0.057 (0.048)	-0.048 (0.045)	-0.049 (0.053)
Presence of oil	–	-0.007 (0.096)	0.014 (0.1)	0.033 (0.097)
Military conflict	–	-0.09 (0.208)	-0.089 (0.214)	-0.041 (0.212)
Transition progress	–	–	0.07 (0.089)	-0.038 (0.135)
Central Eastern Europe and Baltics	–	–	–	0.255 (0.204)
Constant	1.696*** (0.083)	1.767 (1.374)	1.65 (1.37)	2.184 (1.31)
Adj. R ²	0.412	0.384	0.346	0.366
N	24	24	24	24

Control Variables

Covariates	Coefficient of Control	Coefficient of Mass Privatization	Coefficient of Control	Coefficient of EBRD Avg. Privatization	N
<i>Economic and Policy (Q)</i>					
Foreign Direct Investment	0.02 (0.01)	-1.25 (0.23)***	0.03 (0.02)	-0.45 (0.14)**	302
EBRD Foreign Exchange & Trade Liberalization	0.15 (0.11)	-1.43 (0.24)***	0.06 (0.11)	-0.47 (0.15)**	290
Hyperinflation	-0.08 (0.16)	-1.29 (0.23)***	-0.01 (0.05)	-0.43 (0.15)**	302
<i>Health System (Z)</i>					
Log Health Spending per Capita	-0.09 (0.17)	-1.19 (0.25)***	-0.05 (0.16)	-0.42 (0.17)*	258
Health Spending as a Percentage of Total Government Spending	2.63 (2.05)	-1.23 (0.23)***	2.58 (1.94)	-0.37 (0.16)*	253
Number of Physicians per 1000 population	0.03 (0.21)	-1.28 (0.22)***	0.25 (0.23)	-0.42 (0.17)***	281
Hospital Beds	-0.03 (0.09)	-1.57 (0.21)***	0.00 (0.11)	-0.43 (0.20)*	274
<i>Diet and Nutrition (N)</i>					
Protein Availability	0.08 (0.10)	-1.25 (0.23)***	0.10 (0.10)	-0.51 (0.16)***	297
Log Fruit and Vegetable Availability	0.36 (0.59)	-1.34 (0.23)***	0.53 (0.53)	-0.62 (0.20)**	281
Log Caloric Availability	0.13 (0.92)	-1.47 (0.23)***	-0.37 (0.93)	-0.54 (0.17)**	299

Endogenous Selection Bias: Determinants of Mass Privatization

Covariate	Probit [†]	Probit ME [†]	LPM	LPM (FEM) ^γ
log(GDP)	0.43 (0.28)	0.08 (0.06)	0.02 (0.02)	-0.08 (0.07)
log(FDI)	-0.35 (0.35)	-0.65 (0.61)	-0.16 (0.63)	0.02 (0.45)
log(IMF)	0.03 (0.02)	0.01 (0.00)	0.00 (0.00)	0.01 (0.00)**
Urbanization	-0.04 (0.05)	-0.01 (0.01)	-0.00 (0.00)*	-0.04 (0.02)*
Dependency	0.09 (0.06)	0.02 (0.01)	0.01 (0.01)	0.03 (0.01)**
Fertility	-3.46 (0.99)**	-0.65 (0.25)**	-0.23 (0.10)*	-0.28 (0.08)**
Education	-0.11 (0.03)**	-0.02 (0.01)**	-0.01 (0.00)**	-0.01 (0.00)**
Political Freedom	-0.35 (0.20)	-0.07 (0.04)	-0.04 (0.02)	-0.08 (0.02)*
Price Liberalization	1.44 (0.25)**	0.27 (0.10)**	0.16 (0.03)**	0.07 (0.03)*
Years Central Planning	0.04 (0.04)	0.01 (0.01)	0.00 (0.00)	-
Ethnic Minority	1.48 (0.46)**	0.28 (0.13)**	0.23 (0.04)**	-
FSU	4.81 (1.10)**	0.79 (0.14)**	0.79 (0.11)**	-
CEEB	0.77 (0.86)*	0.17 (0.22)	0.09 (0.08)	-
Number of Observations	313	313	313	313
Number of Countries	26	26	26	26
χ^2	196.83**	196.83**	184.85**	511.47**
Pseudo-R ²	0.56	0.56	0.45	0.83

Note: [†] - clustered standard errors for intra-group correlation; ^γ – Prais-Winsten transformation to accommodate first-order autocorrelation; Discrete marginal effects given by $\Delta F/\Delta x = F(x_1 * \beta) - F(x_0 * \beta)$;
Continuous marginal effects evaluated at \bar{x} ; * = p<0.05; ** = p <0.01 (two-tailed t-test).

Selection Models

Table 9. Robustness Tests and Selection Models

Model Type	Coefficient on Mass Privatization	Coefficient on log (GDP)	Coefficient on λ	R^2
POLS	-1.79 (0.32)**	-0.33 (0.11)**	-	0.37
2SLS [†]	-1.17 (0.43)**	0.08 (0.16)	-	0.36
Treatment Effects [§]	-3.34 (0.40)**	-0.35 (0.11)**	1.55 (0.24)**	0.46
Random Effects ^{†, §}	-5.14 (0.53)**	0.37 (0.14)**	3.24 (0.33)**	0.62
Fixed Effects ^{†, §}	-0.91 (0.35)**	1.38 (0.24)**	0.04 (0.20)	0.94

Note: Models adjusted for EBRD price liberalization index, age-dependency ratio, percentage of population urban, fertility rate, and percentage population with tertiary education; [†] - Prais-Winsten transformation to accommodate AR(1) error structure; [§] - standard errors adjusted for selection; * = p<0.05; ** = p<0.01 (two-tailed tests)

Sources of data: Towns

- Database «Economy of Russian cities” provided by Main Interregional Center of the Processing and Dissemination of Statistical information Of the Federal State Statistics Service (GMC Rosstat). <http://www.gmcgks.ru/>
- Population of cities in Russia since 1897. Yaroslavl, 1986 (Historical data on the population and the creation of cities). Hard copy.

Sources of data: Companies

- Database provided by Centre for Economic and Financial Research (CEFIR) / Original source of the ***Federal State Statistics Service*** (Goskomstat) .
- Database ***Professional Market and Companies System (SPARK)***. The largest database of Russian, Ukrainian and Kazakh companies. The database contains official information from over 20 different sources, including federal departments, ministries and government agencies, key mass media and companies themselves. (<http://www.spark-interfax.ru/Front/About.aspx?tabId=1>)
- ***Unified State Register of Enterprises and Organizations of the Russian Federation*** (EGRPO) Data on OKPO, the founders of legal entities. (<http://www.egrpo.ru/>
- ***Unified State Register of Legal Entities (EGRYuL)***. Information about full and abbreviated companies' names in Russian and native regional languages, legal form, location, information on shareholders and the size of shares in authorized capital of the companies. Data from **Federal Tax Service**. <http://egrul.nalog.ru/>

Settlements Selection

- **Hungary:** all settlements 10,000-50,000 inhabitants
- **Belarus:** all monotowns; multi-towns with population larger than 10,000
- **Russia:** European part; settlements with 10,000-100,000 inhabitants

PrivMort Data

III - National Representative Survey in Russia

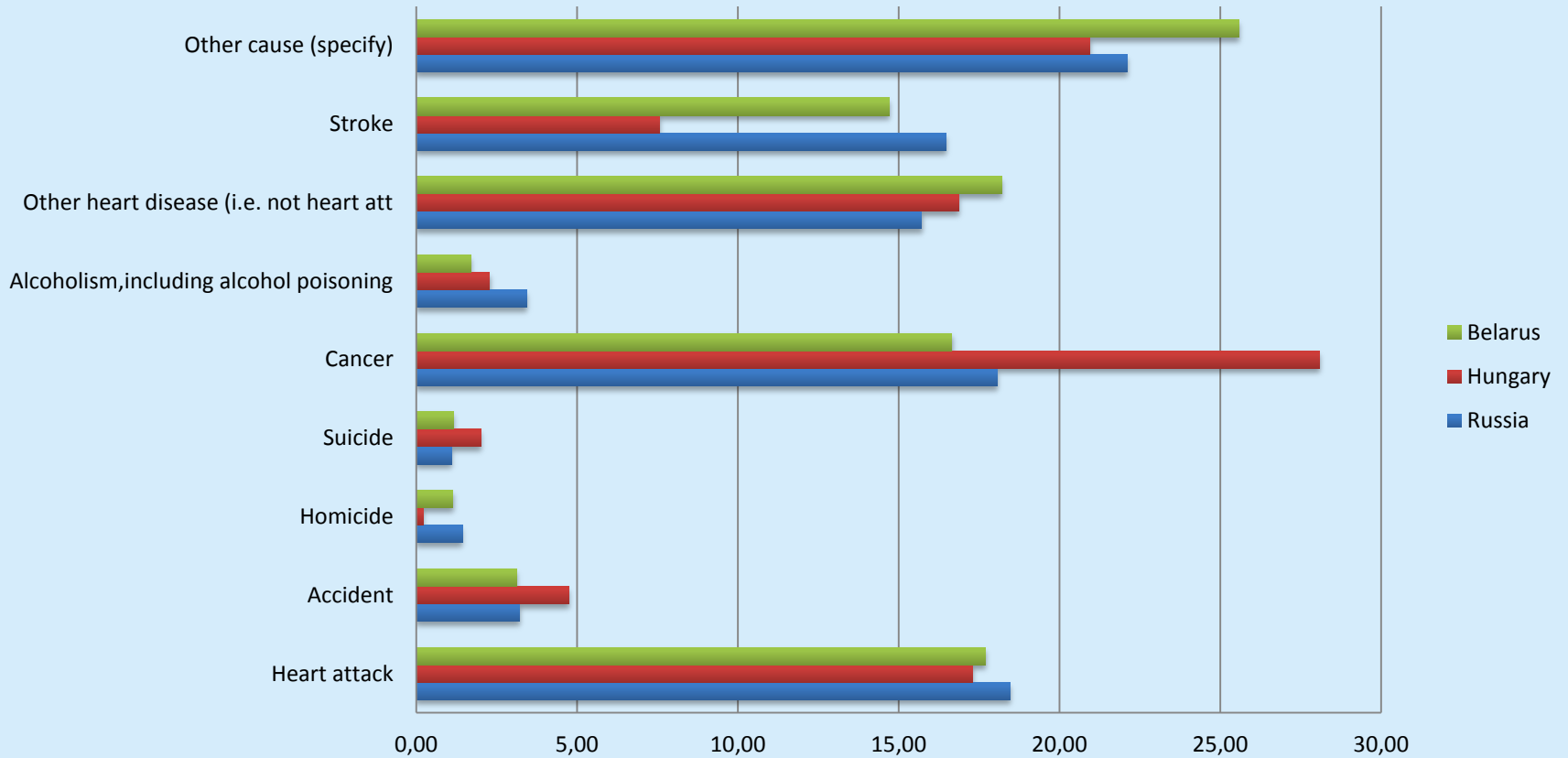
- 1,500 respondents
- Comparing the mortality data with the general average population
- Increases generalizability

Differences in average values for PSM covariates in Treatment and Control groups: Mono vs Multi Towns (Russia)

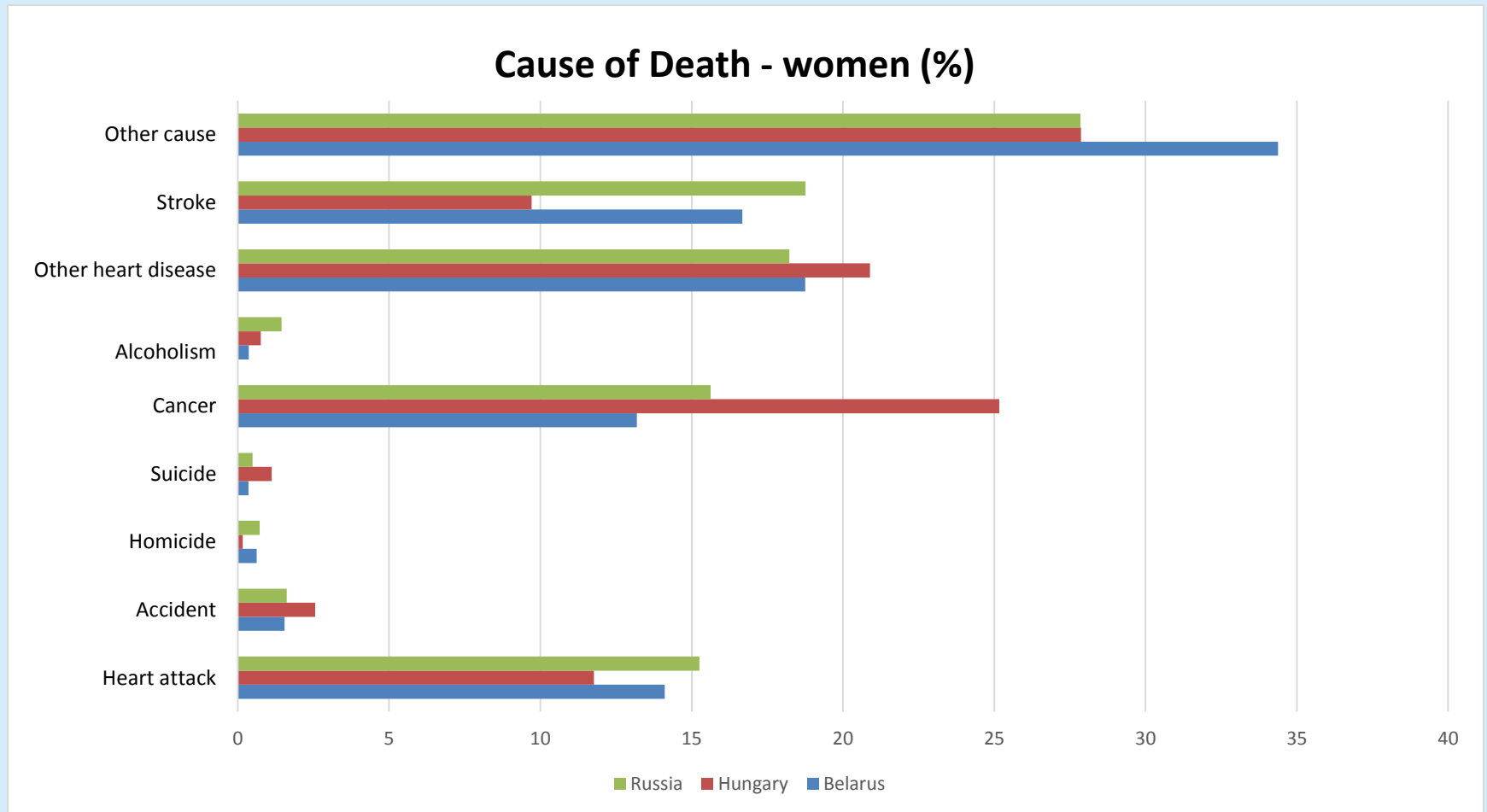
PSM Covariates	Mean	
	Treated:Mono	Control:Multi
number of deaths	12.78	11.14
population	25140	45000
dependency ratio	0.82	0.74
wages in USD	16.42	17.97
alcohol poisoning	16.77	15.36
number of physicians	31.23	33.92
floor area	16.70	15.82
pollution	0.93	1.70

Descriptive Statistics

Cause of Death - men (%)

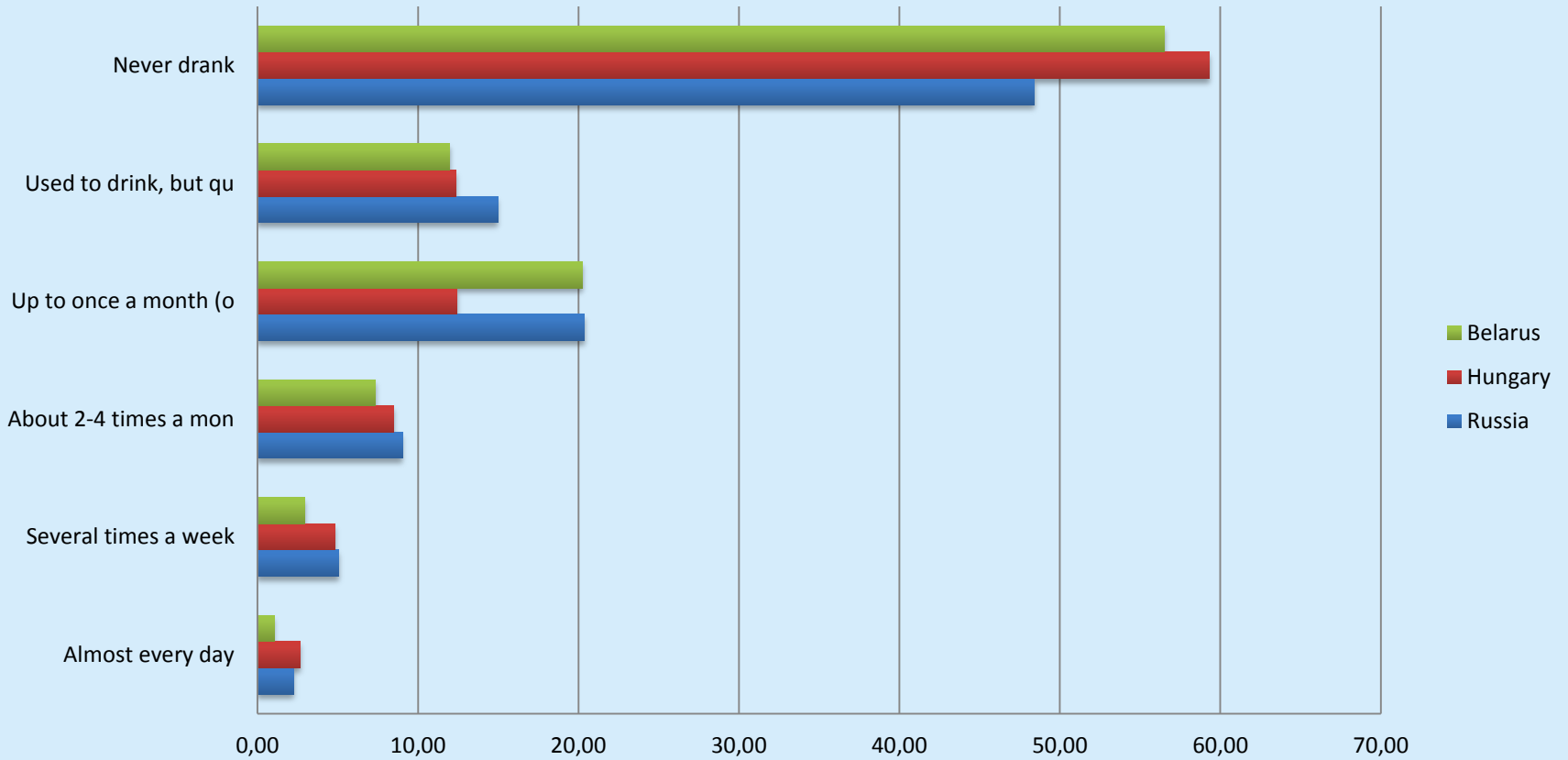


Descriptive Statistics

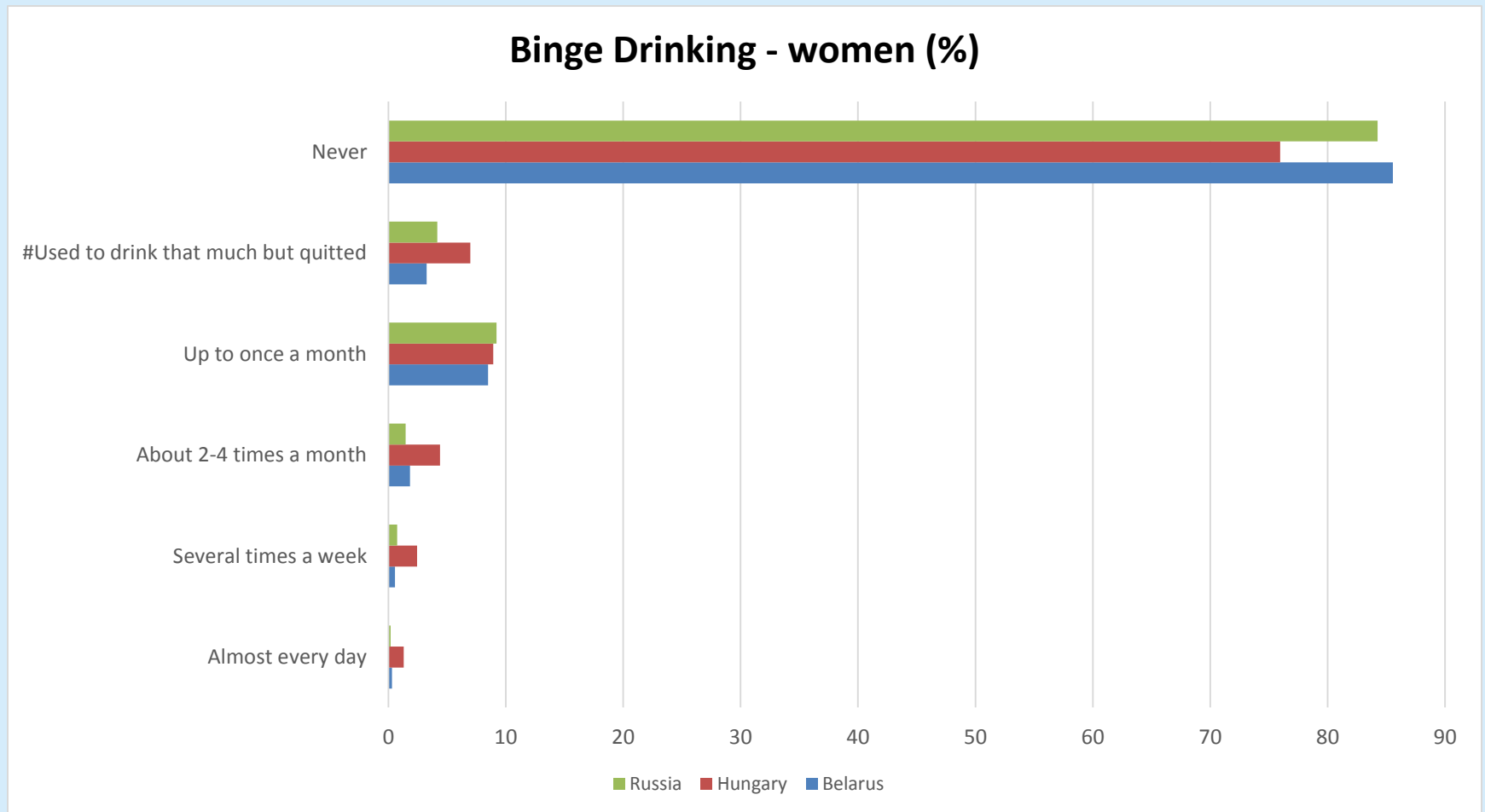


Descriptive Statistics

Binge Drinking - men (%)



Descriptive Statistics



Neoclassical Sociological Theory of Privatization

Mass Privatization destroys firms creating a vicious circle of firm and state failure resulting in “patrimonial capitalism”

Strategic ownership via competitive ownership after state-sponsored restructuring is the best way to privatize, creating “liberal capitalism”

- “Postcommunist Economic Systems” (with Iván Szelényi) in Neil Smelser and Richard Swedberg (eds) *Handbook of Economic Sociology* (second edition). Princeton: Princeton University Press. 2005. Pp. 206-232.
- “Shock Privatization: The Effects of Rapid Large Scale Privatization on Enterprise Restructuring.” *Politics and Society* 2003 (March):3-34.
- “The State Led Transition to Liberal Capitalism: Neoliberal, Organizational, World Systems, and Social Structural Explanations of Poland’s Economic Success” (with Aleksandra Sznajder) *American Journal of Sociology* November. 2006. Vol. 12, No.3: 751-801.

Research Horizons

- PrivMort provides an analytical and methodological model for linking micro-level data with meso-level indicators
- More research on the effect of individual health-behavior, adaptations and preferences on mortality outcomes is needed

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<http://lcsr.hse.ru/en/conf2015>

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<http://lcsr.hse.ru/en/conf2015>