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Transition gap in self-rated health¹

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Abstract

Previous literature has shown substantially lower levels of self-reported health in transition countries compared to developed and developing countries. The current paper provides the most recent estimates of the size of the transition gap in self-rated health by using up to 241,698 observations from the World Values Survey (WVS) and the European Values Study (EVS) collected between 1989 and 2014. During the earlier transition period of 1989–2007 transition countries were 0.088 to 0.127 lower on a 0 to 1 scale (from ‘Very poor’ to ‘Very good’ self-rated health). The transition gap remains in place in the second period after the Asian crisis (0.069 to 0.094 lower self-rated health) and even after the Global financial crisis of 2008 (0.062 to 0.105 lower self-rated health). Judging from these estimates the process of transition is far from completion at least based on a subjective evaluation of health, which is one of the key determinants of human development. It is also plausible that poor self-perceived health may ‘justify’ abnormally high health-care utilization and an excessive (and expensive) network of physicians and hospital beds per capita still characterizing transition countries.

JEL classifications: I15, N34, P46

Keywords: Self-rated health, transition countries, World Values Survey, European Values Study

1. Introduction

Transition countries are characterized by substantially lower levels of self-reported health relative to developed and developing countries. Carlson (1998) is among the first authors who identified the East–West divide in self-perceived health using data for 35–64-year-old people from 25 Eastern and Eastern European countries included in the World Values Survey (WVS) 1990. Deaton (2008) uses the Gallup World Poll 2006 to show that countries of Eastern Europe and the former Soviet Union report extraordinarily low levels of health satisfaction, representing 11 of the 20 lowest among 132 countries (Deaton 2008).² Jen et al. (2010) use the most extensive data from 60 WVS and European Values Study (EVS) surveys taken in four waves (1981, 1991, 1995–1997 and 1999–2001) across 69 countries and find that nine out of ten countries that reported the highest levels of poor health are transition states.

Earlier studies of self-perceived health in transition concentrate on a limited number of countries or years (Carlson 1998, Deaton 2008) and do not compare transition countries to non-transition ones (Bobak et al. 2000, D’Hombres et al. 2010) or do not use the most recent data (Jen et al. 2010). The advantage of this paper over previous studies is the incorporation of all available up to now WVS and EVS waves (Inglehart 1997, Inglehart 2004) starting from the beginning of transition in 1989. Given their sporadic timing, surveys are combined into three waves: early transition 1989–2007, mid transition in between the Asian and the Global financial crises and late transition starting from the 2008 crisis. This paper uses difference-in-difference methodology inspired by studies of the happiness gap in transition (i.e. Guriev and Zhuravskaya 2009).³

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² The health satisfaction question is formulated as ‘Are you satisfied or dissatisfied with your personal health?’

³ Recent analysis by the European Bank for Reconstruction and Development (EBRD) suggests the transition gap in happiness has ‘closed’ recently (de Haas, Qi and Young 2016).

The goal of this paper is to test whether there still exists a transition gap in self-rated health using the most recent available data and a rich set of covariates identified in previous studies. The answer to this question is important from a policy perspective. Health (together with education and income) are among the key determinants of human development in a country. Transition to a market economy and democracy cannot be considered complete if people in transition countries systematically report low levels of health. In addition, poor self-reported health may be responsible for abnormal health-care utilization and an excessive (and expensive) network of physicians and hospital beds, which still characterize transition countries.

2. Data and methods

This paper employs longitudinal data files from World Values Survey over 1981–2014 (World Values Survey 2015) and from European Values Study (EVS) over 1981–2008 (European Values Study 2015). WVS and EVS are among the most comprehensive research projects combining large longitudinal cross-national surveys dealing with people’s values and beliefs and including their socio-demographic characteristics.

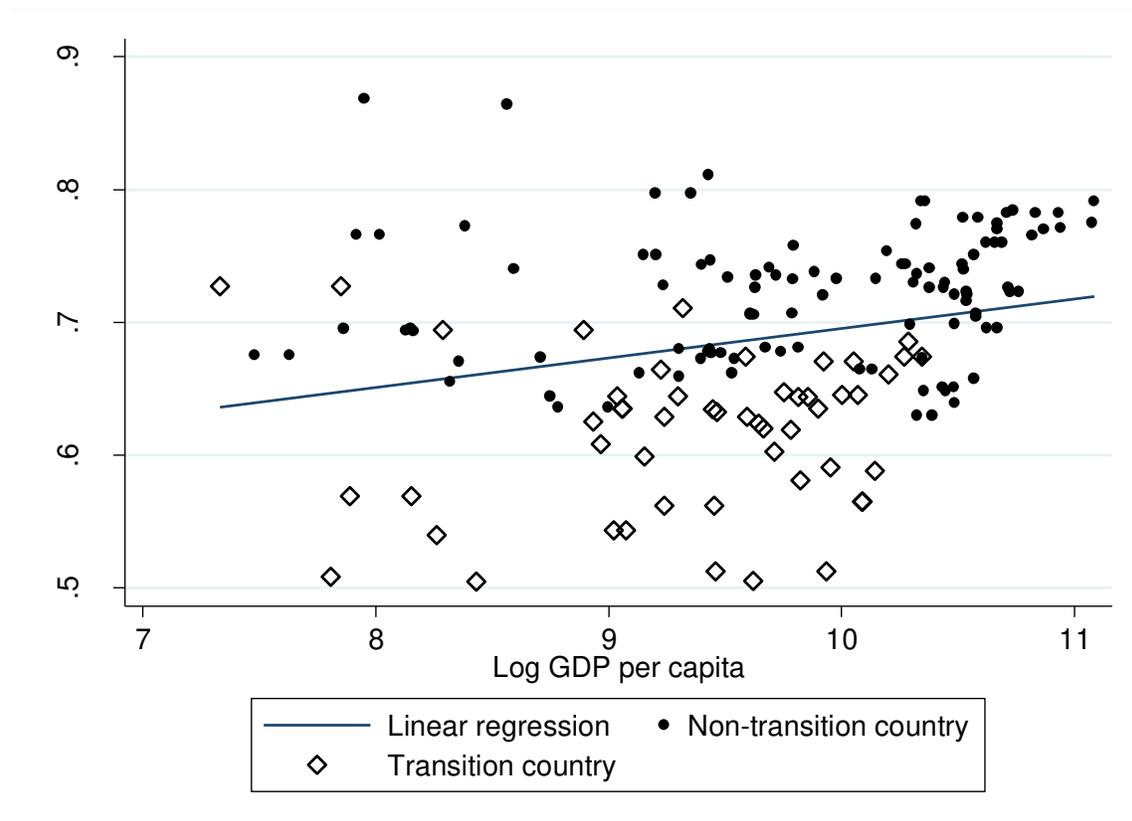


Figure 1. Average self-rated health over three periods.

Given that WVS and EVS surveys are quite widely spread over years and across countries, this paper combines the surveys into three major transition periods: early transition from 1989 up to 1997 before the Asian financial crisis, mid transition including 1998 but before the 2008 Global financial crisis, and late transition starting from the 2008 crisis and until 2014. For the purposes of better comparison, the final sample is balanced and

limited to countries that appear in all three periods.⁴ Since many economists are sceptical about imputations, individual observations with missing data are not included in the final sample of 241,698 observations.⁵ Furthermore, countries in the final sample are divided into 26 non-transition and 13 transition countries using the International Monetary Fund (IMF) definition.⁶

Figure 1 shows the relationship between average self-rated health and log GDP per capita in constant purchasing power parity (PPP) 2011 international dollars. Data for Figure 1 come from a balanced sample for three periods under study: 1989-1997, 1998-2007 and 2008-2014. This Figure indicates that transition countries (denoted by diamonds) systematically fall below in average self-rated health relative to developed and developing nations (denoted by dots). In fact, there are only 5 cases when transition countries are above regression line of country average self-rated health on log GDP per capita.

Table 1 reports self-rated health by category in transition and non-transition countries over the three periods defined above. In each period, transition countries have higher shares of respondents who report ‘Very poor’, ‘Poor’ or ‘Fair’ self-rated health and lower shares of those who report ‘Good’ or ‘Very good’. It is also possible, however, that these results are driven by a different sample composition over time and in transition and non-transition countries. Hence, regression analysis is applied next to test whether the transition gap holds in a model with a rich set of explanatory variables.

Table 1. Self-rated health in transition and non-transition countries over 3 periods

Self-rated health	1989-1997			1998-2007			2008-2014		
	Not transition	Transition	Diff.	Not transition	Transition	Diff.	Not transition	Transition	Diff.
Very poor	1.14%	3.28%	2.14%	0.26%	0.44%	0.18%	0.43%	1.88%	1.45%
Poor	5.47%	13.26%	7.79%	4.87%	13.37%	8.50%	5.08%	12.04%	6.95%
Fair	26.79%	41.70%	14.91%	24.22%	33.92%	9.70%	22.32%	33.81%	11.49%
Good	41.64%	30.78%	-10.86%	44.79%	36.94%	-7.85%	46.01%	38.17%	-7.84%
Very good	24.95%	10.97%	-13.98%	25.86%	15.33%	-10.52%	26.16%	14.10%	-12.06%
# of obs.	63,808	25,526		54,328	20,292		48,953	28,791	

Note: Results are based on 241,698 observations in the final sample.

In order to quantify the possible transition gap and its changes over time this paper uses the following difference-in-difference model

$$SRH_{it} = a + \beta * X_{it} + \gamma * D_{Transition} + \sum_{t=2,3} \delta_t * D_t + \sum_{t=2,3} \varepsilon_t * D_t * D_{Transition} + \zeta_{it},$$

where SRH_{it} is self-rated health for individual i in period t defined as $t=1$ if the survey was conducted in 1989–1997, $t=2$ for surveys in 1998–2007 and $t=3$ for surveys in 2008–2014. $D_{Transition}$ is an indicator variable taking a value of 1 for transition countries and 0 otherwise. D_t is an indicator variable for periods $t=2,3$. The

⁴ Appendix reports (very similar) results for unbalanced samples including all countries that appear at least once in a WVS or EVS survey.

⁵ The only exception is employment status, with ‘missing’ employment defined as base category (4,188 observations or 1.73%). This is done to keep Poland and Argentina in the final sample (with employment status missing for all respondents in periods 1 and 3 correspondingly).

⁶ The final sample includes the transition countries Bulgaria, China, Czech Republic, Hungary, Moldova, Montenegro, Poland, Romania, Russian Federation, Serbia, Slovak Republic, Slovenia and Ukraine. Non-transition are Argentina, Australia, Brazil, Chile, Finland, France, Germany, India, Italy, Japan, Republic of Korea, Mexico, Netherlands, Nigeria, Norway, Pakistan, Peru, Philippines, South Africa, Spain, Sweden, Switzerland, Turkey, United Kingdom, United States and Uruguay.

coefficient ε_t on cross-term $D_t * D_{Transition}$ shows how self-rated health in transition countries in period $t=2,3$ was different from other region–year combinations (Coupe and Obrizan 2016).

Depending on the specific model, X_{it} may include socio-demographic characteristics (age, age squared, an indicator variable for female and a set of indicator variables for marital status); employment status⁷ represented by a set of dummy variables; two measures of trust (an individual indicator variable for respondents who trust most people and country average of those who trust others) and a subjective evaluation of own income on a 10-ladder scale;⁸ macroeconomic variables from World Development Indicators provided by World Bank (GDP per capita in constant PPP 2011 international dollars, annual GDP growth in %, total life expectancy at birth in years, health expenditure (HE) as % of GDP, out-of-pocket HE as % of total HE).

Models with macroeconomic variables, measures of trust and a measure of subjective income have smaller samples due to many missing observations. The achieved level of education and some other potentially important predictors could not be included due to many missing observations. All models use robust standard errors clustered at the country level.

Some of the included covariates could be potentially endogenous to self-reported health. To ensure that results are robust to this potential endogeneity problem this paper reports coefficients from a range of models, starting from a model with only a set of difference-in-difference dummies and up to a model with all covariates.

3. Results

Table 2 reports descriptive statistics for a rich set of covariates included in regressions. Means and standard deviations (in brackets) are presented separately for non-transition and transition countries over three periods: early transition, the aftermath of the Asian crisis, and late transition period after the 2008 crisis. Respondents in transition countries are somewhat older, more likely to be female and less likely to be single or never married. Respondents from transition countries are more likely to be full-time employees or retired and less likely to be part-time employees or self-employed. In terms of countrywide characteristics, transition countries have much lower GDP per capita in constant PPP 2011 international dollars and a somewhat lower share of health expenditures (HE) in GDP. The evidence for GDP growth, life expectancy at birth and out-of-pocket HE is mixed.

Table 2. Means and standard deviations of covariates for transition and non-transition countries over 3 periods

Variables	1989-1997		1998-2007		2008-2014	
	Not transition	Transition	Not transition	Transition	Not transition	Transition
Age	40.642 (16.168)	44.093 (16.113)	41.770 (16.445)	44.492 (16.290)	45.123 (17.467)	46.986 (17.469)
Age squared	1913.118 (1498.427)	2203.757 (1528.463)	2015.200 (1541.689)	2244.886 (1540.655)	2341.163 (1709.174)	2512.856 (1726.558)
Female	0.510 (0.500)	0.531 (0.499)	0.511 (0.500)	0.533 (0.499)	0.521 (0.500)	0.563 (0.496)
Living together as married	0.054 (0.226)	0.025 (0.157)	0.075 (0.263)	0.037 (0.190)	0.074 (0.261)	0.030 (0.172)

⁷ See for example, Platts (2015) who compares labour market status and self-rated health in the UK with Russia.

⁸ Trust and subjective income evaluation are shown to be an important predictor of self-rated health in relation to the transition gap (i.e. Carlson 1998, D’Hombres et al. 2010 etc).

Divorced	0.031 (0.174)	0.044 (0.205)	0.035 (0.183)	0.043 (0.202)	0.055 (0.227)	0.072 (0.258)
Separated	0.017 (0.130)	0.014 (0.116)	0.021 (0.142)	0.009 (0.095)	0.024 (0.153)	0.009 (0.097)
Widowed	0.060 (0.237)	0.083 (0.275)	0.054 (0.226)	0.090 (0.287)	0.064 (0.245)	0.125 (0.330)
Single/Never married	0.248 (0.432)	0.140 (0.346)	0.257 (0.437)	0.170 (0.376)	0.257 (0.437)	0.198 (0.399)
Full-time employee	0.376 (0.484)	0.515 (0.500)	0.306 (0.461)	0.448 (0.497)	0.322 (0.467)	0.423 (0.494)
Part-time employee	0.081 (0.273)	0.040 (0.195)	0.081 (0.274)	0.050 (0.218)	0.090 (0.286)	0.049 (0.217)
Self-employed	0.100 (0.300)	0.048 (0.214)	0.128 (0.334)	0.039 (0.195)	0.094 (0.292)	0.043 (0.204)
Retired	0.116 (0.321)	0.204 (0.403)	0.118 (0.323)	0.216 (0.412)	0.156 (0.363)	0.268 (0.443)
Housewife	0.166 (0.372)	0.047 (0.212)	0.156 (0.363)	0.076 (0.265)	0.137 (0.344)	0.054 (0.226)
Student	0.074 (0.261)	0.031 (0.172)	0.092 (0.289)	0.054 (0.226)	0.060 (0.238)	0.054 (0.225)
Unemployed	0.070 (0.255)	0.046 (0.210)	0.089 (0.284)	0.084 (0.278)	0.089 (0.285)	0.082 (0.275)
Other employment	0.010 (0.102)	0.021 (0.145)	0.019 (0.136)	0.017 (0.127)	0.022 (0.148)	0.021 (0.144)
GDP per capita, PPP (constant 2011 \$)	20432.450 (13079.647)	10802.871 (6079.901)	21618.275 (16105.301)	12518.475 (6409.631)	29378.712 (15823.780)	18882.257 (7537.988)
GDP growth (annual %)	3.699 (3.070)	-3.182 (6.940)	3.304 (3.131)	5.546 (4.018)	1.625 (3.847)	4.193 (3.134)
Life expectancy at birth, total (years)	70.871 (8.347)	69.845 (2.424)	71.430 (9.898)	71.640 (2.975)	75.733 (8.346)	73.394 (3.260)
Health expenditure (HE), total (% of GDP)	6.634 (2.865)	6.175 (1.693)	7.093 (2.720)	6.432 (1.753)	8.563 (2.951)	7.139 (1.562)
Out-of-pocket HE (% of total HE)	33.994 (20.846)	26.945 (9.273)	30.323 (18.829)	29.689 (12.980)	22.410 (16.852)	30.194 (10.835)

Note: Results are based on unweighted averages and standard deviations (in brackets) from 241,698 observations.

For simplicity of interpretation a 5-level scale of self-reported health is converted to a range from 0 to 1 in which ‘Very poor’ corresponds to 0, ‘Poor’ – to 0.25, ‘Fair’ – to 0.5, ‘Good’ – to 0.75 and ‘Very good’ – to 1. An alternative model in the Appendix uses instead a binary variable, taking a value of 1 for respondents who report ‘Good’ or ‘Very good’ health and 0 otherwise. Another alternative – ordered probit model – is not considered because interpretation of interaction terms is not straightforward (Ai and Norton 2003, Puhani 2012) and, more importantly, because non-linear models violate the common trend assumption of the difference-in-difference model (Lechner 2010).

Table 3 presents the results from five models: model (I) includes only a set of difference-in-difference dummies; socio-demographic characteristics are added in model (II); employment status is further added in model (III). Finally, a model with countrywide characteristics is reported in column (IV) and measures of trust

and subjective income are added in model (V). Notice that specifications (IV) and (V) have smaller samples due to many missing observations.

Table 3. Difference-in-difference model for self-rated health with robust standard errors clustered at country level

	(I)	(II)	(III)	(IV)	(V)
Dummy for transition country	-0.127*** (0.024)	-0.113*** (0.023)	-0.116*** (0.022)	-0.088** (0.039)	-0.111*** (0.038)
Dummy for 1998-2007	0.018* (0.010)	0.023** (0.011)	0.025** (0.011)	0.018** (0.008)	0.018** (0.008)
Dummy for 2008-2014	0.022** (0.009)	0.041*** (0.010)	0.041*** (0.010)	0.031*** (0.011)	0.031*** (0.011)
Dummy for transition country in 1998-2007	0.033* (0.017)	0.030* (0.016)	0.032** (0.016)	0.019 (0.029)	0.032 (0.030)
Dummy for transition country in 2008-2014	0.023 (0.016)	0.019 (0.015)	0.021 (0.015)	0.009 (0.033)	0.049 (0.031)
Age		-0.004*** (0.001)	-0.006*** (0.001)	-0.006*** (0.001)	-0.006*** (0.001)
Age squared		-0.000 (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)
Female		-0.024*** (0.003)	-0.014*** (0.004)	-0.015*** (0.003)	-0.014*** (0.003)
Living together as~d		-0.008 (0.013)	-0.010 (0.011)	-0.016 (0.010)	-0.011 (0.007)
Divorced		-0.014 (0.009)	-0.018** (0.008)	-0.028*** (0.006)	-0.012** (0.006)
Separated		-0.044*** (0.009)	-0.046*** (0.008)	-0.041*** (0.008)	-0.027*** (0.008)
Widowed		-0.050*** (0.004)	-0.047*** (0.004)	-0.047*** (0.003)	-0.031*** (0.004)
Single/Never married		-0.005 (0.007)	-0.008 (0.006)	-0.012** (0.005)	-0.008** (0.004)
Full-time employee			0.037*** (0.010)	0.029* (0.017)	0.012 (0.015)
Part-time employee			0.024*** (0.008)	0.016 (0.016)	0.006 (0.014)
Self-employed			0.019 (0.012)	0.022 (0.018)	0.012 (0.016)
Retired			-0.044*** (0.011)	-0.047*** (0.017)	-0.045*** (0.016)
Housewife			-0.024** (0.009)	-0.015 (0.017)	-0.013 (0.015)
Student			0.021** (0.008)	0.018 (0.015)	0.001 (0.013)
Unemployed			-0.018* (0.010)	-0.024 (0.016)	-0.014 (0.015)
Other employment			-0.058*** (0.015)	-0.077*** (0.024)	-0.042* (0.021)
GDP per capita, PPP (constant 2011 \$)				0.000** (0.000)	0.000 (0.000)

GDP growth (annual %)				0.004**	0.003*
				(0.002)	(0.002)
Life expectancy at birth, total (years)				-0.003**	-0.003**
				(0.001)	(0.001)
Health expenditure (HE), total (% of GDP)				0.002	0.003
				(0.003)	(0.003)
Out-of-pocket HE (% of total HE)				-0.001	-0.001
				(0.000)	(0.000)
Most people can be trusted					0.032***
					(0.003)
Subjective income on 1 to 10 scale					0.014***
					(0.001)
Country average of people who trust others					0.065
					(0.049)
Constant	0.709***	0.884***	0.892***	1.073***	1.002***
	(0.011)	(0.024)	(0.025)	(0.091)	(0.084)
# of Observations	241698	241698	241698	192469	134453
Adjusted R-squared	0.052	0.153	0.167	0.186	0.197
Transition+Transition in 1998-2007	-0.094***	-0.082***	-0.085***	-0.069***	-0.079***
	(0.018)	(0.018)	(0.018)	(0.020)	(0.022)
Transition+Transition in 2008-2014	-0.105***	-0.094***	-0.095***	-0.079***	-0.062**
	(0.020)	(0.019)	(0.018)	(0.019)	(0.025)

Respondents in transition countries systematically report lower levels of self-rated health and the size of this gap is remarkably stable across the three transition periods. Specifically, during the early period, respondents in transition countries report 0.088 to 0.127 (depending on the model) lower self-rated health on a 0 to 1 scale. The transition gap remains in place in the second period after the Asian crisis (0.069 to 0.094 lower self-rated health) and even after the Global financial crisis of 2008 (0.062 to 0.105 lower self-rated health).

Other variables have expected signs: reported self-rated health is lower for older respondents, females, those who are divorced, separated or widowed (compared to the base category of married). Full-time employees on average report higher while retired have lower self-rated health. Respondents in countries with higher GDP and GDP growth report better self-rated health while higher life expectancy at birth is, somewhat surprisingly, associated with worse health. However, these countrywide characteristics are only marginally significant at 5% and imply quantitatively small effects. In specification (V) with a reduced sample, individual trust and subjective evaluation of income are associated with higher self-rated health. Possible endogeneity in these and other variables should not be a problem since results remain remarkably stable across different specifications.

Table A1 in the Appendix shows that the gap becomes even bigger under alternative definition when self-reported health is converted to a dependent binary variable, taking a value of 1 for respondents who report 'Good' or 'Very good' health and 0 otherwise. Table A2 in the Appendix reports results for the unbalanced sample including all countries appearing at least once since 1989. Even in this much bigger sample of 416,696 observations the transition gap in self-reported health exists and does not disappear up until the last period of 2008–2014. Thus, results are robust in five different model specifications under three different definitions of the final sample.

4. Conclusions

This paper provides the most recent estimates of the transition gap in self-perceived health based on difference-in-differences model with robust standard errors clustered at a country level. Transition countries are characterized by much lower levels of self-rated health relative to developed as well as developing countries. This finding has a number of important policy implications. First of all, the transition process is far from completion (at least in terms of self-rated health), despite the fact that it has been ongoing since 1989. Although some transition countries have been quite successful in terms of GDP growth and implementation of democratic institutions, this worrisome gap in self-rated health remains in place.

Second, self-rated health in developed countries had been shown to be predictive of mortality (Idler and Benyamini 1997, Johnston et al 2010) and onset of disability (Wilcox, Kasl and Idler 1996). Future research should identify whether the same is true for transition countries or not. The problem stems from abnormally high rates of health-care use and excessive numbers of hospital beds and physicians per capita, which still characterize health-care systems in transition. For example, Figure 2 shows the negative association between number of beds per capita and average self-rated health in the late transition period of 2008–2014.

Two plausible explanations come to mind. First, the population in transition countries may indeed be sicker (as indicated by poor self-perceived health), demanding all those extra health services. Alternatively, poor self-rated health may be used by individuals (especially the older ones) to ‘justify’ the use of expensive health-care instead of (often non-existent) social support systems. In any case, successful transition calls for a departure from the Semashko hospital-based model of health-care delivery towards a more competitive model based on preventive and primary care.

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Appendix

Table A1. Difference-in-difference model for binary self-rated health

	(I)	(II)	(III)	(IV)	(V)
Dummy for transition country	-0.248*** (0.045)	-0.222*** (0.042)	-0.229*** (0.040)	-0.179** (0.070)	-0.221*** (0.069)
Dummy for 1998-2007	0.041** (0.017)	0.049** (0.019)	0.053*** (0.018)	0.038** (0.015)	0.033** (0.015)
Dummy for 2008-2014	0.056*** (0.014)	0.092*** (0.016)	0.092*** (0.016)	0.063*** (0.020)	0.061*** (0.019)
Dummy for transition country in 1998-2007	0.065* (0.033)	0.060* (0.030)	0.063** (0.029)	0.040 (0.053)	0.065 (0.054)
Dummy for transition country in 2008-2014	0.049* (0.028)	0.041 (0.026)	0.047* (0.027)	0.031 (0.056)	0.099* (0.054)
Age		-0.007*** (0.001)	-0.011*** (0.001)	-0.011*** (0.001)	-0.011*** (0.001)
Age squared		-0.000 (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)
Female		-0.049*** (0.007)	-0.029*** (0.008)	-0.032*** (0.007)	-0.030*** (0.007)
Living together as~d		-0.023 (0.026)	-0.027 (0.024)	-0.043* (0.022)	-0.034* (0.019)
Divorced		-0.023 (0.016)	-0.031** (0.014)	-0.054*** (0.012)	-0.026** (0.011)
Separated		-0.084***	-0.088***	-0.089***	-0.060***

	(0.017)	(0.016)	(0.018)	(0.018)
Widowed	-0.088***	-0.084***	-0.081***	-0.055***
	(0.007)	(0.007)	(0.006)	(0.007)
Single/Never married	-0.012	-0.016	-0.026***	-0.017**
	(0.012)	(0.011)	(0.009)	(0.007)
Full-time employee		0.062***	0.046	0.019
		(0.023)	(0.030)	(0.031)
Part-time employee		0.043**	0.027	0.014
		(0.018)	(0.028)	(0.029)
Self-employed		0.023	0.035	0.018
		(0.028)	(0.035)	(0.035)
Retired		-0.087***	-0.097***	-0.090***
		(0.026)	(0.029)	(0.030)
Housewife		-0.052**	-0.037	-0.029
		(0.021)	(0.029)	(0.027)
Student		0.020	0.021	-0.005
		(0.018)	(0.027)	(0.028)
Unemployed		-0.046*	-0.054*	-0.029
		(0.023)	(0.029)	(0.029)
Other employment		-0.100***	-0.135***	-0.075
		(0.032)	(0.047)	(0.049)
GDP per capita, PPP (constant 2011 \$)			0.000*	0.000
			(0.000)	(0.000)
GDP growth (annual %)			0.007**	0.005*
			(0.003)	(0.003)
Life expectancy at birth, total (years)			-0.004	-0.003
			(0.003)	(0.003)
Health expenditure (HE), total (% of GDP)			0.005	0.007
			(0.006)	(0.006)
Out-of-pocket HE (% of total HE)			-0.001	-0.001
			(0.001)	(0.001)
Most people can be trusted				0.064***
				(0.006)
Subjective income on 1 to 10 scale				0.027***
				(0.002)
Country average of people who trust others				0.097
				(0.092)
Constant	0.666***	0.999***	1.028***	1.229***
	(0.020)	(0.044)	(0.054)	(0.167)
# of Observations	241698	241698	241698	192469
Adjusted R-squared	0.045	0.125	0.135	0.149

Note: Self-rated health converted to a binary variable such that it takes a value of 1 for 'Very good' or 'Good' and 0 otherwise.

Table A2. Difference-in-difference model with unbalanced sample

	(I)	(II)	(III)	(IV)	(V)
Dummy for transition country	-0.127*** (0.018)	-0.119*** (0.017)	-0.122*** (0.017)	-0.098*** (0.020)	-0.106*** (0.021)
Dummy for 1998-2007	0.017* (0.009)	0.011 (0.010)	0.014 (0.010)	0.017* (0.009)	0.012 (0.010)
Dummy for 2008-2014	0.029*** (0.009)	0.040*** (0.010)	0.040*** (0.009)	0.030*** (0.011)	0.032*** (0.011)
Dummy for transition country in 1998-2007	0.051*** (0.017)	0.058*** (0.016)	0.062*** (0.016)	0.052*** (0.018)	0.057*** (0.019)
Dummy for transition country in 2008-2014	0.018 (0.015)	0.020 (0.014)	0.023* (0.014)	0.019 (0.017)	0.032 (0.019)
Age		-0.003*** (0.000)	-0.005*** (0.000)	-0.005*** (0.000)	-0.005*** (0.000)
Age squared		-0.000** (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)
Female		-0.025*** (0.002)	-0.015*** (0.003)	-0.016*** (0.003)	-0.015*** (0.003)
Living together as~d		-0.007 (0.008)	-0.010 (0.007)	-0.012* (0.007)	-0.008 (0.006)
Divorced		-0.018*** (0.006)	-0.023*** (0.005)	-0.032*** (0.004)	-0.018*** (0.005)
Separated		-0.033*** (0.006)	-0.035*** (0.006)	-0.036*** (0.006)	-0.023*** (0.006)
Widowed		-0.055*** (0.003)	-0.053*** (0.003)	-0.053*** (0.003)	-0.039*** (0.003)
Single/Never married		-0.001 (0.004)	-0.005 (0.004)	-0.006* (0.003)	-0.003 (0.003)
Full-time employee			0.025 (0.016)	0.018 (0.018)	0.001 (0.018)
Part-time employee			0.012 (0.017)	0.006 (0.019)	-0.003 (0.019)
Self-employed			0.005 (0.016)	0.009 (0.017)	-0.003 (0.017)
Retired			-0.047*** (0.016)	-0.049*** (0.018)	-0.049*** (0.018)
Housewife			-0.031* (0.016)	-0.025 (0.017)	-0.028 (0.018)
Student			0.011 (0.017)	0.010 (0.018)	-0.009 (0.018)

Unemployed			-0.024	-0.026	-0.022
			(0.017)	(0.019)	(0.020)
Other employment			-0.063***	-0.071***	-0.050**
			(0.019)	(0.022)	(0.020)
<hr/>					
GDP per capita,				0.000***	0.000***
PPP (constant 2011 \$)				(0.000)	(0.000)
GDP growth (annual %)				0.001	0.001
				(0.001)	(0.001)
Life expectancy at birth,				-0.001	-0.002
total (years)				(0.001)	(0.001)
Health expenditure (HE),				0.005**	0.005***
total (% of GDP)				(0.002)	(0.002)
Out-of-pocket HE				-0.000	0.000
(% of total HE)				(0.000)	(0.000)
Most people can be					0.031***
trusted					(0.002)
Subjective income					0.014***
on 1 to 10 scale					(0.001)
Country average of people					0.025
who trust others					(0.032)
<hr/>					
Constant	0.713***	0.873***	0.893***	0.914***	0.874***
	(0.010)	(0.017)	(0.025)	(0.084)	(0.076)
<hr/>					
# of Observations	416696	416696	416696	345067	247539
<hr/>					
Adjusted R-squared	0.054	0.154	0.165	0.175	0.182
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Note: The models are the same as in Table 3 but for the unbalanced sample including all countries that appear in WVS or EVS at least once since 1989.

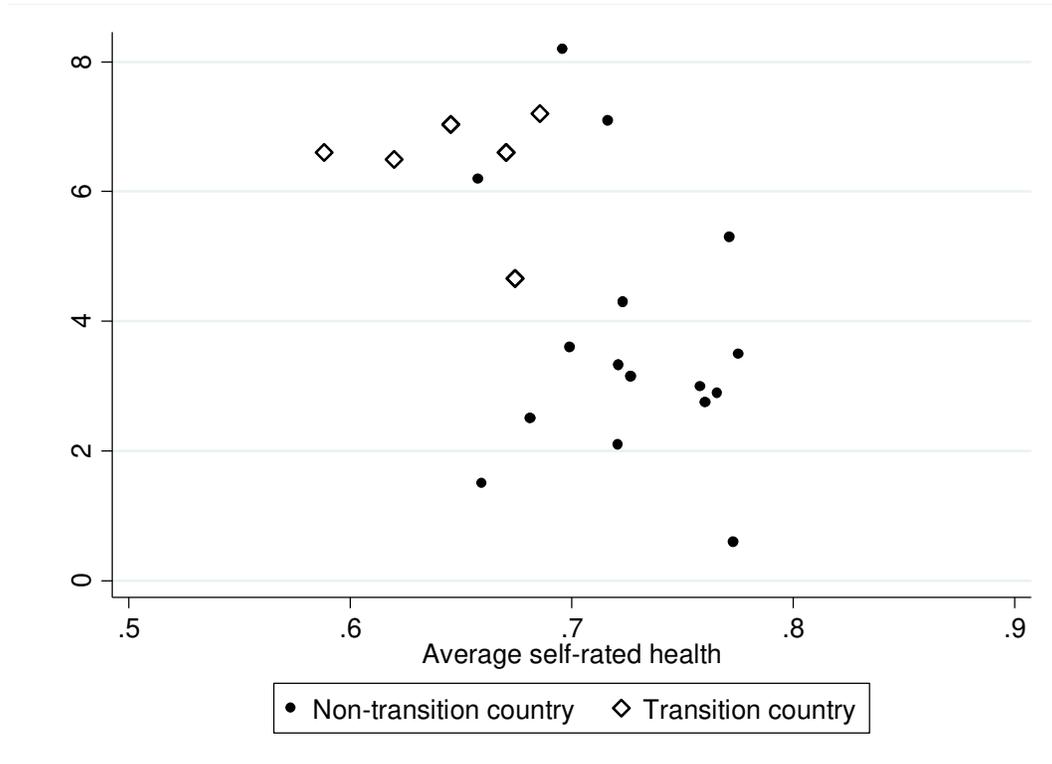


Figure 2. Number of hospital beds and average self-rated health in 2008-2014.