Appendix (not for publication, available on the web)
Part A.I: Data Description
Table A.1 Description of the variables

Country level variables:	
Log GDP pc (PPP $)	Natural log of GDP per capita (constant 2000 international $, PPP-adjusted). Source: World Development Indicators (WDI), 2006; we also check robustness of our results to using Penn World Tables (PWT 6.2)
Log GDP pc (constant $)	Natural log of GDP (constant 2005 US$) per capita. Source: EBRD Transition Indicators and World Development Indicators (WDI), 2006
Log HH consumption pc	Natural log of HH final consumption expenditure per capita (constant 2000 US$). Source: WDI, 2006
Log Pop	Natural log of total population. Source: World Development Indicators (WDI), 2006
Unemployment	Unemployment, total (% of total labor force) average over years where the data is available for the corresponding country. Source: World Development Indicators (WDI), 2006
Inflation	Inflation, consumer prices (annual %) average over years where the data is available for the corresponding country. Source: World Development Indicators (WDI), 2006
Gini	Gini index average over years where the data is available for the corresponding country. Source: World Development Indicators (WDI), 2006
Income volatility	Standard deviation of per capita growth of GDP (PPP $) calculated over years 1989-2004
Log share DPT immunization	Natural log of immunization, DPT (% of children ages 12-23 months) average over the years covered by the corresponding wave in the WVS dataset. Source: World Development Indicators (WDI), 2006
Log infant mortality	Natural log of mortality rate under 5 years (per 1000 persons) average over the years covered by the corresponding wave in the WVS dataset. Source: World Development Indicators (WDI), 2006
Log emissions pc	Natural log of CO_2 emissions (metric tons per capita) average over the years covered by the corresponding wave in the WVS dataset. Source: World Development Indicators (WDI), 2006
Media freedom	A rating of media freedom (on a scale from 0 to 2; 0 – not free media, 2 – free media). Source: Freedom House 2007
Democracy	A rating of democracy institutions (on a scale from 0 to 10; 0 – none of democratic institutions, 10 – all democratic institutions). Source: Polity IV v2004
Log Energy use pc	Natural log of energy use per capita (kg of oil equivalent). Source: WDI, 2006
Automobiles pc	Vehicles per capita. Source: World Development Indicators (WDI), 2006
Reform in the current year (for transition countries)	An index that equals the average score minus 1 of EBRD transition indicators for large scale privatization, small scale privatization, enterprise restructuring, price liberalization, trade and forex system, competition policy, banking reform and interest rate liberalization, securities markets and non-bank financial institutions, overall infrastructure reform. EBRD calculated these indices on the basis from 1 to 4.3 (4+) where the higher the index is means higher progress in corresponding area of reforms. Source: EBRD Transition Indicators
Transition country dummy	Dummy variable equals 1 for countries: Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Georgia, Hungary, Latvia, Lithuania, Kazakhstan, Kyrgyzstan, Macedonia, Moldova, Mongolia, Poland, Romania, Russian Federation, Serbia and Montenegro, Slovakia, Slovenia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan and 0 otherwise

Table A.1 continued from previous page…

Variables from the World Values Survey, waves 1-4 (wave 1: years 1981-1984; wave 2: years 1989-1993; wave 3: years 1994-1999; wave 4: years 1999-2004)

Satisfaction_WVS	An index from 1 to 10. The answer of an interviewed person to the question: "All things considered, how satisfied are you with your life as a whole these days?"; 1 – dissatisfied, 10 – satisfied
Happiness_WVS	An index from 1 to 10. The answer of an interviewed person to the question: "Taking all things together, would you say you are 1 – very happy, 2 – quite happy, 3 – not very happy, 4 – not at all happy"; we normalized this number to the scale from 1 to 10 (the higher the number is, the happier the interviewed person)
Age	Age of an interviewed person
Relative HH income	Position on an imaginary 10-step income ladder. An index on a scale from 1 to 10. The higher the index, the higher the relative income of the household of an interviewed person in comparison with other households in the country
Log HH income	Annual total income of the household where the interviewed person belongs in the national currency
Educational attainment	6 levels of education: incomplete primary, complete primary, incomplete secondary, complete secondary, university without degree, university with degree. We construct dummy-variables for each level of educational attainment that equals 1 if an interviewed person has corresponding educational attainment and 0 otherwise
Year finished education	Calculated from the year of interview, age of the interviewee and age of completing education of the interviewee
Reform in the year when finished education	An index that equals "Reform in the current year" index (see above) when the current year is the "Year finished education" (see above)
Employment status	8 categories of employment status: full employment, self-employment, part-time, student, housewife, retired, unemployment, other type of employment. We construct dummy-variables for each category of employment status that equals 1 if an interviewed person has corresponding employment status and 0 otherwise
Marital status	6 categories of marital status: single, married, living together, divorced, separated, widowed. We construct dummy-variable for each category of marital status that equals 1 if an interviewed person has corresponding marital status and 0 otherwise
Wave X (X=1, …, 4)	Dummy variable that equals 1 for individuals interviewed during the wave X of WVS and 0 otherwise

Measures of life satisfaction from alternative sources

Satisfaction_RLMS	An index from 1 to 10. The answer of an interviewed person to the question: "To what extent are you satisfied with your life in general at the present time?; 1 – fully satisfied, 2 – rather satisfied, 3 – both yes and no, 4 – less than satisfied, 5 – not at all satisfied"; we normalized this number to the scale from 1 to 10 (the higher the number is, the more satisfied the interviewed person)
Satisfaction_LITS	An index from 1 to 10. The answer of an interviewed person to the question: "All things considered, I am satisfied with my life now?; 1 – strongly disagree, 2 – disagree, 3 – neither disagree nor agree, 4 – agree, 5 – strongly agree"; we normalized this number to the scale from 1 to 10 (the higher the number is, the more satisfied the interviewed person)

Table A.2 Summary Statistics

Variable	Number of observations	Mean	Standard deviation	Min	Max
Log GDP pc (WDI, PPP)	4412	8.42	1.11	6.14	11.07
Log GDP pc (PWT, PPP)	1733	8.97	0.97	6.16	10.83
Log GDP pc (constant $)	5833	7.49	1.54	4.03	10.88
Log HH consumption pc (constant $)	4301	7.15	1.44	4.01	10.13
Log Pop	8555	15.10	2.07	9.62	20.98
Unemployment	144	10.24	7.27	0.57	43.5
Inflation	168	43.53	120.4	-1.67	863.4
Gini	128	40.33	10.50	19.0	74.33
Income volatility	178	0.047	0.042	0.008	0.3169
Log share DPT immunization	171	4.44	0.255	2.30	4.60
Log infant mortality	172	2.59	0.907	0.986	4.79
Log emissions pc	179	1.55	0.970	-2.77	3.01
Automobiles pc	1573	0.175	0.191	0.00037	0.808
Log Energy use pc	4116	7.20	1.08	4.45	10.51
Media freedom	4644	0.957	0.850	0	2
Democracy	1894	8.02	2.06	2	10
Log GDP pc in constant dollars	453	7.28	0.977	5.06	9.39
Reform in the current year	57	1.47	0.809	0	2.81
Transition country dummy	84	0.27	0.449	0	1
Satisfaction_WVS	263097	6.62	2.49	1	10
Happiness_WVS	257881	7.03	2.22	1	10
Age	264839	41.2	16.3	15	101
Relative HH income	228938	4.68	2.48	1	11
Log HH income	155528	10.8	2.54	4.56	19.8
Log HH income per capita	40772	10.2	2.38	3.62	18.2
Educational attainment: incomplete primary	267870	0.084	0.277	0	1
Educational attainment: complete primary	267870	0.107	0.309	0	1
Educational attainment: incomplete secondary	267870	0.063	0.243	0	1
Educational attainment: complete secondary	267870	0.115	0.319	0	1
Educational attainment: University without degree	267870	0.069	0.253	0	1
Educational attainment: University with degree	267870	0.116	0.320	0	1

Table A.2 continued from previous page

Variable	Number of observations	Mean	Standard deviation	Min	Max
Year finished education	267870	0.052	0.222	0	1
Reform in the year when finished education	267870	0.096	0.294	0	1
Employment status: full employment	267870	0.379	0.485	0	1
Employment status: self-employment	267870	0.084	0.277	0	1
Employment status: part-time	267870	0.072	0.258	0	1
Employment status: student	267870	0.067	0.250	0	1
Employment status: housewife	267870	0.139	0.346	0	1
Employment status: retired	267870	0.135	0.342	0	1
Employment status: unemployment	267870	0.077	0.267	0	1
Employment status: other type of employment	267870	0.017	0.128	0	1
Marital status: single	267870	0.234	0.423	0	1
Marital status: married	267870	0.589	0.492	0	1
Marital status: living together	267870	0.042	0.200	0	1
Marital status: divorced	267870	0.036	0.186	0	1
Marital status: separated	267870	0.015	0.122	0	1
Marital status: widowed	267870	0.066	0.248	0	1
Wave 1	190	0.111	0.314	0	1
Wave 2	190	0.226	0.420	0	1
Wave 3	190	0.289	0.455	0	1
Wave 4	190	0.374	0.485	0	1
Satisfaction_RLMS	104082	4.62	2.59	1	10
Satisfaction_LITS	26387	5.80	2.57	1	10

Part A.II: Details of empirical methodology

In the main text of the paper, we present two tables with regression results. This section describes the methodological details of all estimated regression equations in the order in which the results are reported in Tables 2 and 3.

Equations estimated in Table 2

Columns 1 and 2 of Table 2 report estimation results of the difference in satisfaction in transition and non-transition countries by wave. The estimated equation is as follows:

$$S_{it} = \alpha_0 + \alpha_1 T_c + \beta_1 Y_{ct} + \beta_2 R_{ict} + \gamma_1' \mathbf{X}_{it} + \gamma_2' \mathbf{Z}_{ct} + \epsilon_{ict},$$

where i indexes individuals; c indexes countries of residence of individuals i; and t indexes years in which the particular wave of the World Values Survey took place in the country c. S_{it} denotes life satisfaction of respondent i in year t. T_c denotes transition country dummy. Y_{ct} is a measure of economic well-being of the country c. As a baseline, we report results with Log GDP per capita (WDI, PPP). In addition, we use various alternative measures of economic well-being (as discussed below). R_{ict} denotes the relative HH income, i.e., the perception of the individual i of the position of her household on the imaginary 10-step income ladder relative to other households in the country at time t. $\mathbf{X}$ is a vector of individual-level control variables that consists of age with a quadratic term, six dummy variables for educational attainment, six dummy variables for marital status, and eight dummy variables for employment status. $\mathbf{Z}_{ct}$ is a vector of country-level control variables, which consists of unemployment level, inflation level, Gini coefficient, Media freedom and Democracy indices. Throughout the section, we keep the same notation. All variables used in the empirical analysis are described in Table A.1 and summarized in Table A.2 in this Appendix. ϵ_{ict} denotes an error term. In all regressions presented in the paper, we adjust standard errors to allow for clusters in the error term ϵ_{ict} within countries. Without this adjustment, standard errors of all estimation coefficients (in all estimated equations) become substantially smaller. Columns 1 and 2 of Table 2 report results separately for the Waves 4 and 3 of the WVS.

Columns 3 and 4 of Table 2 report results of the estimation of differential effect of income in transition and non-transition countries where the transition country dummy T_c is interacted with income variables. These equations are estimated on the pooled sample from all waves. In the Column 3, we estimate the following specification, which looks at the effect of country-level income:

$$S_{it} = \alpha_0 + \alpha_1' T_c \mathbf{W}_t + \beta_1 Y_{ct} + \beta_2 R_{ict} + \delta T_c (Y_{ct} - \overline{Y}) + \gamma_1' \mathbf{X}_{it} + \gamma_2' \mathbf{Z}_{ct} + \gamma_3' \mathbf{W}_t + \epsilon_{ict}.$$

$\mathbf{W}_t$ denotes a vector of dummy variables indicating the wave, in which the particular interview took place. Henceforth, the upper bars denote the overall sample mean.

In the Column 4, we include the interaction of transition country dummy with the household relative income R_{ict} :

$$S_{it} = \alpha_0 + \alpha_1' T_c \mathbf{W}_t + \beta_1 Y_{ct} + \beta_2 R_{ict} + \delta T_c (R_{ict} - \overline{R}) + \gamma_1' \mathbf{X}_{it} + \gamma_2' \mathbf{Z}_{ct} + \gamma_3' \mathbf{W}_t + \epsilon_{ict}.$$

We checked robustness of the results to estimation of the effect of relative income controlling for all country-level variation with country fixed effects:

$$S_{it} = \beta_2 R_{ict} + \phi T_c (R_{ict} - \overline{R}) + \gamma_1' \mathbf{X}_{it} + \gamma_3' \mathbf{W}_t + \phi_c + \epsilon_{ict},$$

where ϕ denotes country fixed effects and the rest of notation is the same. This equation is estimated on the pooled sample from all waves. The results are almost identical to the results reported in Column 4 of Table 2.

Columns 5 and 6 of Table 2 present results of estimation of the effect of the absolute nominal income controlling for all country-level variation with country fixed effects:

$$S_{it} = \xi_1 y_{it} + \xi_2 T_c y_{it} + \gamma_1' \mathbf{X}_{it} + \phi_c + \epsilon_{ict},$$

where y_{it} denotes the Log nominal (self-reported) household income of individual i. In Column 5, we use the total household income, whereas in Column 6 total household income *per household member*. This equation is estimated on the sample of the Wave 4 of the WVS. The data on the nominal household incomes exist for the Waves 1 and 4; due to problems with identification of the units of y_{it}, we cannot deflate it properly to be able to pool both waves together.

Age equation described in text

In the subsection entitled "The "Happiness Gap" Increases with Age," we present results of the estimation of the differential effect of age in transition and non-transition countries:

$$S_{it} = \alpha_0 + \alpha_1' T_c \mathbf{W}_t + \beta_1 Y_{ct} + \mu_1 T_c * (A_{it} - \overline{A}) +$$
$$+ \mu_2 T_c * (A_{it}^2/100 - \overline{A^2}/100) + \gamma_1' \mathbf{X}_{it} + \gamma_2' \mathbf{Z}_{ct} + \gamma_3' \mathbf{W}_t + \epsilon_{ict},$$

where A_{it} denotes age of individual i at time t. Note that the vector $\mathbf{X}$ controls for the direct effect of age and age squared.

Equations estimated in Table 3

Columns 1 of Table 3 presents the results of the baseline regression:

$$S_{it} = \alpha_0 + \alpha_1' T_c \mathbf{W}_t + \beta_1 Y_{ct} + \gamma_1' \mathbf{X}_{it} + \gamma_2' \mathbf{Z}_{ct} + \gamma_3' \mathbf{W}_t + \epsilon_{ict}.$$

In Columns 3-5 of Table 3 a series of regressors are added to the baseline:

$$S_{it} = \alpha_0 + \alpha_1' T_c \mathbf{W}_t + \beta_1 Y_{ct} + \nu' P_{ict} + \gamma_1' \mathbf{X}_{it} + \gamma_2' \mathbf{Z}_{ct} + \gamma_3' \mathbf{W}_t + \epsilon_{ict}.$$

where P_{ict} denotes the vector with selected components from the following list of variables: "Log share DPT immunization," with a quadratic term, "Log infant mortality," "Log emissions per capita," "Income volatility," (See Table 3 for the exact list of components of P_{ict}—different for different Columns).

Column 2 of Table 3 reports the results of estimation of the equation, in which we allow for different effect of Gini for transition and non-transition countries:

$$S_{it} = \alpha_0 + \alpha_1' T_c \mathbf{W}_t + \beta_1 Y_{ct} + \mu_3 T_c (G_{ct} - \overline{G}) + \gamma_1' \mathbf{X}_{it} + \gamma_2' \mathbf{Z}_{ct} + \gamma_3' \mathbf{W}_t + \epsilon_{ict}.$$

Notice that the direct effect of the Gini coefficient G_{ct} is controlled for in $\mathbf{Z}_{ct}$.

In Columns 6 and 7 of Table 3, we allow the happiness gap between transition and non-transition country to be different for two groups of individuals: born before 1971 and after 1971. The exact specification is as follows:

$$S_{it} = \alpha_0 + \alpha_1' T_c \mathbf{W}_t + \alpha_2' T_c \mathbf{W}_t OLD_i + \beta_1 Y_{ct} + \nu' P_{ict} + \gamma_1' \mathbf{X}_{it} + \gamma_2' \mathbf{Z}_{ct} + \gamma_3' \mathbf{W}_t + \epsilon_{ict}.$$

where OLD_i denotes a dummy indicating whether the respondent was born before 1971. All regressions in Table 3 are run on the exactly same sample.

Equations estimated in Table 4

Columns 1-3 of Table 4, we explore whether the effect of public goods, uncertainly, and inequality on happiness depends on age in transition and non-transition countries. The exact specification of these equations is as follows:

$$S_{it} = \alpha_0 + \alpha_1' T_c \mathbf{W}_t + \beta_1 Y_{ct} + \nu_1' P_{ict} + \nu_1' P_{ict} A_{it} + \gamma_1' \mathbf{X}_{it} + \gamma_2' \mathbf{Z}_{ct} + \gamma_3' \mathbf{W}_t + \epsilon_{ict}.$$

Columns 4 and 5 of Table 4 present results of the estimation of the cohort effect educated before and after transition:

$$S_{it} = \alpha_0 + \beta_1 Y_{ct} + \eta_1 F_i + \eta_2 L_{ct} + \eta_3 L_{cF_i} + \gamma_1' \mathbf{X}_{it} + \gamma_2' \mathbf{Z}_{ct} + \gamma_3' \mathbf{W}_t + \epsilon_{ict}.$$

Here, F_i denotes the year when individual i completed her education. L_{ct} stands for the reform progress in country c and year t; and L_{cF_i} stands for the reform progress in country c at time F_i, i.e., when individual i completed education. We take two alternative measures of the reform progress: (1) the value of the EBRD reform index for the respective year and (2) a dummy, indicating the start of reform in the country, i.e., the indicator that the EBRD reform index is above a certain threshold (we describe these variables in detail in Table A.1). This equation is estimated on the subsample of transition countries and Wave 4.

Alternative measures of economic well-being

We verify that the results presented in Tables 2, 3, and 4 in the main text are robust to using the following alternative measures of economic well-being: Log per capita GDP from the Penn World Tables; Log per capita GDP and consumption in constant US\$ (without PPP adjustment), Log energy use, and automobiles per capita. This is necessary because (i) PPP estimates of GDP for transition countries are particularly noisy and (ii) it is particularly hard to account for unofficial economy in national accounts in the transition period. Tables and figures in the remainder of this Appendix (i.e., Part III) present the results of robustness checks of Table 2. We do not report the results of robustness checks for results presented in Table 3 and 4, because they do not change *at all* when we change the per capita GDP control to alternative measures of economic well-being. Overall, our results are very robust.

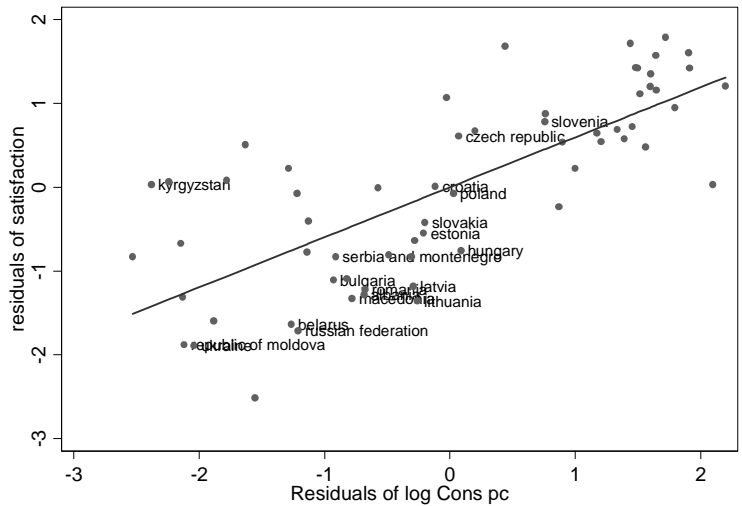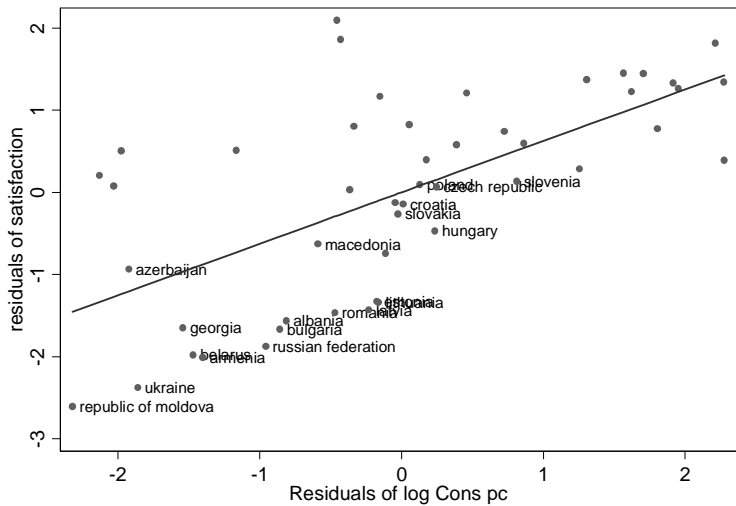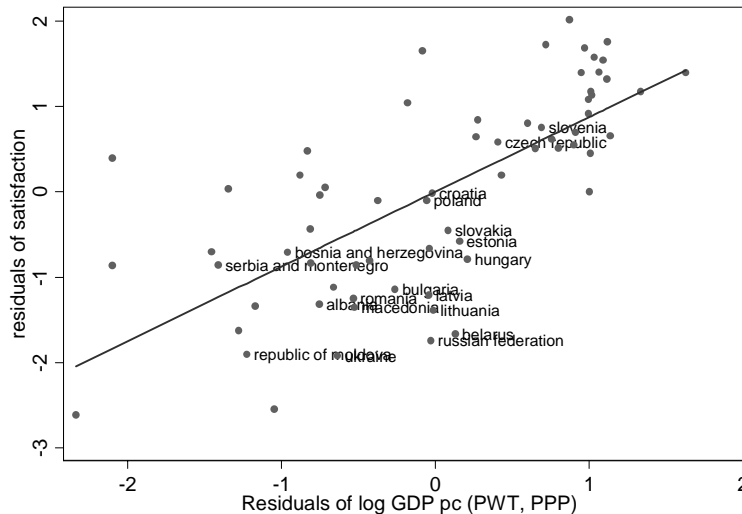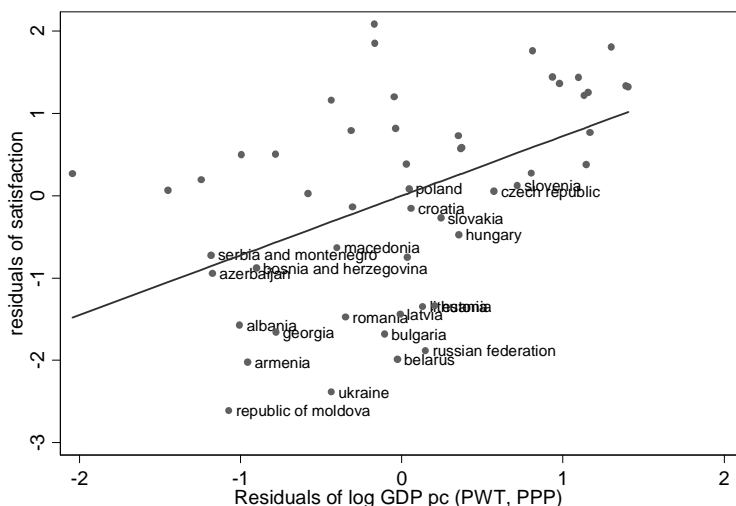## Part A.III: Robustness to alternative measures of economic well-being

Table A.3 Reconstruction of Table 2 with alternative measures of economic wellbeing

Dependent variable in all regressions: life satisfaction (1-10)

Measure of Econ. wellbeing:	Log GDP pc (WDI, PPP)			Log GDP pc (PWT, PPP)			Log GDP pc (WDI, constant $)		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Transition country dummy	-1.11	-1.37		-1.14	-1.48		-0.91	-1.38	
	[0.33]***	[0.35]***		[0.33]***	[0.36]***		[0.34]***	[0.33]***	
Transition country dummy * wave2			-0.68			-0.49			-0.45
			[0.23]***			[0.21]**			[0.18]**
Transition country dummy * wave3			-1.43			-1.63			-1.2
			[0.28]***			[0.31]***			[0.27]***
Transition country dummy * wave4			-0.84			-0.94			-0.6
			[0.31]***			[0.32]***			[0.28]**
Econ. wellbeing	0.31	0.46	0.4	0.34	0.31	0.43	0.31	0.23	0.28
	[0.23]	[0.17]**	[0.12]***	[0.24]	[0.17]*	[0.11]***	[0.12]**	[0.09]**	[0.06]***
Relative HH income (1-10)	0.2	0.14	0.14	0.2	0.14	0.14	0.2	0.14	0.14
	[0.03]***	[0.02]***	[0.02]***	[0.02]***	[0.02]***	[0.02]***	[0.03]***	[0.02]***	[0.02]***
Transition country * (Econ. wellbeing - mean)			0.38			0.29			0.4
			[0.22]*			[0.29]			[0.15]**
Wave dummies			yes			yes			yes
Sample: Wave	4	3	all	4	3	all	4	3	all
Observations	57868	51516	162473	57868	51516	165377	57868	51516	165409
R-squared	0.18	0.25	0.19	0.18	0.25	0.19	0.18	0.25	0.19
Countries / Transition countries	45/16	39/14	56/17	45/16	39/14	56/17	45/16	39/14	56/17

Measure of Econ. wellbeing:	Automobiles pc (WDI)			Log energy use pc (WDI)			Log Consumption pc (WDI)		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Transition country dummy	-0.98	-1.56		-1.27	-1.41		-0.75	-1.4	
	[0.28]***	[0.34]***		[0.28]***	[0.37]***		[0.29]**	[0.32]***	
Transition country dummy * wave2			-0.37			-0.63			-0.26
			[0.24]			[0.25]**			[0.22]
Transition country dummy * wave3			-1.5			-1.87			-1.09
			[0.29]***			[0.25]***			[0.28]***
Transition country dummy * wave4			-0.93			-1.07			-0.55
			[0.29]***			[0.29]***			[0.25]**
Econ. wellbeing	1.38	0.48	1.45	0.22	0.02	0.27	0.41	0.21	0.31
	[0.66]**	[0.59]	[0.53]***	[0.19]	[0.13]	[0.10]**	[0.10]***	[0.09]**	[0.05]***
Relative HH income (1-10)	0.19	0.15	0.15	0.2	0.14	0.14	0.19	0.14	0.14
	[0.02]***	[0.02]***	[0.02]***	[0.02]***	[0.02]***	[0.02]***	[0.03]***	[0.02]***	[0.02]***
Transition country * (Econ. wellbeing - mean)			2.76			-0.13			0.48
			[1.49]*			[0.30]			[0.18]**
Wave dummies			yes			yes			yes
Sample: Wave	4	3	all	4	3	all	4	3	all
Observations	51752	51516	144993	56848	50887	164675	55930	51516	164386
R-squared	0.19	0.24	0.19	0.17	0.25	0.18	0.19	0.25	0.19
Countries / Transition countries	40/15	39/14	54/17	44/15	38/13	55/16	44/16	39/14	55/17

Note: Specifications are exactly the same as in regressions reported in columns (1), (2), and (3) of Table 2.

Figure A.1 Reconstruction of the Figure 2 with GDP from PWT and Consumption in constant dollars:

WVS wave 3, 53 countries total, 22 transition countries

WVS wave 4, 67 countries total, 19 transition countries

WVS wave 3, 48 countries total, 20 transition countries

WVS wave 4, 63 countries total, 19 transition countries

Note: These graphs look very similar when we use other measures of economic well-being as well.

Figure A.2 Gap between happiness in transition and non-transition countries by age cohorts. (The magnitude of estimated coefficients for on transition country dummy in the baseline regression with all standard control variables run separately for 15 age cohorts)

Difference in happiness b/w transition and non-transition countries (coefficients from regressions by age cohorts)