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Life Satisfaction and Preferences over Economic Growth and Institutional Quality

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Abstract This paper demonstrates that institutional factors have differential impacts on subjective well-being of individuals in rich versus poor countries. A lower level of corruption, a more democratic government and better civil rights increase the well-being of individuals in rich countries, whereas an increase in per capita income has no impact. On the contrary, in poor countries the extent of corruption, democracy or civil rights has no influence on happiness, but an increase in per capita income impacts happiness positively. We provide evidence that this stark contrast may be due to the difference of preferences over economic growth and institutional factors.

Keywords Economic growth · Life satisfaction · Happiness · Institutional quality

JEL Codes · I3 · D6 · O1

Introduction

The effect of economic growth on subjective well-being has been investigated extensively. Much of this research has focused on the Easterlin Paradox – a finding that suggests economic growth in a country does not improve the life satisfaction of that country's residents, especially in high income countries. Although this finding,

[1]Sacks, Stevenson and Wolfers (2010) show that average happiness is higher in countries with greater GDP per capita. Stevenson and Wolfers (2013)show that income increases improves life satisfaction without a satiation point.

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demonstrated by Easterlin (1973 and 1995), has been challenged recently,[1] several authors attempted to explain the paradox. A number of hypotheses are proposed as to why the effect of economic growth on average life satisfaction could be diminished or eliminated as countries develop economically. One argument is centered around the relative income hypothesis which suggests that individuals evaluate their incomes relative to others. Since a rise in national income generally induces an increase in everyone's income, under this hypothesis economic growth does not lead to improvements in life satisfaction, (Clark et al. 2008). An alternative explanation is the possibility that individuals may adapt to changes in their income (Di Tella et al. 2010). That is, increases in average income in a country may increase the residents' happiness only temporarily.

A third possible explanation as to why the effect of economic growth on life satisfaction disappears in high income countries involves individuals' basic needs. For example, Di Tella and MacCulloch (2010) suggest that economic growth does not improve average life satisfaction once a threshold standard of living is reached. The "hierarchy of needs" hypothesis, originally proposed by Maslow (1943), suggests that once their basic needs (for example, physiological needs such as food and shelter) are satisfied, individuals change their focus towards their "higher order needs" that are not materialistic. These higher order needs may include such items as a functioning democracy, lack of corruption, the extent of civil liberties. An individual who lives in a poor country is less likely to have satisfied their basic needs compared to their counterparts in a high income country. Increases in per capita GDP help satisfy basic needs more strongly compared to "higher order needs" in low income countries. Consequently, economic growth may improve life satisfaction of a poor country's resident more than that of an individual in a rich country. Once a certain living standard is achieved, individuals in poor countries may start deriving utility from non-materialistic aspects of life.

Although this explanation has been proposed by previous researchers, it has not been tested at the individual level. Under this hypothesis, individuals' preferences over economic growth and favorable institutional characteristics differ according to the level of per capita income in their country. In a high income country, individuals are more likely to prefer favorable institutional characteristics over economic growth compared to the residents of low income countries. Using data obtained from 200,000 individuals from 74 countries, we investigate whether differences in individuals' preferences in rich versus poor countries could explain the effect of institutional quality and economic growth on life satisfaction.

We use two approaches to test this hypothesis. First, at the individual level, we test whether the effect of per capita GDP on life satisfaction is confounded by the relationship between GDP and institutional quality.[2] We find that favorable institutional characteristics (as measured by a lower level of corruption, a more democratic government and better civil rights) increase individuals' life satisfaction in high income

[1] Sacks, Stevenson and Wolfers (2010) show that average happiness is higher in countries with greater GDP per capita. Stevenson and Wolfers (2013)show that income increases improves life satisfaction without a satiation point.

[2] Previous research documents a positive relationship between economic growth and institutional quality (Rigobon and Rodrik 2005; Dollar and Kraay 2003; Acemoglu and Robinson 2000; Hall and Jones 1999), and between favorable institutional characteristics and life satisfaction (Frey and Stutzer 2000; Veenhoven 2000).

countries but not in the low income countries. In high income countries, per capita GDP is positively associated with greater life satisfaction, but this effect disappears when institutional characteristics are controlled for. The positive influence of per capita income on individual subjective well-being in low income countries persists even after controlling for institutional characteristics. Our results are consistent with the studies that investigate the same question at the country level. For example, Bjørnskov et al (2010) and Helliwell and Huang (2008) report that favorable institutional characteristics are positively correlated with average life satisfaction only in high income countries.

Second, we test whether there is a systematic difference in preferences over favorable institutional characteristics and economic growth between residents of low versus high income countries. We find that residents of high income countries are more likely to prefer institutional characteristics that are associated with a democratic regime. In addition, they are less likely to value economic growth. Taken together, our results provide support for the possibility that the decrease in the influence of per capita GDP on life satisfaction could be observed because of a change in individuals' preferences as their countries experience grow economically.

Data

The data set is obtained from the first four waves of World Values Survey, and it includes more than 200,000 individuals living in 74 different countries between years 1981 and 2002.,[3] [4] In some countries, surveys are conducted multiple times. For the purposes of our study, we divided our sample into two sub-samples: the rich and the poor countries. We employ the definition of World Bank which uses $11,500 GDP per capita as the threshold to separate the rich countries from the poor ones. Republic of Korea belongs to different categories in different years according to World Bank's definition. All of the remaining countries belong to either rich or poor group throughout all the survey years.[5] The measure of individuals' life satisfaction is based on the question "*All things considered, how satisfied are you with your life as a whole these days*?" Possible answers range from "Most dissatisfied" (1) and "Most satisfied" (10). This measure of subjective well-being is similar to those used by previous research that evaluates the effect of individual characteristics and macroeconomic factors on satisfaction with life (Di Tella and MacCulloch 2010; Di Tella et al. 2003; Oswald 1997).

We constructed the measures of preferences over favorable institutional characteristics based on how individuals rate several descriptions of governance in their country or how much they agree on statements about governance. For example, the indicator variables, *Rogue Leader* takes the value of one if the individual believes that having a strong leader who does not have to bother with parliament and elections. Similarly, variables *Army Rule* and *Democratic System* indicates whether the individual believes that an army rule or a democratic political system is a very good or fairly good way of

[3] http://www.worldvaluessurvey.org/World Values Survey provides a repeated cross-sectional data set.

[4] Only the countries for which the whole set of country-level variables could be obtained are used in estimation.

[5] We include countries that are available in the World Values Survey. List of the countries is available upon request.

governing the country. *Democracy is Better* denotes whether the individual agrees or strongly agrees with the statement "Democracy may have problems but it is better than any other form of government." In the surveys, individuals also reported how much "Someone accepting a bribe in the course of their duties" was justifiable. The answer options ranged from 1 (Never justifiable) to 10 (Always justifiable). Based on their answers, we constructed the variable *Bribe is not justifiable* which takes the value of one if the individual chose options 1-5, and zero otherwise. To build variables that measure individuals' valuations of economic growth versus democratic rights, we utilized their opinions about what the most and second most important national goals of their country should be. Specifically, individuals were posed the following question: "*There is a lot of talk these days about what the aims of this country should be for the next ten years. On this card are listed some of the goals which different people would give top priority. If you had to choose, which of the things on this card would you say is the most important and the next most important?*" The options presented on the card were: 1. A high level of economic growth, 2. Strong defense forces, 3. People have more say about how things are done, and 4. Trying to make our cities and countryside more beautiful. We interpret that choosing option 3 reveals individual's preference for more democratic rights. The indicator variable *1st Goal: Economic Growth* is equal to one if the individual stated that a high level of economic growth should be the top priority goal of the country. Similarly, *1st Goal: Promoting People's Involvement* takes the value of one, if the individual thought that giving people more say about how things are done is the most important national goal. We also constructed an indicator variable, *Economic Growth More Important*, for whether an individual viewed economic growth as a more important goal than promoting people's involvement in governance.

Both individual attributes as well as country characteristics are employed as control variables in the regressions. Individual-level control variables include gender, age (and its square), income, education level, employment and marital status and the number of children. The source of all individual-level variables is the World Values Survey. In some cases, the information about individual characteristics that are used as control variables is missing at the data source. These individual characteristics are not the main focus of the paper. To avoid small sample sizes due to missing data in controls, we replaced the missing variable that measures the personal characteristic with a constant (zero in the case of a dummy variable, and the sample average for a continuous variable), and included it in the regressions together with a dummy variable that takes the value of one for missing information for that personal characteristic. For example, if an individual did not respond to the question about their income, then the dummy variables that measure their income status (*Medium Income* and *High Income*) took on the value of zero, and the dummy variable that indicates whether income information is missing (*Income Missing*) took the value of one. This method was used by other researchers in the past (Mocan and Rees 2005). Our findings are not sensitive to including or excluding these observations.

The country-level control variables are per capita GDP, inflation rate and unemployment rate, carbon dioxide emission per capita and the birth rate of the country. These controls are used to capture various aspects of the country, such as development level, pollution, and health condition of the overall population. They are obtained from various sources, such as World Bank's World Development

Indicators, Penn World Tables and International Labour Organization's KILM Database.

Among the key explanatory variables are *Low Corruption, Civil Rights* and *Democracy.* The corruption level in the country is measured by a variable constructed using the Transparency International's Corruption Perceptions Index. The constructed variable *Low Corruption* ranges between 0 (most corrupt) and 10 (least corrupt).[6] The variable *Civil Rights* is created based on Freedom House's Civil Liberties Index. Civil Liberties Index measures freedom of expression, assembly, association, and religion. The created variable *Civil Rights* takes values between 1 (least civil rights) to 7 (most civil rights).[7] From Polity IV, we obtained *Democracy* variable, which ranges between -10 and 10. While a -10 indicates the regime is an autocracy, a 10 means a democratic government is in the office.[8] The summary statistics of the key variables, their definitions and sources are presented in Table 1.

Influence of GDP per Capita and Institutional Factors on Life Satisfaction

In this section, we estimate following equation using ordered probit over the whole sample and over the samples of low and high income countries:

$$Satisfaction_{i,c,t} = f\left\{Z_{i,c,t},\ K_{c,t},\ GDP_{c,t},\ S_{c,t}\right\} \tag{1}$$

where $Satisfaction_{i,c,t}$ stands for the level of subjective well-being reported by the individual i, in country c in year t.[9] It is constructed based on the answers of the individuals to the question "*All things considered, how satisfied are you with your life as a whole these days?*" The per capita real income in country c in year t is denoted by $GDP_{c,t}$. Per capita income enters into the regressions in natural logs. Institutional variables, such as *Low Corruption*, *Civil Rights* and *Democracy* make up the vector $S_{c,t}$. The vectors $Z_{i,c,t}$ and $K_{c,t}$ include individual-level characteristics and country-level controls, respectively.[10] The choice of control variables follows the previous work (Di Tella et al. 2003, Alesina et al. 2004, Blanchflower and Oswald 2008).

The results obtained from estimation of Eq. (1) with ordered probit are presented in Table 2 where marginal effects for the highest life satisfaction category are reported. Standard errors which are clustered at the country-year level are in parentheses. The

[6] This measures the perceived corruption among public officials and politicians. We constructed our corruption measure by using the average of the country's corruption score. Averaging does not constitute a problem, since it has been documented that corruption level in a country do not vary much over time (Mauro 1995 and Mocan 2008).

[7] This index measures the real-world rights and freedoms enjoyed by individuals. When the information is missing for a country, we used the index value for that country that is closest in time to the survey year of that country.

[8] Polity IV considers three elements: degree of competition in political participation, institutionalization of constraints on executive power and availability of civil liberties to citizens in daily life and political participation.

[9] The answer is chosen from a scale between one and ten, with "Most dissatisfied" (1) and "Most satisfied" (10).

[10] Individual-level variables considered are individual's gender, age, income, education level, employment and marital status and the number of children the individual has. Country-level controls include the inflation rate and unemployment rates, carbon dioxide emission per capita and birth rate.

Table 1 Descriptions and Summary Statistics of Variables of Interest

Variable	Description (Source)	Whole Sample		Poor Countries		Rich Countries	
		Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Satisfaction with life	Individual's answer to 'All things considered, how satisfied are you with your life as a whole these days?'1 (Most dissatisfied) to 10 (Most satisfied). (A)	6.588	2.504	6.048	2.666	7.381	1.997
Rogue leader	=1 if individual believes that a strong leader who does not have to bother with parliament and elections is a good way of governing the country. (A)	0.365	0.482	0.428	0.495	0.231	0.421
Army rule	=1 if individual believes that an army rule is a good way of governing the country. (A)	0.180	0.384	0.242	0.428	0.053	0.224
Democratic system	=1 if individual believes that a democratic political system is a good way of governing the country. (A)	0.896	0.305	0.886	0.318	0.918	0.274
Democracy is better	=1 if individual agrees with 'Democracy may have problems but it is better than any other form of government'. (A)	0.868	0.339	0.846	0.361	0.913	0.282
Bribe is not justifiable	=1 if individual believes someone accepting a bribe in the course of their duties is not justifiable. (A)	0.914	0.281	0.903	0.296	0.930	0.256
1st goal: economic growth	=1 if individual ranks economic growth as the highest importance national goal. (A)	0.596	0.491	0.646	0.478	0.509	0.500
1st goal: promoting people's involvement	=1 if individual ranks giving people more say in how things are done as the highest importance national goal. (A)	0.218	0.413	0.154	0.361	0.329	0.470
GDP per capita	Real GDP per capita, scaled by 0.001. (B)	11.966	8.314	5.767	2.615	21.079	4.599
Low corruption	Corruption index, ranges from 1 to 10, 10 being the least corrupt. (C)	5.046	2.311	3.491	1.230	7.331	1.480
Civil rights	The degree of civil liberties, 1 to 7, 7 being the most free. (D)	5.129	1.562	4.265	1.277	6.400	0.956
Democracy	Democracy-Autocracy index, -10 to 10, -10 for full autocracy and 10 for full democracy. (E)	6.411	5.168	4.418	5.370	9.341	3.024

Sources: (A) World Values Survey, (B) Penn World Tables 6.2, (C) Transparency International, (D) Freedom House, (E) Polity IV. Summary statistics and descriptions of all control variables are presented in Appendix Table 5

sample over which the Eq. (1) is estimated is listed at the top of each column. For example, results presented in columns 1, 4 and 7 are obtained from estimating Eq. (1) over the whole sample. The results in 2, 5 and 8 (3, 6 and 9) are obtained from low income countries whose per capita GDP is less than $11,500 (high income countries whose GDP per capita is greater than $11,500), respectively. For brevity, Table 2 lists only the marginal effects of the variables of interest: *GDP per capita*, *Democracy*, *Civil Rights*, and *Low Corruption*.

In the first three columns of Table 2, the institutional factors are excluded from the regressions. In all samples, per capita GDP is positively associated with probability of being in the highest life satisfaction category.[11] In columns 4 to 6, we present the results of the regressions that include both per capita GDP and the institutional factors as explanatory variables. Per capita GDP is positively correlated with individuals' life satisfaction in the whole sample (column 4). Columns 5 and 6 depict the stark contrast about the effect of economic growth and institutional factors on satisfaction with life. Specifically, the influence of per capita GDP on satisfaction with life remains statistically significant when institutional factors (democracy, civil rights, and level of corruption) are controlled for in the sample of low income countries. However, the coefficient of per capita GDP becomes statistically insignificant in the sample of high income countries. In addition, favorable institutional characteristics are positively associated with life satisfaction only in the sample of high income countries' residents. For completeness, we estimate Eq. (1) excluding per capita GDP and including the institutional factors. The results that are presented in columns 7 to 9 of Table 2 indicate that the extent of civil rights and the level of democracy are significant determinants of satisfaction with life for residents of high income countries, but not for their counterparts living in low income countries.

In the regressions presented in Table 2, we employed per capita income level of $11,500 as the threshold for low versus high income countries. We check the sensitivity of our results to the choice of threshold by using different cutoffs of per capita GDP for the high income countries. Specifically, we estimated Eq. (1) with cut-offs of $9,500, $10,500, and $12,500. The results presented in Appendix Table 7 suggest that our results are not sensitive to the threshold choice. That is, regardless of the threshold employed, in both high and low income samples, if institutional characteristics are excluded from the regressions, per capita GDP has a statistically significant and positive influence on the probability of being in the highest life satisfaction category. Conditioning on institutional characteristics eliminates the statistical significance of per capita GDP in high income countries, but not in the low income countries.

Deaton (2008) argues that the World Values Survey, the data set we use, suffers from sampling errors. Specifically, he suggests that several poor countries in the World Values Survey are in Eastern Europe or were once part of the Soviet Union, and that people in those countries are exceptionally dissatisfied

[11] Similar findings are obtained when other life satisfaction categories are considered. Probabilities of being in the higher (lower) life satisfaction categories are positively (negatively) correlated with increases per capita GDP.

Table 2 Effect of National Income and Institutions on Life Satisfaction in Poor vs. Rich Countries

	(1) Whole Sample	(2) Poor Countries	(3) Rich Countries	(4) Whole Sample	(5) Poor Countries	(6) Rich Countries	(7) Whole Sample	(8) Poor Countries	(9) Rich Countries
GDP per cap.	0.088***	0.072***	0.075**	0.064***	0.066***	0.009			
	(0.009)	(0.014)	(0.036)	(0.019)	(0.021)	(0.030)			
Democracy				0.001	0.001	0.045***	0.001	0.002	0.044***
				(0.002)	(0.002)	(0.008)	(0.002)	(0.002)	(0.007)
Civil Rights				0.000	−0.004	0.050***	0.003	−0.002	0.051***
				(0.007)	(0.007)	(0.010)	(0.007)	(0.008)	(0.010)
Low Corruption				0.008	0.003	0.018***	0.021***	0.019***	0.018***
				(0.005)	(0.007)	(0.004)	(0.003)	(0.005)	(0.005)
Observations	214,294	127,538	86,756	214,294	127,538	86,756	214,294	127,538	86,756

Dependent variable is the answer to the question "All things considered, how satisfied are you with your life as a whole these days?" scaled between 1 (most dissatisfied) and 10 (most satisfied). GDP per capita enters in natural logarithm. Table presents the marginal effects for the highest life satisfaction category from the ordered probit estimation. ***, ** and * indicate significance at 1%, 5% and 10% levels, respectively. The sample used for the estimation is listed at the top of each column. All regressions include individual and country level control variables and year dummies. Standard errors are clustered at country-year level. See Table 1 for the descriptions of the variables. Marginal effects of all control variables are presented in Appendix Table 6

with their lives.[12] In addition, Deaton (2008) argues that World Values Survey samples in countries such as India, China, Ghana, and Nigeria consist of mostly the elite (who are highly satisfied with their lives) and they are not representative of the whole population. To check whether our results are sensitive to inclusion of these countries, we estimate Eq. 1 without using individuals from these countries. The results in Appendix Table 8 show that our findings are not sensitive to the inclusion of these countries mentioned in Deaton (2008).

We conducted additional robustness checks, results of which are not reported, but they are available if requested. Specifically, we estimated Eq. 1 using OLS, instead of ordered probit. Separately, we included the level of GDP per capita in the regressions instead of its natural logarithm. Results did not change. We also replicated Table 2 by omitting observations with missing personal characteristics info (instead including them with an indicator for missing data). Despite much smaller sample sizes, the results remained the same.

As an extension, in the regressions, we included per capita GDP 20 years ago and the growth rate in per capita GDP in the 20 years prior to the survey date instead of the current per capita GDP.[13] Results are presented in Table 3. For both poor and rich country residents, when institutional characteristics of a country are not controlled for, past per capita GDP is positively associated with greater probability of being in the highest life satisfaction category (columns 1-3). Economic growth in the past decades has an additional effect of life satisfaction in poor countries. This pattern continues in poor countries when institutional characteristics are controlled for in the regression (column 5). However, for residents of high income countries, the positive relationship between past national income and economic growth is eliminated once institutional measures are included in the regression (column 6).

Individual Preferences Over Institutions and Economic Growth

In this section, we investigate whether individual preferences over favorable institutional characteristics systematically differ in high vs low income countries by estimating the following:

$$Preference_{i,c,t} = f\left\{High\ IncomeCountry_{c,t},\ Z_{i,c,t},\ K_{c,t}\right\} \tag{2}$$

where $Preference_{i,c,t}$ stands for individual i's preference over economic growth or institutional characteristics of country c in year t. *High Income Country* is an indicator for whether the individual lives in a country where per capita GDP is above a certain threshold. We use the threshold $11,500 consistent with the analysis in the previous

[12] Deaton (2008) mentions that these countries are Moldova, Ukraine, Armenia, Belarus, Russia, Bulgaria, Latvia, Estonia, Azerbaijan, Bosnia and Herzegovina, Macedonia, Romania, Estonia, and Slovakia.

[13] Di Tella and MacCulloch (2010) estimate a model where the average happiness level in rich and poor countries is a function of past GDP per capita and the growth rate of GDP. They find that the average life satisfaction in a poor country is positively correlated with both past GDP per capita and GDP growth, but only the level of past GDP in a rich country impacts average happiness.

Table 3 Effects of Past GDP, Economic Growth and Institutions on Satisfaction with Life

	(1) Whole Sample	(2) Poor Countries	(3) Rich Countries	(4) Whole Sample	(5) Poor Countries	(6) Rich Countries
Growth in GDP per cap.	0.010	0.019**	0.005	0.009	0.022***	−0.005
	(0.007)	(0.008)	(0.014)	(0.006)	(0.008)	(0.011)
GDP per cap. 20 years ago	0.009***	0.019***	0.007*	0.007***	0.022***	0.002
	(0.001)	(0.006)	(0.035)	(0.002)	(0.007)	(0.003)
Democracy				0.002	0.003	0.039***
				(0.003)	(0.003)	(0.012)
Civil Rights				−0.005	−0.014	0.054***
				(0.009)	(0.011)	(0.011)
Low Corruption				0.006	−0.006	0.016***
				(0.005)	(0.008)	(0.005)
N	166,213	87,625	78,588	166,213	87,625	78,588

Dependent variable is same as the outcome in Table 2. *GDP per cap. 20 years ago* is the level of per capita GDP twenty years prior to the time individual took the survey. *Growth in GDP per cap.* is the growth in per capita GDP over the same time period. See notes to Table 2.

section. Using different thresholds ($9,500, $10,500, $12,500) does not change our findings. In other regressions, instead of an indicator variable, we include the natural logarithm of per capita GDP of the country in the Eq. (2). Z and K denote the individual and country level controls, and they include the same variables used in the previous section. Outcome variables are indicator variables, and Eq. (2) is estimated with probit. The marginal effects are reported in Panels of Table 4.

In Panel A of Table 4, we report the estimates obtained from the regressions where the outcome variables are individual's preferences about government forms and bribe. The outcome variables are listed at the top of each column. Every cell presents the marginal effect of the variable of interest from a separate regression. The estimates of the full set of variables are available if requested. Results suggest that residents of high income countries are less likely to believe that having a strong leader who does not have to bother with parliament and elections (*Prefers Rogue Leader*), or an army rule (*Prefers Army Rule*) is a good way of governing the country (columns 1-2). Instead, they are more likely to prefer a democratic political system (columns 3 and 4). In addition, individuals who live in high income countries are more likely to agree that accepting bribe is not justifiable (column 5). These findings are robust to different thresholds for high income countries. Including the natural logarithm of the per capita GDP in the regressions instead of High Income Country indicator does not change the findings (row 2).

In Panel B of Table 4, the outcomes are measures of individual's preference about whether economic growth or improving people's involvement in country's governance should have greater priority among national goals in the next ten years. For example, the outcome variables in columns 1 and 2 take the value of one if an individual believes that the highest priority national goal should be promoting economic growth and

Table 4 Preferences over Institutional Quality and Economic Growth in High versus Low-Income Countries

Panel A: Effect of National Income on Preferences

Row No	Variable of Interest	(1) Prefers a rogue leader	(2) Prefers an army rule	(3) Prefers a democratic system	(4) Democracy is the best government form	(5) Bribe is not justifiable
1	Indicator for	−0.210***	−0.193***	0.043**	0.061***	0.039***
	GDP per cap. ≥11500	(0.043)	(0.033)	(0.017)	(0.021)	(0.012)
2	GDP per cap.	−0.102***	−0.081***	0.008	0.040***	0.004
		(0.033)	(0.025)	(0.010)	(0.014)	(0.007)
	Observations	140827	140702	141041	131830	213095

Panel B: Effect of National Income on Preferences over Growth versus Institutions

Row No	Variable of Interest	1st Goal of the Country: Economic Growth	1st Goal of the Country: Promoting People's Involvement	2nd Goal of the country: Economic Growth	2nd Goal of the country: Promoting People's Involvement	Economic Growth More Important
		(1)	(2)	(3)	(4)	(5)
1	Indicator for GDP	−0.120***	0.108***	−0.044	0.087***	−0.130***
	per cap. ≥11500	(0.027)	(0.021)	(0.032)	(0.027)	(0.022)
2	GDP per	−0.070***	0.110***	−0.037*	0.072***	−0.115***
	cap.	(0.017)	(0.012)	(0.021)	(0.018)	(0.013)
	Observations	162112	162112	29071	29071	154919

The outcome variables are listed at the top of each column. Each cell presents the marginal effects of the variable of interest from the probit estimation and their standard errors. ***, ** and * indicate significance at 1%, 5% and 10% levels, respectively. All regressions include the full set of individual and country level control variables and year dummies. Standard errors are clustered at country-year level. Variable of interest in row 1 takes the value of 1 if the individual lives in a country where per cap. GDP is greater than or equal to 11,500. In row 2, the variable of interest is the natural logarithm of per cap. GDP. Definitions of the variables are in the Data section.

enhancing people's involvement in running the country, respectively.[14] Results in columns 1-2 show that individuals who live in high income countries are less likely to prefer economic growth as the top priority national goal. At the same time, they are more likely to choose promoting people's involvement in country's governance as the top national goal.[15]

29,071 individuals did not place the highest importance to either economic growth or promoting people's involvement in governance. Column 4 of Panel B in Table 4 shows that within this sample, residents of high income countries have a greater tendency to rank promoting people's involvement in governance as the second most

[14] Theses variables are constructed based on individual's first and second choice on their country's national goals. Respondents' options were 1.A high level of economic growth, 2.Strong defense forces, 3.People have more say about how things are done, 4.Trying to make our cities and countryside more beautiful.

[15] When we use other categories as outcome variables, the marginal effects are not statistically significant.

important national goal. However, they are not different from individuals living in low income countries in probability of choosing economic growth as the second highest priority national goal (column 3). The dependent variable in column 5 of Panel B is equal to 1 if the individual places greater importance to economic growth as a national goal than promoting people's involvement in governance, and zero otherwise. The results in column 5 suggest that high income country residents are less likely to rate economic growth as more important compared to promoting people's involvement. Similar results are obtained when the natural logarithm of per capita GDP is included in regressions instead of indicator for living in a high income country.

Summary and Conclusion

A number of previous papers that investigate the relationship between economic growth and subjective well-being focus on the Easterlin Paradox – a finding that suggests economic growth in a country does not improve the life satisfaction of that country's residents over time, even though in a cross section high income individuals or high income countries are happier in comparison to their low income counterparts (Easterlin 1973 and 1995). While some papers provide counter evidence to this argument (Stevenson and Wolfers 2013; Deaton 2008), others attempt to provide an explanation to the paradox. Examples of these explanations include the relative income hypothesis (Clark et al. 2008) and individuals' adaptation to income (Di Tella et al. 2010). An additional explanation proposed is the basic needs hypothesis (Di Tella and R. MacCulloch 2010). Specifically, income may not have a significant influence on individuals' life satisfaction once their basic needs are satisfied. Individuals start deriving utility from non-materialistic aspects of life once their basic needs are satisfied, an idea initially put forward by Maslow (1943).

Under this hypothesis, individuals may have different preferences with respect to institutional quality and economic growth in low versus high income countries. In this paper, we test this hypothesis at the individual level using two approaches. First we estimate the influence of per capita income and institutional factors on life satisfaction. Using data on 200,000 individuals from 74 countries, we find that institutional factors such as the extent of democracy, civil rights, and corruption have an influence on reported well-being of individuals who live in high income countries. Per capita income has no effect on subjective well being in these high income countries. On the other hand, life satisfaction of individuals who live in low income countries is not impacted by the quality of institutional factors. Instead, an increase in income per capita improves happiness.

Second, we test whether preferences over institutions and economic growth are systematically different for individuals who live in high versus low income countries. We find that compared to their counterparts in low income countries, residents of high income countries are more likely to prefer democratic political regimes over an autocratic or militaristic government. In addition, individuals in high income countries are more likely to rank promoting people's involvement in governance above economic growth as their preference of national goals of their countries in the next decade.

Taken together our results provide evidence for a change in preferences over improvements in living standards (GDP per capita) and favorable institutional characteristics as a country experiences economic growth. Our results are along the same lines with Frey and Stutzer (2000), who report that direct democratic institutions in Switzerland contribute positively to the happiness of the Swiss, with Bjornskov, Dreher and Fischer (2010) and Helliwell and Huang (2008) who show at the country level that institutional quality increases the average happiness in rich countries but not in poor countries, with Di Tella and MacCullogh (2010) who suggest that economic growth does not improve individual's life satisfaction beyond a threshold. Our findings may help explain Easterlin's (1995) observation that in economically developed countries average happiness does not rise with increases in per capita GDP over time. Specifically, the developed world generally has not experienced sensational improvement in institutional quality in the last decades. However, it has experienced economic growth continuously. If residents of the developed world value improvements in institutions more than increases in per capita GDP (a possibility supported by our paper) then it is not surprising to observe that the average happiness in these countries has not changed significantly over time.

It has been shown that modern and democratic institutions promote economic growth (Papaioannou and Siourounis 2008; Acemoglu, Johnson, and Robinson 2001; Minier 1998). From a policy perspective, this finding implies that improvements in institutional quality of a country, such as a shift towards a democracy, will lead to better living standards and greater life satisfaction. Our results suggest that the increase in life satisfaction due to improvements in institutions in low income countries may not be immediate. In low income countries, policies that directly target to promote economic growth may improve subjective well-being of the residents more quickly than those that aim at developing institutional quality. This is because, low income countries' residents value economic growth more than they do favorable institutions.

Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest

Appendix

Table 5 Descriptions and Summary Statistics of All Variables

		Whole Sample		Low Income Countries		High Income Countries	
Variable	Description	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Satisfaction with life	Individual's answer to 'All things considered, how satisfied are you with your life as a whole these days?'. Ranges from 1 (Most dissatisfied) to 10 (Most satisfied). (A)	6.588	2.504	6.048	2.666	7.381	1.997
Rogue leader	=1 if individual believes that a strong leader who does not have to bother with parliament and elections is a good way of governing the country. (A)	0.365	0.482	0.428	0.495	0.231	0.421
Army rule	=1 if individual believes that an army rule is a good way of governing the country. (A)	0.180	0.384	0.242	0.428	0.053	0.224
Democratic system	=1 if individual believes that a democratic political system is a good way of governing the country. (A)	0.896	0.305	0.886	0.318	0.918	0.274
Democracy is better	=1 if individual agrees with 'Democracy may have problems but it is better than any other form of government'. (A)	0.868	0.339	0.846	0.361	0.913	0.282
Bribe is not justifiable	=1 if individual believes someone accepting a bribe in the course of their duties is not justifiable. (A)	0.914	0.281	0.903	0.296	0.930	0.256
1st goal: economic growth	=1 if individual ranks economic growth as the highest importance national goal. (A)	0.596	0.491	0.646	0.478	0.509	0.500
1st goal: promoting people's involvement	=1 if individual ranks giving people more say in how things are done as the highest importance national goal. (A)	0.218	0.413	0.154	0.361	0.329	0.470
2nd goal: economic growth	=1 if individual ranks economic growth as the second highest importance national goal. (A)	0.210	0.407	0.192	0.394	0.241	0.428
Variable	Description	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
2nd goal: promoting people's involvement		0.336	0.472	0.330	0.470	0.346	0.476

Table 5 (continued)

		Whole Sample		Low Income Countries		High Income Countries	
	=1 if individual ranks giving people more say in how things are done as the second highest importance national goal. (A)						
Economic growth more important	=1 if individual ranks economic growth as a more important national goal for their country than promoting people's involvement. (A)	0.713	0.452	0.783	0.412	0.594	0.491
GDP per capita	Real GDP per capita, scaled by 0.001. (B)	11.966	8.314	5.767	2.615	21.079	4.599
Low corruption	Corruption index, ranges from 1 to 10, 10 being the least corrupt. (E)	5.046	2.311	3.491	1.230	7.331	1.480
Civil rights	The degree of civil liberties, 1 to 7, 7 being t he most free. (F)	5.129	1.562	4.265	1.277	6.400	0.956
Democracy	Democracy-Autocracy index, -10 to 10, -10 for full autocracy and 10 for full democracy. (G)	6.411	5.168	4.418	5.370	9.341	3.024
Female	Dummy for females. (A)	0.517	0.500	0.510	0.500	0.527	0.499
Age	Individual's age, scaled by 0.1. (A)	4.131	1.625	3.949	1.536	4.399	1.713
Medium income	=1 if the individual is in the middle income group in his country. (A)	0.318	0.466	0.321	0.467	0.313	0.464
High income	=1 if the individual is in the upper income group in his country. (A)	0.257	0.437	0.264	0.441	0.248	0.432
Medium education	=1 if the individual has completed secondary school. (A)	0.333	0.471	0.400	0.490	0.234	0.423
High education	=1 if the individual has completed college partially or fully. (A)	0.157	0.364	0.178	0.382	0.128	0.334
Married	=1 if the individual is married. (A)	0.584	0.493	0.583	0.493	0.584	0.493
Cohabiting	Dummy that takes the value of 1 if the individual is cohabiting with a partner. (A)	0.044	0.205	0.042	0.200	0.047	0.211
Separated	=1 if the individual is divorced, separated or widowed. (A)	0.119	0.324	0.106	0.308	0.137	0.344
Part-time employed	=1 if individual is working part-time. (A)	0.072	0.259	0.064	0.245	0.084	0.277

Table 5 (continued)

		Whole Sample		Low Income Countries		High Income Countries	
Self-employed	=1 if individual is self-employed. (A)	0.083	0.276	0.103	0.304	0.054	0.227
Retired	=1 if individual is retired. (A)	0.139	0.346	0.113	0.316	0.178	0.382
Housewife	=1 if the individual is dealing with home production. (A)	0.134	0.341	0.142	0.349	0.122	0.327
Student	=1 if individual is not working and attending school. (A)	0.068	0.251	0.073	0.260	0.060	0.237
Unemployed	=1 if individual is unemployed. (A)	0.079	0.270	0.097	0.296	0.053	0.224
Other type of employment	=1 if individual's employment status is another category, but not full-tile employed. (A)	0.019	0.135	0.020	0.141	0.016	0.126
1 child	=1 if the individual has one child. (A)	0.157	0.364	0.159	0.366	0.155	0.361
2 children	=1 if the individual has two children. (A)	0.264	0.441	0.248	0.432	0.289	0.453
3 children	=1 if the individual has three children. (A)	0.137	0.343	0.135	0.342	0.139	0.346
4+ children	=1 if the individual has more than three children. (A)	0.133	0.340	0.157	0.363	0.099	0.299
Inflation rate	The Inflation rate in the country. Calculated as the change in the Price Level of Gross Domestic Product (B)	0.003	0.123	−0.010	0.136	0.023	0.098
Unemployment rate	The unemployment rate of the country. (C, D)	9.899	6.874	11.329	7.981	7.797	3.956
CO2 emission per capita	Carbon dioxide emission per capita. (C)	0.593	0.414	0.713	0.481	0.417	0.175
Birth rate	Number of births per 1,000 women in country. (C)	16.804	7.779	19.923	8.458	12.219	2.997

(A) World Values Survey, (B) Penn World Tables 6.2, (C) World Development Indictors, (D) International Labour Organization, (E) Transparency International, (F) Freedom House, (G) Polity IV.

Table 6 Marginal Effects of All Variables from Ordered Probit Estimation Dependent Variable: Satisfaction with Life

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Whole Sample	Poor Countries	Rich Countries	Whole Sample	Poor Countries	Rich Countries	Whole Sample	Poor Countries	Rich Countries
GDP per cap.	0.088***	0.072***	0.075**	0.064***	0.066***	0.009			
	(0.009)	(0.014)	(0.036)	(0.019)	(0.021)	(0.030)			
Democracy				0.001	0.001	0.045***	0.001	0.002	0.044***
				(0.002)	(0.002)	(0.008)	(0.002)	(0.002)	(0.007)
Civil Rights				0.000	−0.004	0.050***	0.003	−0.002	0.051***
				(0.007)	(0.007)	(0.010)	(0.007)	(0.008)	(0.010)
Low Corruption				0.008	0.003	0.018***	0.021***	0.019***	0.018***
				(0.005)	(0.007)	(0.004)	(0.003)	(0.005)	(0.005)
Inflation	−0.031	−0.032	−0.043	−0.028	−0.025	0.009	−0.038	−0.051	0.009
	(0.055)	(0.054)	(0.115)	(0.050)	(0.053)	(0.099)	(0.044)	(0.050)	(0.098)
Unemployment Rate	−0.001**	−0.001**	0.000	−0.001**	−0.001**	0.001	−0.001**	−0.001*	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
CO_2 Emission	−0.035***	−0.021**	−0.017	−0.035***	−0.023**	−0.006	−0.049***	−0.037***	−0.008
	(0.012)	(0.010)	(0.044)	(0.012)	(0.011)	(0.027)	(0.013)	(0.012)	(0.025)
Birth Rate	0.007***	0.006***	0.010***	0.007***	0.006***	0.004	0.004***	0.004***	0.004
	(0.001)	(0.001)	(0.004)	(0.001)	(0.001)	(0.003)	(0.001)	(0.001)	(0.003)
Female	0.006***	0.003	0.013***	0.005***	0.003	0.013***	0.005***	0.003	0.013***
	(0.002)	(0.003)	(0.002)	(0.002)	(0.003)	(0.002)	(0.002)	(0.003)	(0.002)
Age	−0.052***	−0.043***	−0.063***	−0.052***	−0.043***	−0.064***	−0.052***	−0.042***	−0.064***
	(0.004)	(0.005)	(0.006)	(0.004)	(0.006)	(0.005)	(0.004)	(0.006)	(0.005)
Age^2	0.006***	0.004***	0.007***	0.006***	0.004***	0.007***	0.006***	0.004***	0.007***
	(0.000)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)

Table 6 (continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Medium Income	0.040***	0.043***	0.035***	0.040***	0.042***	0.034***	0.040***	0.043***	0.034***
	(0.005)	(0.006)	(0.004)	(0.005)	(0.006)	(0.003)	(0.005)	(0.006)	(0.003)
High Income	0.074***	0.083***	0.058***	0.074***	0.083***	0.058***	0.074***	0.084***	0.058***
	(0.008)	(0.011)	(0.006)	(0.008)	(0.011)	(0.006)	(0.008)	(0.011)	(0.006)
Medium Education	0.010**	0.009*	0.011	0.011**	0.010**	0.012**	0.011**	0.010**	0.012**
	(0.004)	(0.005)	(0.007)	(0.004)	(0.005)	(0.006)	(0.005)	(0.005)	(0.006)
High Education	0.026***	0.029***	0.018**	0.028***	0.029***	0.019**	0.030***	0.031***	0.019**
	(0.006)	(0.007)	(0.008)	(0.005)	(0.006)	(0.008)	(0.006)	(0.006)	(0.008)
Married	0.028***	0.018***	0.056***	0.028***	0.018***	0.055***	0.025***	0.013**	0.056***
	(0.004)	(0.005)	(0.005)	(0.004)	(0.005)	(0.005)	(0.005)	(0.006)	(0.005)
Cohabiting	0.030***	0.030**	0.042***	0.028***	0.030**	0.034***	0.028**	0.036**	0.034***
	(0.010)	(0.014)	(0.010)	(0.011)	(0.014)	(0.008)	(0.012)	(0.016)	(0.008)
Separated	−0.022***	−0.022***	−0.021***	−0.022***	−0.022***	−0.021***	−0.023***	−0.023***	−0.021***
	(0.004)	(0.004)	(0.005)	(0.004)	(0.004)	(0.005)	(0.004)	(0.004)	(0.005)
Part-time work	0.000	0.003	−0.008*	0.000	0.003	−0.007	0.000	0.003	−0.007
	(0.004)	(0.005)	(0.005)	(0.003)	(0.004)	(0.005)	(0.003)	(0.004)	(0.005)
Self-employed	0.010**	0.011**	0.005	0.010**	0.011**	0.005	0.007*	0.007	0.005
	(0.004)	(0.005)	(0.006)	(0.004)	(0.005)	(0.005)	(0.004)	(0.005)	(0.005)
Retired	−0.010**	−0.021***	0.004	−0.009**	−0.021***	0.004	−0.010**	−0.021***	0.004
	(0.004)	(0.005)	(0.006)	(0.004)	(0.005)	(0.005)	(0.004)	(0.005)	(0.005)
Housewife	0.008	0.014**	−0.008	0.009*	0.014*	−0.007	0.011**	0.014*	−0.007
	(0.005)	(0.007)	(0.005)	(0.005)	(0.007)	(0.004)	(0.005)	(0.007)	(0.004)
Student	0.002	0.002	0.001	0.001	0.001	−0.001	−0.002	−0.003	−0.001
	(0.005)	(0.006)	(0.005)	(0.005)	(0.006)	(0.004)	(0.006)	(0.007)	(0.004)

Table 6 (continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Unemployed	−0.047***	−0.040***	−0.072***	−0.047***	−0.040***	−0.073***	−0.049***	−0.042***	−0.073***
	(0.004)	(0.005)	(0.005)	(0.004)	(0.004)	(0.005)	(0.004)	(0.005)	(0.005)
Other Employment	0.000	0.013	−0.026***	0.000	0.012	−0.026***	−0.005	0.005	−0.026***
	(0.011)	(0.015)	(0.008)	(0.011)	(0.015)	(0.007)	(0.010)	(0.013)	(0.007)
1 Child	−0.007**	−0.008**	−0.010**	−0.007**	−0.008**	−0.010**	−0.007**	−0.008*	−0.010**
	(0.003)	(0.004)	(0.005)	(0.003)	(0.004)	(0.005)	(0.003)	(0.004)	(0.005)
2 Children	−0.007**	−0.008**	−0.009	−0.007*	−0.009**	−0.010*	−0.007*	−0.007*	−0.010*
	(0.004)	(0.004)	(0.005)	(0.004)	(0.004)	(0.005)	(0.004)	(0.004)	(0.005)
3 Children	−0.003	−0.004	−0.003	−0.002	−0.004	−0.006	−0.003	−0.003	−0.006
	(0.004)	(0.004)	(0.006)	(0.004)	(0.004)	(0.006)	(0.004)	(0.005)	(0.006)
4 Children	0.005	0.005	0.008	0.007	0.005	0.003	0.008	0.009	0.003
	(0.005)	(0.005)	(0.008)	(0.005)	(0.005)	(0.007)	(0.005)	(0.006)	(0.007)
Observations	214,294	127,538	86,756	214,294	127,538	86,756	214,294	127,538	86,756

Dependent variable is the answer to the question "All things considered, how satisfied are you with your life as a whole these days?" scaled between 1 (most dissatisfied) and 10 (most satisfied). GDP per capita enters in natural logarithm. Table presents the marginal effects from the ordered probit estimation and their standard errors for the highest life satisfaction category. ***, ** and * indicate significance at 1%, 5% and 10% levels, respectively. The sample used for the estimation is listed at the top of each column. All regressions include year dummies, and indicator variables for missing information. Standard errors are clustered at country-year level. See Appendix Table 5 for the descriptions of the variables.

Table 7 Effect of National Income and Institutions on Life Satisfaction in Poor vs. Rich Countries (Sensitivity to the cutoffs)

Panel A: Poor Countries						
	GDP per cap. < 9,500		GDP per cap. < 10,500		GDP per cap. < 12,500	
	(1)	(2)	(3)	(4)	(5)	(6)
GDP per cap.	0.071***	0.071***	0.071***	0.069***	0.071***	0.066***
	(0.015)	(0.022)	(0.015)	(0.022)	(0.014)	(0.021)
Democracy		0.001		0.001		0.001
		(0.002)		(0.002)		(0.002)
Civil Rights		−0.005		−0.005		−0.005
		(0.008)		(0.008)		(0.007)
Low Corruption		0.000		0.001		0.003
		(0.008)		(0.008)		(0.007)
Observations	115696	115696	123277	123277	129639	129639
Panel B: Rich Countries						
	GDP per cap. ≥ 9,500		GDP per cap. ≥10,500		GDP per cap. ≥12,500	
	(1)	(2)	(3)	(4)	(5)	(6)
GDP per cap.	0.139***	0.039*	0.120***	0.015	0.076**	0.009
	(0.018)	(0.023)	(0.023)	(0.030)	(0.036)	(0.031)
Democracy		−0.001		0.007		0.045***
		(0.004)		(0.015)		(0.008)
Civil Rights		0.033***		0.044***		0.050***
		(0.009)		(0.009)		(0.010)
Low Corruption		0.015***		0.016***		0.018***
		(0.004)		(0.005)		(0.005)
Observations	98598	98598	91017	91017	84655	84655

Dependent variable is the answer to the question "All things considered, how satisfied are you with your life as a whole these days?" scaled between 1 (most dissatisfied) and 10 (most satisfied). GDP per capita enters in natural logarithm. Table presents the marginal effects for the highest life satisfaction category from the ordered probit estimation. ***, ** and * indicate significance at 1%, 5% and 10% levels, respectively. In Panel A (B), the results from the poor (rich) countries are presented. The sample used for the estimation is listed at the top of each column. All regressions include individual and country level control variables and year dummies as in Table 2. Standard errors are clustered at country-year level. See Appendix Table 5 for the descriptions of the variables.

Table 8 Effect of National Income and Institutions on Life Satisfaction in Poor vs. Rich Countries (Sensitivity to the countries in the sample)

Panel A: Excluding Individuals from Eastern European or Ex-Soviet countries						
	Whole Sample		Poor Countries		Rich Countries	
	(1)	(2)	(3)	(4)	(5)	(6)
GDP per cap.	0.080***	0.068***	0.082***	0.089***	0.075**	0.009
	(0.011)	(0.021)	(0.019)	(0.023)	(0.036)	(0.030)
Democracy		0.000		0.002		0.045***

Table 8 (continued)

		(0.003)		(0.003)		(0.008)
Civil Rights		0.001		−0.003		0.050***
		(0.008)		(0.010)		(0.010)
Low Corruption		0.004		−0.007		0.018***
		(0.006)		(0.008)		(0.004)
Observations	180098	180098	93342	93342	86756	86756
Panel B: Excluding Individuals from India, China, Ghana, Nigeria						
	Whole Sample		Poor Countries		Rich Countries	
	(1)	(2)	(3)	(4)	(5)	(6)
GDP per cap.	0.103***	0.094***	0.102***	0.110***	0.075**	0.009
	(0.009)	(0.019)	(0.015)	(0.021)	(0.036)	(0.030)
Democracy		0.001		0.001		0.045***
		(0.002)		(0.001)		(0.008)
Civil Rights		0.007		0.003		0.050***
		(0.006)		(0.006)		(0.010)
Low Corruption		−0.001		−0.010		0.018***
		(0.005)		(0.006)		(0.004)
Observations	202424	202424	115668	115668	86756	86756
Concluded						
Panel C: Excluding Individuals from Eastern European and Ex-Soviet countries and from India, China, Ghana, Nigeria						
	Whole Sample		Poor Countries		Rich Countries	
	(1)	(2)	(3)	(4)	(5)	(6)
GDP per cap.	0.107***	0.109***	0.148***	0.161***	0.075**	0.009
	(0.013)	(0.027)	(0.028)	(0.033)	(0.036)	(0.030)
Democracy		0.001		0.002		0.045***
		(0.002)		(0.003)		(0.008)
Civil Rights		0.008		0.003		0.050***
		(0.008)		(0.011)		(0.010)
Low Corruption		−0.005		−0.014*		0.018***
		(0.006)		(0.008)		(0.004)
Observations	168228	168228	81472	81472	86756	86756

The dependent variable is the answer to the question "All things considered, how satisfied are you with your life as a whole these days?" scaled between 1 (most dissatisfied) and 10 (most satisfied). GDP per capita enters in natural logarithm. The table presents the marginal effects for the highest life satisfaction category from the ordered probit estimation. ***, ** and * indicate significance at 1%, 5% and 10% levels, respectively. The sample used for the estimation is listed at the top of each column. All regressions include individual and country-level control variables and year dummies. Standard errors are clustered at countryyear level. See Appendix Table 5 for the descriptions of these variables.

Panels A and B replicate Table 2 in the main text excluding observations from Eastern European and Ex-Soviet countries (Armenia, Azerbaijan, Belarus, Bulgaria, Bosnia and Herzegovina, Estonia, Latvia, Macedonia, Moldova, Romania, Russia, Slovakia and Ukraine) and China, Ghana, India and Nigeria, respectively (as mentioned in Deaton (2008)). Panel C omits observations from all countries mentioned above

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