The Happiness Gap in Eastern Europe*

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Abstract

Citizens in Eastern Europe are less satisfied with life than their peers in other countries. This happiness gap has persisted, despite predictions to the contrary by earlier scholars. It holds after controlling for a variety of covariates, such as the standard of living, life expectancy and Eastern Orthodox religion. Armed with a battery of surveys from the early 1990s to 2014, we argue that the happiness gap is explained by how citizens in post-communist countries perceive their governments. Eastern Europeans are more likely to link their life satisfaction to perceived corruption and government performance, as compared to those in other countries. Our results suggest that the transition from central planning is still incomplete, at least in the psychology of people.

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1 Introduction

How do large-scale economic and political transformations, such as the collapse of communism in the former Soviet bloc, affect perceived welfare? Along many dimensions, the transition process can be deemed a success. Most countries in the region have experienced sustained economic growth since the mid-1990s, many have become fully fledged democracies (and some members of the European Union), and technological advancement and freedom to travel abroad have improved living standards tremendously. In contrast, in Ukraine PPP-adjusted GDP per capita decreased from USD 10,490 in 1990 to USD 8,267 in 2014.[1] Could this disparity in economic performance explain the dip in happiness experienced by the countries in Eastern Europe?

The answer seems to be negative: income gains in the post-communist region have failed to translate into convergence in life satisfaction. Although scholars have acknowledged that transition has been an unhappy process (for example, Guriev and Zhuravskaya, 2009), the expectation has been that economic and political reform would eventually be rewarded. This prophecy does not seem to have come true yet: for example, Ukraine and Russia are consistently found near the bottom of rankings of life satisfaction, with scores lower than those of countries like Bangladesh and Senegal. Bulgarians are less happy than Peruvians and Indians. Why, then, as economic advancements are materializing for most countries, are the psychological benefits lagging behind?

In this paper, we tackle this question by building a comprehensive time series of four different surveys covering 82 countries from the early 1990s to 2014. Our analyses confirm that post-communist economies are systematically unhappier than their advanced *and* developing counterparts in the rest of the world. This happiness gap changes little even after accounting for a variety of factors, such as the log of per capita income, life expectancy and Eastern Orthodox religion. In fact, we find that the income-satisfaction gradient is similar for transition and non-transition countries. Moreover, while the happiness gap did narrow between 1990 and the early 2000s, it has stayed remarkably persistent throughout the whole transition period.

[1] The data are in constant international 2011 dollars. See http://data.worldbank.org/indicator/NY.GDP.PCAP.PP.KD.

Our explanation focuses on the importance of perceived corruption and government performance for life satisfaction in Eastern Europe. This result fits the Ukrainian case particularly well, since the country is consistently ranked among the most corrupt in the world. Accounting for corruption and quality of governance eliminates the gap in subjective well-being completely in our cross-country regressions, and reduces it substantially when we look at individual-level data. We hypothesize that Eastern European citizens internalize government behavior for at least two reasons. First, a large part of the population has lingering memories of the extensive state involvement in all aspects of economic, political and social life during the communist period. Second, increased availability of information technology and freedom to travel abroad may have prompted transition citizens to re-evaluate the performance of their governments, relative to those in more advanced countries. This is salient in countries such as Ukraine, as in many (even democratic) transition countries elites associated with the former communist regime have not only remained in power, but have also used their political connections to amass considerable wealth (Aslund and Djankov, 2014).

Since cross-country regressions may suffer from endogeneity and data heterogeneity, we complement our analyses with individual-level regressions from the second round of the Life in Transition Survey (LiTS), conducted in 2010 by the EBRD and the World Bank. In addition to having the most comprehensive coverage of the transition region (29 countries), the survey also includes Turkey and five Western European comparators. As a second check on our results, we combine a new *objective* index of municipal corruption in Bulgaria (collected by Nikolova and Marinov (2015) and covering the period 2004-2005) with individual data from the first round of the Life in Transition Survey (completed in 2006). The results from these analyses are in line with our cross-country findings. However, just as in earlier work, an important caveat is that while surveys can tell us a lot about average differences and which factors weaken or even eliminate empirical regularities, the relationships studied in this paper are less likely to yield causal interpretation.

Our work relates to three strands of the literature. First, our findings resonate with the extensive literature on the link between income, economic growth and life satisfaction (Clark et al., 2008; Deaton, 2008; Easterlin, 1995; Stevenson and Wolfers, 2008). Second, a smaller but growing literature has studied how life satisfaction is affected by large-scale economic and political changes in

Eastern Europe (Easterlin, 2009; Guriev and Zhuravskaya, 2009; Sanfey and Teksoz, 2007), China (Easterlin et al., 2012; Graham et al., 2015), Latin America (Graham and Lora, 2010) and Africa (Graham and Nikolova, 2013). And third, we contribute to a rich literature on the consequences of corruption for welfare (Bertrand et al., 2007; Mauro, 1995; Pande and Olken, 2012; Rose-Ackerman, 1999; Shleifer and Vishny, 1994).

Our contribution to previous work is four-fold. First, the paper highlights the fact that economic and political transitions may have persistent effects that go beyond objective well-being and democracy. This is important in view of the renewed attention to the question of benefits from transition not only in Ukraine, but also as a warning to other countries undergoing reform in Africa, Asia and Latin America. Second, understanding the trends in subjective life evaluation is particularly salient in emerging countries such as Ukraine, as signs of reform backlash bring into question the sustainability of pro-growth policies and the resilience of young economic and political institutions.[2] Third, our results imply that corruption and poor government performance may have overarching consequences for both objective welfare (reflected in standard economic indicators) as well as subjective well-being (see Banerjee et al. (2012) for a discussion on the social psychology of corruption). And finally, the study brings evidence on the importance of counterfactuals: apparently citizens in Eastern Europe evaluate improvements in their well-being not only relative to themselves and to others in the past, but also relative to other countries (Becchetti et al., 2013; Ljungqvist and Uhlig, 2000).

The rest of the paper is organized as follows. The next section puts the paper in the context of the broader literature. Section 3 describes the data, section 4 presents the results, section 5 conducts robustness checks, and section 6 concludes.

2 Previous Literature

A large literature has looked at the determinants of subjective well-being in both advanced and developing countries. The growing interest in this topic has been driven by extensive evidence

[2] On reform fatigue in the transition region, see Aslund and Djankov (2014); Denisova et al. (2010, 2012).

that surveys of life satisfaction can generally yield meaningful and consistent measures of people's welfare (Clark and Senik, 2011; Nikolova and Sanfey, 2014). Research on life satisfaction has also been utilized by policy makers, for example by the OECD which routinely produces cross-country measures of happiness.[3]

Much of the discussion in the existing literature has focused on the importance of income. A body of early work claimed that average income is not related to subjective well-being across countries and within individual countries over time. At the same time, cross-sectional within-country results seemed to suggest that the two variables are positively correlated within countries (Easterlin, 1995; Layard, 1980). Scholars have tried to reconcile these findings by stressing the importance of relative income comparisons to others or to oneself in the past (Clark et al., 2008). However, recent research has shown that income and happiness are related both in the time series and in the cross-section, but that this relationship is log-linear, rather than simply linear, as hypothesized by the earlier literature (Deaton, 2008; Stevenson and Wolfers, 2008).[4]

One implication of this literature is that life satisfaction should rise as personal incomes grow, both within and across countries. However, an important puzzle relates to countries which have undergone large-scale economic transformation, such as those in Africa, China or the former Communist bloc. Despite sustained economic growth and a large improvement in living conditions, life satisfaction in these countries has stagnated.

Different explanations for the existence of this happiness gap have been proposed. In China, Easterlin et al. (2012) show that, just like in Eastern Europe, happiness declined considerably between 1990 and 2005 (with some recovery by 2010) despite strong economic growth. This was due to rising unemployment, dissolution of the social safety net, and growing inequality. Graham et al. (2015) find that those Chinese who lack security or have long working hours and high workforce stress are particularly unhappy, with similar patterns for the case of mental health. In Africa,

[3]See also Stiglitz et al. (2009). We use happiness, subjective well-being and life satisfaction interchangeably, although arguably life satisfaction is related to an overall life evaluation, while happiness is more experiential.

[4]Deaton (2008) uses a country-level panel built from the Gallup World Poll surveys. Stevenson and Wolfers (2008) conduct both cross-country and within-country analyses and, in addition to the Gallup data, utilize the World values Survey, the Pew Global Attitudes Survey, the Eurobarometer Survey (for Europe only), and separate surveys for Japan and the United States.

Graham and Nikolova (2013) demonstrate that while information technology and financial inclusion tools such as mobile banking have increased general well-being, they are also a source of stress and anger for some groups. In the cross-country setting, Deaton (2008) shows that higher growth is associated with *lower* life satisfaction on average, something which Graham and Lora (2010) have labeled the "paradox of unhappy growth."

In the post-communist world, according to Guriev and Zhuravskaya (2009) citizens are unhappy because transition brought about: (1) unfairness and inequality; (2) deterioration of public goods; (3) income volatility and increased uncertainty; and (4) changes in aspiration levels.[5] Sanfey and Teksoz (2007) also stress the negative link between inequality and happiness in post-communist countries, as well as the role of incomplete market-oriented reforms. Inglehart et al. (2008) argue that the collapse of communism may have left a "spiritual vacuum," as belief in the communist ideology may have been akin to religious observance. More generally, scholars predicted that this happiness gap would recover as transition countries catch up economically to their Western peers.

In this paper, we build on this earlier work by answering two questions. First, has the life satisfaction gap between transition and non-transition countries narrowed over time? And second, if the gap has not closed, what could explain its persistence? At first sight, the answers to these questions are ambiguous. On the one hand, we may expect that those in the former Eastern bloc have become more sanguine, due to adaptation to the volatility, competitive pressures, and other less desirable aspects of market economies. In addition, life satisfaction may have increased as incomes in transition economies have grown considerably. On the other hand, unpleasant memories and disappointments with the initial (and in many countries still incomplete) transition process may have persisted, highlighting the psychological costs of large-scale transformations.

[5]Similarly, Easterlin (2009) argues that loss aversion is important: stagnating labor market conditions and a deteriorating social safety net are responsible for the lack of recovery in life satisfaction in the transition region. An aversion to uncertainty is observed even in advanced market economies: using a large voluntary on-line survey of more than 20,000 workers in Spain, Guzi and de Pedraza Garca (2015) document a negative correlation between subjective well-being and job insecurity.

3 Data

Our analysis exploits four complementary data sets which jointly cover the period from the early 1990s until 2014, with the majority of observations from the post-2004 period. We describe each of the data sets briefly below, and Table 1 provides more details on the countries and years covered.

3.1 Pew

Our data come from the Pew Global Attitudes Survey, a nationally representative survey administered since 2001 by the Pew Research Center. Sample sizes range between 700 to 1,500 interviews per country, with 1,000 interviews the most common sample size. The interviews are conducted both by telephone and face-to-face. Telephone surveys use the random digit dialing methodology, and employ three different sampling patterns, depending on landline and cellphone use in a particular country: (1) cell and landline; (2) cell only; and (3) landline only. Face-to-face surveys use random samples based on multi-stage, cluster designs. In particular, large territorial units (similar to states or counties in the US) are selected first, followed by a selection of smaller territorial units, and finally city blocks or villages. At the latter stage, interviewers visit a selection of addresses, either selected randomly from a list or following a random walk. At each address, adult respondents are selected randomly.

3.2 Eurobarometer

We also make use of the Eurobarometer, a nationally representative survey conducted since 1973 by the European Commission. The survey includes approximately 1,000 face-to-face interviews per member state (with the exception of Germany (1,500 interviews), Luxembourg (500 interviews), and the UK (1,300 interviews, including 300 in Northern Ireland)). It is conducted between 2 and 5 times a year. The Eurobarometer survey follows a multi-stage, random probability sample design. In the first stage, Primary Sampling Units, stratified by region (following the EU NUTS classification system) and level of urbanity, are selected with a probability proportional to size. In

the second stage, a cluster of addresses is selected from each sampled primary sampling unit, using standard random route procedures, beginning with an initial address selected at random. In each household, an adult respondent is then selected by a random procedure, such as the first birthday method. Up to two recalls are made to obtain an interview with the selected respondent.

3.3 European Values Study

The European Values Study, first conducted in 1981, is a nationally representative longitudinal survey carried out under the responsibility of the European Values Study Foundation. The fourth wave (completed in 2008) covered 47 European countries and regions and 70,000 respondents using face-to-face interviews. A representative multi-stage or stratified random sample of the adult population of the country aged 18 and older was used (except Armenia (15+) and Finland (18 to 74)). 1,500 respondents per country were interviewed, except Northern Cyprus and Northern Ireland (500), Iceland (808), Cyprus (1,000), Ireland (1,013), Norway (1,090), Finland (1,134), Sweden (1,187), Switzerland (1,272), France (random sample of 1501 and two additional quota samples: 1,570) and Germany (diproportional sample of 1,004 in East Germany and 1,071 in West Germany).

3.4 Life in Transition Survey

The Life in Transition Survey (LiTS) is a nationally representative survey which covers 29 post-transition countries.[6] It was conducted by the European Bank for Reconstruction and Development and the World Bank in 2006 and 2010. In 2010, the survey also included for comparison purposes five Western European countries (France, Germany, Italy, Sweden, United Kingdom) and Turkey. Respondents (aged 18 and above) are drawn randomly, using a two-stage sampling method with primary and secondary sampling units. The primary sampling units are electoral districts, polling station territories, census enumeration districts or geo-administrative divisions. Each country has a minimum of 50 primary sampling units with each primary sampling unit containing around

[6]These are Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Georgia, Hungary, Kazakhstan, Kyrgyz Republic, Latvia, Lithuania, FYR Macedonia, Moldova, Mongolia, Poland, Romania, Russia, Serbia, Slovak Republic, Slovenia, Tajikistan, Ukraine, Uzbekistan, Kosovo (2010 only) and Montenegro.

20 responding households (for a total of approximately 1,000 observations), with the exception of Russia, Ukraine, Uzbekistan, Serbia and Poland (in the 2010 wave only, where 75 primary sampling units containing around 20 households each were drawn, for a total of approximately 1,500 observations).

The head of the household or another knowledgeable household member answered the Household Roster and questions about housing and expenses. All other modules[7] were answered by a randomly drawn adult (over 18 years of age) from the household with no substitutions possible, using a minimum of three repeat visits if an interview could not be conducted. When running specifications with individual-level data from the LiTS, we supplement the survey data with external data on the geographic characteristics of primary sampling units (latitude, longitude and altitude, where the latter is only available for the 2010 data). The availability of such geo-referenced data on the precise location of each respondent, along with the inclusion of all transition countries (except Turkmenistan), are the two major strengths of the LiTS as compared to the other surveys in our sample.

3.5 Dependent variable

We construct our dependent variable using answers to the following survey questions:

- **Pew**: *"Here is a ladder representing the ladder of life. Suppose the top of the ladder represents the best possible life for you and the bottom, the worst possible life. On which step of the ladder do you feel you personally stand at the present time?"*, with answer options from 1 to 10.
- **Eurobarometer**: *"On the whole, are you very satisfied, fairly satisfied, not very satisfied, or not at all satisfied with the life you lead?"*, with answer options very satisfied (1); fairly satisfied (2); not very satisfied (3) and not at all satisfied (4).[8]
- **European Values Study**: *"Taking all things together, how happy are you?"*, with answer

[7] For instance, in the 2010 wave, the other modules are: Attitudes and Values; Climate Change; Labor, Education and Entrepreneurial Activity; Governance, and Miscellaneous Questions.

[8] In all surveys, we drop respondents who answered "Don't know" in our analyses below.

options 1 (very happy); 2 (quite happy); 3 (not very happy); and 4 (not at all happy)

- **Life in Transition Survey**: *"All things considered, I am satisfied with my life now"*, with answer options 1 (strongly disagree); 2 (disagree); 3 (neither disagree nor agree); 4 (agree); and 5 (strongly agree).

In order to make the life satisfaction responses comparable across countries and surveys, we recode all four questions as a dummy variable, with 0 meaning "dissatisfied," and 1 meaning "satisfied." We opt for this approach instead of standardizing all responses, since standardization within a survey is sensitive to the types of countries included in the survey sample. For instance, standardizing responses in a survey with many happy countries and few unhappy ones will lead to disproportionately penalizing the latter group. In the regressions below, we account for differences in scales and wording by including survey dummies in all specifications. The coding procedure adopted for our dependent variable is as follows:

- **Pew**: We classify the people on the seventh rung (of ten) on the ladder, or higher, as "satisfied."
- **Eurobarometer**: We add the share of respondents who say they are "very satisfied" and those who are "fairly satisfied" and count these respondents as "satisfied."
- **European Values Study**: We count those who are "very happy" and "quite happy" as "satisfied."
- **LiTS**: We count the number of respondents who either agree or strongly agree with the statement to compute the share of respondents who are satisfied.

Our pooled sample consists of 82 countries. Unreported calculations show that life satisfaction responses are very highly correlated across surveys, with correlation coefficients above 0.9. Survey answers least correlated with the rest come from the European Values Study: that may be the case since this survey asked respondents about happiness, and the other three surveys asked about satisfaction.

3.6 Preliminary evidence

To get a sense of the patterns in the data, in Figure 1 we plot the evolution of the "share satisfied" separately for Denmark, the old European Union countries, the Eastern European economies, Bulgaria and Ukraine, between 2004 and 2014.[9] The figure shows that while nearly all respondents in Denmark are satisfied with life, the corresponding figure for Ukraine is less than 40% throughout the period. On average, the happiness gap between the transition region and those countries which are part of the "old EU" is between 13-32%. Moreover, the figure shows that the (unconditional) happiness gap has changed little over time.

The diversity within the Eastern European group is visible in Table 2, which computes the average satisfaction in each country using all years and surveys. The happiest country in the transition region is Slovenia, where around 82% of the population report being satisfied with life, which is very similar to the happiness levels in advanced countries such as the UK and Austria. Likewise, the satisfaction rates in the Czech Republic and Estonia are 77.1% and 71.8%, respectively. The least happy transition countries are Ukraine (31.0% satisfied) and Russia (33.8% satisfied), whose happiness is comparable to that of Tunisia, Pakistan and Jordan. At least 50% of respondents seem to be satisfied in central Asia, while in South-Eastern Europe this figure ranges from 67.2% for Croatia to 38% for Bulgaria.

Figure 2 shows the unconditional correlation between satisfaction rates and the log per capita GDP (each point represents a single survey-country-year observation). In both Eastern European and non-Eastern European countries, the two variables appear to be positively correlated. However, the majority of Eastern European economies (shown in orange), mostly appear below the 45 degree, indicating that other variables must explain the abnormally low happiness levels in this region.

In the next section, we examine these patterns more systematically via regression analysis.

[9] This graph excludes the data on happiness from the European Values Study.

3.7 Independent variables: cross-country regressions

The main covariates come from the following sources. PPP-adjusted GDP per capita is from the October 2014 release of IMF's World Economic Outlook. The Corruption Perception Index is Transparency International's proxy for the incidence of corruption. Data on government effectiveness come from the World Bank Worldwide Governance Indicators. Inequality data (Gini coefficients) come from the latest available observations from the Luxembourg Income Study (LIS) or PovcalNet databases (these readings must be interpreted with caution because compliance with surveys is uneven and temporal coverage is not always satisfactory). In a few cases, OECD income inequality estimates were used. Regional classification identifiers follow the World Bank.

The data on religious affiliation are from the World Religion Dataset. We choose to focus on the share of the population belonging to the Eastern Orthodox religion. We hypothesize that large-scale economic and political changes may be particularly salient for declining life satisfaction in countries with a large Eastern Orthodox population, due to the emphasis of this religion on reflection and prayer.[10] In related work, Barro and McCleary (2003) find that a higher share of Eastern Orthodox population in a country is correlated with weaker economic growth.

3.8 Independent variables: individual-level regressions

Our individual-level regressions use the Life in Transition Survey covering 2010 (for the analysis using both transition and non-transition countries) and 2006 (for the analysis using Bulgarian corruption data). The independent variables included in these specifications include respondent age; the square of respondent age; respondent's self-assessed health; gender; and marital status. We also control for a range of individual socio-economic characteristics (level of education, income and whether the individual was employed in the past 12 months) and parental background (father's

[10] The Eastern Orthodox church came into existence in 1054 when it broke away from the Roman Catholic church. The main doctrinal issue has been the dissagreement on the supremacy of the Pope. In addition, Eastern Orthodox Christianity stresses a life that is focused on worship, prayer and fasting. The following is an example of such a prayer: "Lord Jesus Christ, Son of God, have mercy on me, a sinner." Prayers are to be repeated many times in order to enable the believer to focus fully on God. Moreover, monasticism is a central part of the Eastern Orthodox faith.

education and whether the respondent or his parents/grandparents were injured, killed or displaced during World War II). To capture a respondent's attitudes toward corruption and government effectiveness, we include survey-based variables measuring corruption perceptions. The first variable is constructed from a question proxying the degree to which the respondent believes that people like him have to make unofficial payments or gifts when using a range of public services, such as interacting with the road police or going to courts for a civil matter. A dummy for whether the respondent believes that effort and hard work, or intelligence are skills are most important for success in their country (as opposed to political connections and breaking the law) is also used. Finally, we construct a variable on how the respondent rates the overall performance of local and national government.

In the analyses using LiTS 2006, we use only the data for Bulgaria and in addition to the survey variable capturing corruption perceptions, we use an objective corruption index as described above. LiTS 2006 contains no information about the respondent's marital status or family victimization during World War II, so these two variables are omitted. Survey weights, which ensure that the data are representative at the country level, are used in all specifications.

3.9 Objective data on corruption from municipal audits in Bulgaria

We supplement our survey-based measures of corruption perceptions with an *objective* index of corruption at the municipal level for Bulgaria collected by Nikolova and Marinov (2015). Objective corruption data is still rare in the literature, so unfortunately we limit our analyses to a single country. We make use of unique data set on the use of disaster aid distributed to local governments in Bulgaria following unexpected torrential rains which led to flooding in 2004 and 2005. What was not known at the time of disbursement was that an independent national auditing watchdog would be summoned in spring 2006 to issue detailed reports on how the money was used for 227 out of 257 municipalities receiving assistance.[11] The resulting public reports, released to the public in early September 2006, chronicle a variety of infringements including: (1) contracts not awarded to the highest bidder or no bidding, (2) money channeled for the repair of buildings experiencing

[11] These municipalities comprised 96.8% of disbursed funds.

no damage, and (3) money given for no work. Following the approach in Ferraz and Finan (2008, 2011), we use this information to create an *objective* - as opposed to a perception-based - measure of corruption, which sums all the infringements recorded in a municipality between 2004 and 2005.

We exploit the fact that the first round of the Life in Transition survey was conducted in Bulgaria in late September 2006, shortly after the audit reports were publicized extensively in the media. In order to combine the LiTS and the Nikolova and Marinov (2015) corruption data set, we match each primary sampling unit in the survey to its corresponding municipality. However, an important caveat is that the results focusing on Bulgaria should be interpreted as suggestive only. Due to its sampling design which uses random sampling at the primary sampling unit, rather than municipal, level, the number of municipalities covered in the LiTS is small (37).

4 Results

4.1 Cross-country panel results

To investigate the drivers of differences in life satisfaction between transition and non-transition countries, we run cross-country OLS regressions of the following type:

$$Satisfaction_{it} = \alpha_{it} + \beta(\text{EE})_i + \boldsymbol{X_{it}}\delta + \boldsymbol{S_{it}}\gamma + \mu_t + \epsilon_{it} \tag{1}$$

where for each country i in time period t, $(\text{EE})_i$ is a dummy for whether the country is an Eastern European country, $\boldsymbol{X_{it}}$ is a vector of time-varying controls (ln GDP per capita; share of population that are Eastern Orthodox; and life expectancy), $\boldsymbol{S_{it}}$ is a vector of survey dummies (which controls for differences in the wording and scale of life satisfaction questions), μ_t are year dummies, and ϵ_{it} is the error term. We cluster the standard errors at the country level.

In column (1) of Table 3, we regress our percent satisfied dummy on the logarithm of per capita GDP, a transition country dummy, and survey wave and time dummies. The coefficient estimates

imply that a 10% increase in GDP per capita increases average life satisfaction by around 1.4 percentage points, while residents of transition countries are on average 10.4 percentage points less satisfied. These point estimates change little when we include life expectancy (column 2) and the share of the population which is Eastern Orthodox (column 3).

One interpretation of the results in columns (1) - (3) is that the effect of log per capita income is weaker in the transition region. To test this, we break the sample into Eastern European countries (column 4) and non-Eastern European countries (column 5). To avoid omitted variable bias arising from slow-changing country characteristics such as culture or geography, we also include country fixed effects. While the coefficient on log per capita income appears slightly weaker in the non-Eastern European sample, a test for the equality of coefficients indicates that the two coefficients are not statistically different from each other. In unreported results, we also included an interaction between the Eastern Europe dummy and log income per capita (along with country dummies), which is insignificant.

In sum, Table 3, demonstrates that transition citizens are significantly less happy compared to those in other countries. How has this happiness gap changed over time? Figure 3 plots predicted satisfaction rates from re-running the specification in column (1) along with interactions between the Eastern Europe dummy and dummies for three broad time periods: 1990-2000; 2001-2007; and 2008-2014. The figure shows that although life satisfaction in the transition region has improved since the 1990s, happiness levels in the post-communist world have stagnated since the early 2000s (controlling for changes in income). In other words, there is no evidence that the happiness gap is closing, as predicted by earlier scholars.

In Table 4, we investigate the mechanism behind the patterns identified in Table 3. Column (1) replicates the specification in column (3) of Table 3 but also controls for a country-level corruption perception index, where 0 signifies that the country is completely corrupt, and 100 that there is no corruption. A one-point increase in the corruption score increases life satisfaction by around 0.25 percentage points, which is a strong effect. More importantly, differences in corruption (perceptions) between Eastern European and non-Eastern European countries seems to eliminate completely

differences in life satisfaction between the regions.

One potential concern is that the corruption index may proxy for other variables, such as the overall business environment. We test whether this is the case in column (2), which instead of corruption, includes an average of selected Doing Business Indicators. Specifically, we include the mean distance to frontier for starting a business, construction, registering property, paying taxes, and enforcing contracts. For definitions, see Djankov et al. (2002) and Botero et al. (2004). The inclusion of this variable does not affect the significance of the Eastern Europe dummy, while rendering its own coefficient insignificant. In column (3), we substitute the corruption index with alternative additional governance proxies (from the Worldwide Governance Indicators Database): (1) government effectiveness; (2) regulatory quality; and (3) rule of law. Consistent with our results in column (1), only government effectiveness matters. In other words, transition citizens are not unhappy because the overall business or regulatory environments in their countries are weak, but because they internalize how their governments behave.

4.2 Individual-level results

Our individual-level OLS regressions take the following form:

$$Satisfaction_{rpk} = \alpha_{rpk} + \beta_1(\text{EE})_k + \boldsymbol{DEM_{rpk}}\beta_2 + \boldsymbol{SES_{rpk}}\beta_3 + \boldsymbol{CORR_{rpk}}\beta_4 + \boldsymbol{GEO_{pk}}\beta_5 + \epsilon_{rpk}, \tag{2}$$

where for each respondent r in primary sampling unit p and country k, $(\text{EE})_k$ is a dummy for whether the country is an Eastern European country (with the non-Eastern European category including Italy, France, Germany, Sweden, Turkey and the UK). $\boldsymbol{DEM_{rk}}$ is a matrix of demographic controls: respondent's age; age squared; gender (which takes a value of 1 if respondent is male and 2 if she is female); respondent's self-assessed health on a scale of 1 (very bad) to 5 (very good); marital status (dummy variable taking the value of 1 if the respondent is married and 0 otherwise). $\boldsymbol{SES_{rk}}$ is a matrix of socio-economic characteristics: level of education (on a scale of 1 (no education) to 6 (Master's/Ph.D)), self-reported income (on an income ladder from 1 to 10); dummy for whether the individual was employed in the past 12 months; and parental background

(years of father's full-time education, and whether the respondent or his parents/grandparents were injured, killed or displaced during World War II).

$\boldsymbol{CORR_{rk}}$ is a matrix capturing perceptions about corruption and government performance which includes: a corruption index (constructed from a question proxying the degree to which the respondent believes that people like him have to make unofficial payments or gifts when using a range of public services (such as interacting with the road police or going to courts for a civil matter)), on a scale of 1 (never) to 5 (always); a dummy for whether the respondent believes that effort and hard work, or intelligence are skills are most important for success in their country (as opposed to political connections and breaking the law); and how the respondent rates the overall performance of regional and national government (on a scale of 1 (very bad) to 5 (very good)). $\boldsymbol{GEO_{pk}}$ is a matrix of primary sampling unit controls: latitude, longitude and altitude. Standard errors are clustered at the country level.

As explained above, in the analyses using LiTS 2006 we focus only on Bulgaria. We complement the survey corruption index with an objective corruption variable at the PSU level constructed from municipal audit report following Nikolova and Marinov (2015). Survey weights, which ensure that the data are representative at the country level, are used in all specifications.

Cross-country individual-level results Different sampling procedures, question wording and coverage, along with the absence of individual-level panels, would make the results from pooled multi-survey regressions at the individual level challenging to interpret. We therefore focus soley on LiTS 2010 as it is the only survey that covers all transition countries (with the exception of Turkmenistan), in addition to including six non-transition comparators: France, Germany, Italy, Sweden, Turkey and the UK. Moreover, unlike other surveys, LiTS includes information on the precise geographical location of each primary sampling unit, which allows us to control for fixed locality characteristics (correlated with geography) which may bias our results.

The individual-level results are presented in Table 5. Column (1) shows estimates from a regression of life satisfaction (measured on a scale of 1-5) on several standard covariates: self-reported health, marital status, age and its square, gender, education, socio-economic status, and

parental background (including family war exposure), along with a dummy which is 1 for transition countries. The point estimate on the transition dummy indicates that the difference in happiness between transition and non-transition citizens is around half a point, or around 14.4% relative to the mean of the dependent variable. The magnitude of this effect is very similar to that reported by Guriev and Zhuravskaya (2009) for wave 3 of the World Values Survey, which is 1.13 (when happiness is measured on a 1-10 scale). The coefficients on the other variables are in the expected direction. Respondents who are richer, more educated, healthier and married are happier. Life satisfaction and age have a U-shaped relationship, with the nadir occuring at approximately 44 years. For example, the results in column (1) imply that life satisfaction reaches a minimum at 88 years. Women are marginally happier than men, and parental background seems to matter little, which could be because it is correlated with current socio-economic status.

Column (2) introduces an additional variable: an index of corruption perceptions, constructed from the question proxying the degree to which the respondent believes that people like him have to make unofficial payments or gifts when using a range of public services. Unlike in the cross-country specifications, the corruption index is insignificant at the individual level. This could be due to measurement error: individuals may just be inept at observing the incidence of illegal activities such as bribery.[12]

To partially address this, in column (3) we instead include a dummy for whether the respondent believes that effort and hard work, or intelligence are skills are most important for success in their country (as opposed to political connections and breaking the law). We expect that respondents who are dissatisfied with their politicians and unhappy about general corruption are more likely to report that political connections and breaking the law are important for success in life. Column (3) shows that respondents who believe that advancement depends on merit are 0.2 points happier, or 6.7% relative to the mean of the dependent variable. We observe a similar pattern in column (4) which includes a variable capturing the interviewee's perception of government performance (at the national and local level), on a scale of 1 (very bad) to 5 (very good). A one-standard deviation increase in the latter variable raises happiness by around 6% relative to the mean of the dependent

[12]See Olken (2009) for a similar point.

variable. Importantly, including both the government performance index and the effort variable in the last column decreases the coefficient on the transition dummy from 0.457 in column (1) to 0.362, or by nearly 21%. We conclude that even when considering individual-level data, citizen perceptions of government performance explain a significant portion of the happiness gap.

Within-country individual results: Bulgaria One issue with both the individual and cross-country regressions presented thus far is that our proxy for corruption is based on perceptions, rather than objective data. Since happy people may be less likely to believe that corruption is an issue, our results may suffer from reverse causality. Not surprisingly, objective corruption indexes are extremely difficult to come by. In our case, we make use of a municipality-level corruption index based on infringements recorded by an independent audit agency and covering the period 2004-2005 collected by Nikolova and Marinov (2015) in Bulgaria. This variable ranges from 0 to 3, with higher values indicating more corruption. We merge the corruption data to individual-level data on Bulgaria from LiTS 2006 using information on the geographic location of each primary sampling unit in the survey. Because the survey only covers 37 of the audited municipalities (out of a total of 227), the results with the objective corruption index (presented in column (1) of Table 6) should be interpreted with caution. Still, columns (1) and (2) show that both the objective and survey-based corruption measures (the latter extracted from the questions on bribery frequency as in Table 5) are negatively correlated with life satisfaction. Similarly to the pooled country data, column (3) demonstrates that respondents who believe that one needs effort and intelligence to advance are happier. Combining the latter variable with the subjective corruption index (column 4) or the objective corruption index (column 5) does not significantly change these relationships.

5 Robustness

In unreported results, we probed the robustness of our findings to the inclusion of several additional variables. First, we investigated if the patterns identified in Table 3 change once we account for inequality (measured as a Gini coefficient). Inequality data are notoriously difficult to assemble, so

we chose to focus on specifications with the Pew 2014 survey which use only the latest available (and arguably most reliable) data for a sample of 42 countries. In this case, the reference group includes various countries in Asia (South Korea, Malaysia, Vietnam, and others), OECD countries like the United States, Chile, Turkey, and Mexico, as well as a few countries in Africa and Latin America. The group of countries classified as Western Europe consists of Greece, Italy, France, Germany, United Kingdom, and Spain. Finally, there are three important Eastern European economies: Ukraine, Poland, and Russia. After including Gini coefficients (for those countries where recent household income surveys exist), the negative correlation between the Eastern European dummy and satisfaction persists.

Second, we re-ran the specifications in Table 3 using the sample of countries which were part of the 2010 wave of the Life in Transition Survey. In addition to our earlier covariates, we also sequentially included controls for sunshine hours per capita, subjective comparisons with the past (based on answers to the following question: "I have done better in life than my parents"), and opinions about redistribution (based on answers to the following question: "The gap between the rich and the poor in our country should be reduced"). In all three cases, our results are broadly similar to those in the baseline specification.

6 Conclusion

Why are Ukrainians, and Eastern Europeans more generally, unhappy with their lives? Using a battery of surveys covering a multitude of countries over the period from the early 1990s to 2014, along with several measures of corruption and government effectiveness, we argue that this has to do with how post-communist citizens perceive their governments. On the one hand, citizens in post-communist countries are more strongly affected by corruption and poor government performance because memories of paternalistic and omni-potent communist states are still vivid for many. On the other hand, in many transition countries politics have been dominated by elites associated with the old regime, who have managed to accumulate wealth by circumventing the law.

Should we expect this happiness gap to close in the future, as transition countries catch up

economically? On the one hand, the economic convergence process is far from certain for everyone: Ukraine's citizens are poorer today relative to 1990. On the other hand, our results suggest that without an improvement in government effectiveness (and the associated citizen perceptions), this is unlikely to happen. The Eastern European economies are not a unique category of countries where the income-happiness relationship identified in the earlier literature does not apply. We show that that the link between income and satisfaction is just as strong across transition economies as in the rest of the sample.

Our results have several important implications for reformers in Ukraine, Eastern Europe more generally, and beyond. First, large-scale societal transformations may bring both economic advances (for some) *and* long-term psychological costs (for many). Furthermore, dissatisfaction with life may produce reform fatigue, thus threatening the stability of new and vulnerable economic and political institutions. Above all, our results highlight that bribery and poor government performance may have long-term intangible costs that not only transcend a simple economic calculus, but also profoundly affect people's everyday lives. Ukrainian policy makers should thus tackle not only poor economic growth, but also effectively address administrative and political corruption.

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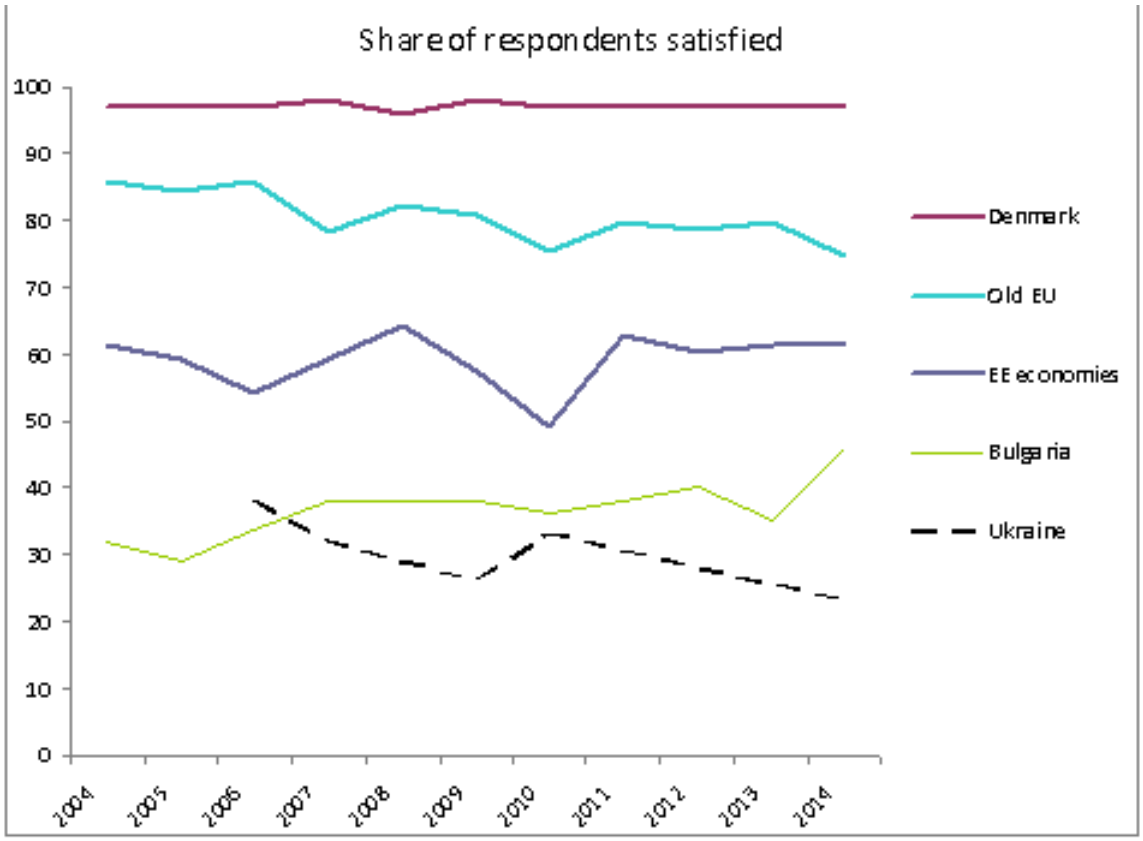
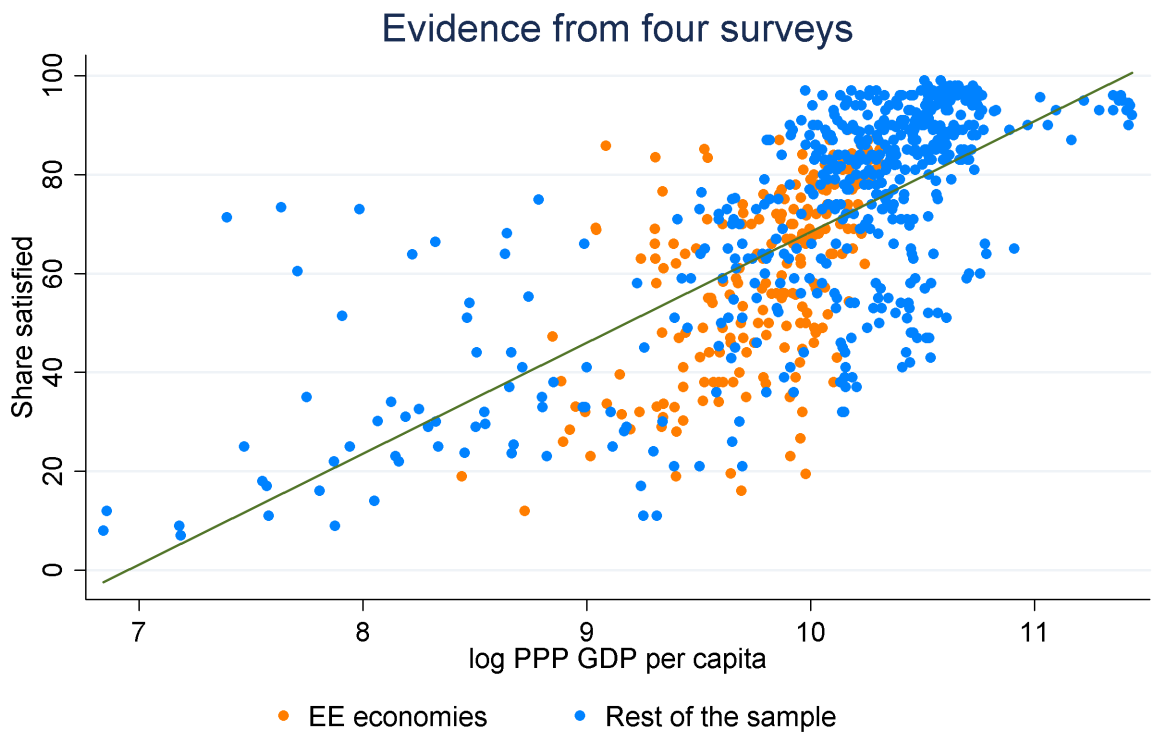
7 FIGURES AND TABLES

Figure 1: Share of satisfied respondents across selected economies, 2004 - 2014



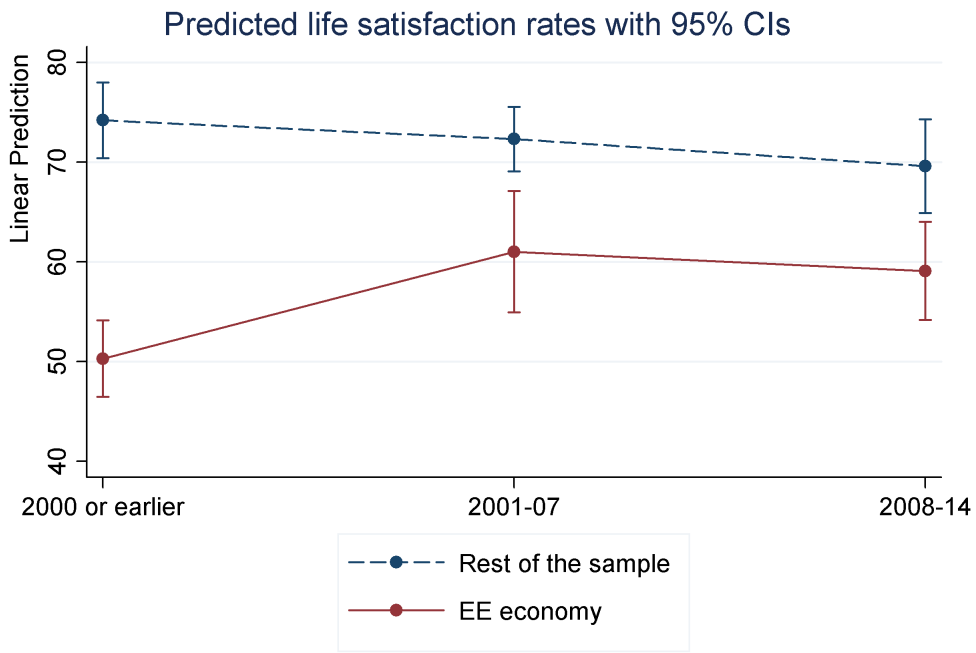
Sources: Pew Research, Eurobarometer, and Life in Transition Survey. Each survey is only included if it is available in the given year.

Figure 2: Satisfaction and log GDP per capita, all countries and all periods



Sources: Pew Research, Eurobarometer, European Values Study, and Life in Transition Survey.

Figure 3: Evolution of the happiness gap over time



Sources: Pew Research, Eurobarometer, European Values Study, and Life in Transition Survey.

Table 1: Summary of survey sources

Country	Observations	**Country**	Observations	**Year**	Observations	**Source**	Observations
Albania	4	Lithuania	14	1989	1	Pew	132
Argentina	4	Luxembourg	21	1991	8	LiTS	64
Armenia	3	Malaysia	2	1994	12	EB	472
Austria	20	Malta	12	1995	15	EVS	44
Azerbaijan	3	Mexico	4	1996	15		
Bangladesh	1	Moldova	3	1997	15		
Belarus	3	Mongolia	2	1998	15		
Belgium	21	Montenegro	7	1999	15		
Bosnia Herzegovina	3	Netherlands	21	2000	15		
Brazil	2	Nicaragua	1	2001	15		
Bulgaria	14	Nigeria	2	2002	23		
Chile	2	Norway	1	2003	15		
China	5	Pakistan	5	2004	29		
Colombia	1	Peru	3	2005	34		
Croatia	14	Philippines	2	2006	58		
Cyprus	12	Poland	20	2007	57		
Czech Republic	14	Portugal	21	2008	74		
Denmark	21	Romania	14	2009	35		
Egypt	3	Russia	10	2010	86		
El Salvador	1	Senegal	1	2011	33		
Estonia	14	Serbia	6	2012	33		
FYR Macedonia	11	Slovak Republic	14	2013	33		
Finland	20	Slovenia	14	2014	76		
France	27	South Africa	2				
Georgia	3	South Korea	4				
Germany	28	Spain	25				
Ghana	3	Sweden	21				
Greece	22	Switzerland	1				
Hungary	14	Tajikistan	2				
Iceland	6	Tanzania	3				
India	1	Thailand	1				
Indonesia	3	Tunisia	1				
Ireland	21	Turkey	19				
Israel	2	US	7				
Italy	26	Uganda	3				
Japan	5	Ukraine	8				
Jordan	4	United Kingdom	27				
Kazakhstan	2	Uzbekistan	2				
Kenya	4	Venezuela	1				
Kosovo	1	Vietnam	1				
Kyrgyz Republic	2						
Latvia	14						

Sources: Pew Research, Eurobarometer, European Values Study, and Life in Transition Survey.

Table 2: Ranking of countries by satisfaction

	Share happy/satisfied		**Share happy/satisfied**
Iceland	97.8	Greece	55.2
Denmark	96.7	Turkey	54.1
Norway	95.6	Nicaragua	54.0
Sweden	95.1	Albania	53.5
Netherlands	94.3	Kazakhstan	53.5
Luxembourg	92.8	Montenegro	52.8
Switzerland	92.8	Chile	52.0
Finland	92.0	Kosovo	51.5
Ireland	88.1	South Korea	50.5
Belgium	86.8	Mongolia	49.6
Austria	84.1	Bosnia and Herzegovina	49.3
Slovenia	82.4	Azerbaijan	49.1
Malta	82.1	Hungary	48.7
Cyprus	81.4	Romania	47.1
United Kingdom	81.3	Malaysia	46.0
Czech Republic	77.1	India	44.0
Germany	74.9	Peru	43.0
Spain	74.7	Serbia	43.0
France	74.2	Armenia	42.7
Venezuela	74.0	Moldova	42.2
Tajikistan	72.3	Japan	41.8
Israel	72.0	South Africa	41.0
Estonia	71.8	Georgia	39.1
Mexico	71.0	Indonesia	38.0
Uzbekistan	69.7	Bulgaria	38.0
Belarus	69.4	Nigeria	36.5
Brazil	69.0	Thailand	36.0
Italy	67.5	China	35.2
Slovak Republic	67.3	Senegal	35.0
Croatia	67.2	Philippines	34.5
El Salvador	66.0	Bangladesh	34.0
Colombia	64.0	**Russia**	**33.8**
Vietnam	64.0	Pakistan	31.4
Latvia	61.8	**Ukraine**	**31.0**
Poland	61.5	Tunisia	30.0
United States	61.4	Jordan	27.3
FYR Macedonia	59.9	Ghana	19.3
Argentina	59.5	Egypt	15.7
Lithuania	58.4	Uganda	14.7
Portugal	57.5	Kenya	14.3
Kyrgyz Republic	56.0	Tanzania	11.3

Sources: Pew Research, Eurobarometer, European Values Study, and Life in Transition Survey.

Satisfaction rates are averaged across surveys and time to arrive at a single summary measure.

Table 3: Panel analysis of happiness gap

	Outcome variable: Percent satisfied				
	(1)	(2)	(3)	(4)	(5)
	All countries	All countries	All countries	EE only	Non-EE only
log PPP GDP per capita	14.16***	13.87***	10.57***	27.22***	35.42***
	(1.662)	(2.923)	(2.470)	(8.060)	(7.507)
EE economy	-10.44***	-10.34***	-7.208**		
	(3.506)	(3.344)	(2.936)		
Life expectancy		0.0549	0.236	0.461	-1.256
		(0.364)	(0.302)	(1.249)	(0.878)
Survey controls	✓	✓	✓	✓	✓
Year fixed effects	✓	✓	✓	✓	✓
Share Eastern Orthodox	-	-	✓	-	-
Country fixed effects	-	-	-	✓	✓
Constant	-94.98**	-96.07***	-83.70***	-255.5*	-141.6*
	(17.25)	(16.40)	(15.37)	(127.3)	(81.41)
Observations	709	709	702	210	492
R-squared	0.716	0.716	0.765	0.926	0.949

Standard errors are in parentheses, clustered at country level. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 4: Life satisfaction and the quality of government

	(1)	(2)	(3)
	Percent satisfied	Percent satisfied	Percent satisfied
log PPP GDP per capita	5.787**	10.86***	7.100***
	(2.589)	(3.289)	(2.561)
Corruption perception index	0.253***		
	(0.0793)		
EE economy	-4.774	-7.716**	-5.296*
	(2.878)	(3.415)	(2.892)
Doing Business, average DTF of selected regulations		-0.0943	
		(0.155)	
Government effectiveness (WGI)			15.19***
			(3.692)
Regulatory quality (WGI)			-5.485
			(4.591)
Rule of law (WGI)			-5.736
			(4.983)
Life expectancy	0.305	0.270	0.219
	(0.274)	(0.381)	(0.273)
Eastern Orthodox (percent)	-15.32***	-22.64***	-15.37***
	(4.438)	(5.578)	(4.270)
Survey controls	✓	✓	✓
Year fixed effects	✓	✓	✓
Constant	-43.72***	-70.31***	-41.12**
	(16.12)	(16.88)	(19.94)
Observations	620	455	624
R-squared	0.775	0.718	0.774

Standard errors are in parentheses, clustered at country level. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 5: Individual results with LiTS 2010 data

	(1) Life satisfaction	(2) Life satisfaction	(3) Life satisfaction	(4) Life satisfaction	(5) Life satisfaction
Health	0.186***	0.178***	0.183***	0.173***	0.171***
	(0.0146)	(0.0134)	(0.0145)	(0.0162)	(0.0164)
Married	0.131***	0.132***	0.128***	0.125***	0.122***
	(0.0157)	(0.0179)	(0.0152)	(0.0182)	(0.0181)
Age	-0.0253***	-0.0259***	-0.0247***	-0.0251***	-0.0247***
	(0.00330)	(0.00345)	(0.00340)	(0.00303)	(0.00319)
Age^2	0.000289***	0.000294***	0.000282***	0.000277***	0.000273***
	(0.0000355)	(0.0000383)	(0.0000375)	(0.0000328)	(0.0000352)
Male	0.0445**	0.0456*	0.0437*	0.0319	0.0334
	(0.0209)	(0.0230)	(0.0219)	(0.0203)	(0.0215)
Education	0.0243**	0.0298***	0.0278***	0.0252**	0.0276***
	(0.0105)	(0.0106)	(0.00994)	(0.0101)	(0.00976)
Income	0.217***	0.214***	0.212***	0.202***	0.199***
	(0.0122)	(0.0128)	(0.0119)	(0.0130)	(0.0130)
Employed	0.0218	0.0157	0.0255	0.0242	0.0266
	(0.0227)	(0.0273)	(0.0226)	(0.0234)	(0.0234)
Father's education	-0.00174	-0.000924	-0.00191	-0.00264	-0.00259
	(0.00418)	(0.00404)	(0.00411)	(0.00397)	(0.00394)
Affected by war	-0.00960	-0.0168	-0.00508	-0.00251	-0.000175
	(0.0219)	(0.0235)	(0.0219)	(0.0245)	(0.0246)
Eastern Europe	-0.457***	-0.446***	-0.393***	-0.407***	-0.362***
	(0.124)	(0.129)	(0.120)	(0.104)	(0.102)
Corruption, subjective		-0.0289			
		(0.0320)			
Effort/ intelligence			0.211***		0.149***
			(0.0432)		(0.0431)
Government performance				0.208***	0.198***
				(0.0253)	(0.0254)
PSU geographic characteristics	✓	✓	✓	✓	✓
Observations	24837	21070	23630	22165	21253
R^2	0.224	0.226	0.226	0.248	0.249

Notes: Dependent variable is constructed from answer to the following question: 'All things considered, I am satisfied with my life as a whole', coded on a scale of 1 (strongly disagree) to 5 (strongly agree). OLS - Coefficients are reported. Standard errors are clustered at the country level. PSU geographic characteristics include latitude, longitude and altitude. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 6: Individual results: Bulgaria, LiTS 2006

	(1) Life satisfaction	(2) Life satisfaction	(3) Life satisfaction	(4) Life satisfaction	(5) Life satisfaction
Health	0.184***	0.202***	0.183***	0.184***	0.157***
	(0.0475)	(0.0450)	(0.0460)	(0.0450)	(0.0468)
Age	-0.0431***	-0.0368***	-0.0392***	-0.0332**	-0.0356**
	(0.0141)	(0.0139)	(0.0140)	(0.0139)	(0.0139)
Age^2	0.000411***	0.000333**	0.000365***	0.000297**	0.000333**
	(0.000136)	(0.000134)	(0.000135)	(0.000135)	(0.000134)
Male	0.176**	0.140*	0.168**	0.142**	0.176**
	(0.0758)	(0.0719)	(0.0738)	(0.0712)	(0.0733)
Education	0.0421	0.0602*	0.0590*	0.0594*	0.0407
	(0.0369)	(0.0356)	(0.0356)	(0.0350)	(0.0355)
Income	0.120***	0.166***	0.117***	0.154***	0.115***
	(0.0240)	(0.0225)	(0.0230)	(0.0225)	(0.0234)
Employed	0.225**	0.167*	0.170*	0.158*	0.204**
	(0.0969)	(0.0943)	(0.0950)	(0.0930)	(0.0941)
Father's education	0.0723	0.0587	0.0754*	0.0642	0.0750*
	(0.0440)	(0.0416)	(0.0428)	(0.0408)	(0.0424)
Corruption, objective	-0.165***				-0.225***
	(0.0616)				(0.0592)
Corruption, subjective		-0.320***		-0.268***	
		(0.0475)		(0.0464)	
Effort/ intelligence			0.517***	0.445***	0.509***
			(0.0769)	(0.0749)	(0.0793)
PSU geographic characteristics	✓	✓	✓	✓	✓
Oblast dummies	✓	✓	✓	✓	✓
Observations	880	929	907	907	871
R^2	0.286	0.320	0.321	0.348	0.327

Notes: Dependent variable is constructed from answer to the following question: 'All things considered, I am satisfied with my life as a whole', coded on a scale of 1 (strongly disagree) to 5 (strongly agree). OLS - Coefficients are reported. PSU geographic characteristics include latitude and longitude. Robust standard errors are in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.