History of Events and Life-satisfaction in Transition Countries

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Abstract

Using Life in Transition Survey data for 27 transition countries, the findings of this paper suggest that higher life satisfaction is correlated with lesser experience of unpleasant events such as labor market shock or economic distress, mostly in the recent past. Social capital such as trust, participation in civic groups, and financial stability lead to higher satisfaction, whereas lower relative position to a reference group leaves one with lower life

satisfaction. The paper also finds substantial regional variation in life satisfaction between European, Balkan, and lower and middle-income Commonwealth of Independent States. Finally, after controlling for various events that took place during the interview and the nature of refusal of the respondents across countries, the authors show that reported life satisfaction is lower if the emotional state is negative during the interview.

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History of events and life-satisfaction in transition countries

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Introduction

Decades of experimental and empirical work confirm that people derive satisfaction from own standard of living as well as their relative position in the comparison group (Veblen, 1989; Dusenberry, 1949; Easterlin, 1974, 1995; Blanchflower, et al., 2004; Luttmer, 2005), but relative position in one's comparison group is more important than own standard of living (Clark and Oswald, 1996; Ferrer-i-Carbonell, 2005). The fall of the Berlin wall almost 20 years ago initiated one of the most significant events in the twentieth century: the transition from socialist to democratic societies for hundreds of millions of people. Before reform, the socialist ideology claimed that almost every member of the society was satisfied (Andorka, 1999). As reform progressed, it created both early winners from partial reforms as well as gainers from more comprehensive reforms later on. All things considered, how do individuals participating in these changes judge their life satisfaction?

Earlier studies on life satisfaction had shown that people are more satisfied with life if there is lower unemployment and higher political freedom (Hayo, 2007), if they are younger, have experienced lesser macroeconomic volatility and better access to public goods (Guriev and Zhuravskaya, 2008), and lesser inequality and more advanced reform (Sanfey and Teksoz, 2007). Within the context of the transition, the broad consensus in the literature is that on average transition made people unhappy (see Veenhoven (2001) and Graham, Eggers and Sukhtankar (2004), Lelkes (2006), Sanfey and Teksoz (2007), Hayo (2007) and Guriev and Zhuravskaya (2008)).

Despite the rapid expansion of happiness studies, there remain a number of unresolved issues in assessing the importance of reported subjective well-being to understand economic agents' decision making process. One unresolved issue has been the ideal choice of an appropriate comparison group. Most of the existing studies use external comparison points such as same neighborhood, co-workers, country, race, family or siblings. In a recent study, Rayo and Becker (2005) develop a theory which incorporates

peer comparisons and adaptation to circumstances as an integral part of the “happiness function”.

In addition, there is no systematic evaluation of historical life events and current emotional state in reported life-satisfaction, except in some laboratory experiments. The importance of retrospective events on current mental state has been proposed by psychologists and economists (Easterlin, 2003; Lucas, et al., 2004; Kahneman and Krueger, 2005). Some of the recent work on life events includes Wu (2001) and Lucas (2005) on adaptation to marriage and divorce, Oswald and Powdthavee (2005) on adaptation to illness and Lucas et al. (2004) on adaptation to unemployment. Di Tella et al. (2005) find that a large share of the effect of income increases on happiness vanishes. They note that the effect after four years is only about 42% of the effect after one year. In another interesting study, Burchardt (2005) finds evidence of greater adaptation to rises in income than to falls in income. In one of the earlier works, Inglehart and Rabier (1986) documented that aspirations adapt to circumstance, such that, in the long run, stable characteristics do not affect well-being. There is lack of consensus among researchers whether the strength of adaptability depends on the nature of an event (say job loss versus marriage) or time (nothing matters in the long run)¹.

There is evidence of third party evaluation on respondents' life satisfaction to validate their answers (Diener and Lucas, 1999). Possible choices could include family members, friends or the interviewer. As documented by Kahneman and Krueger (2006), measures of temperament and personality typically account for much more of the variance of reported life satisfaction than do life circumstances, but empirical research on this issue is very scant.

In this paper we look at life-satisfaction outcomes within transition countries using Life in Transition Survey (LiTs) data for 27 transition countries². We measure comparison

¹ See Kimball and Willis (2006) for an excellent review of the psychology of adaptation

² Countries included from European region: Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia; Balkan region: Albania, Bosnia and Herzegovina, Croatia, Macedonia, Montenegro, and Serbia; low-income CIS region: Armenia, Azerbaijan, Georgia,

groups using various geographic levels from local neighborhood, region, country to supra-country level. We use relative consumption expenditure as a source of variation in one's reported well-being. We compare respondents' consumption expenditure with the median consumption expenditure at a primary sampling unit (PSU) level, a region (Oblast or districts) level, a country level and at a country group level (such as European union, Balkan etc). We also analyze both nature and timing of historical events for 18 years and their impact on the present life satisfaction. Finally, we examine current emotional state of respondents in a unique way. We use two subjective evaluation of respondents' conduct during the interview³. Immediately after the interview, the interviewer was required to answer "Did you feel that the respondent was reluctant to answer any questions?" and "How often did the respondent have difficulties answering questions?" We control for these two factors to see if current emotional state (Kahneman and Thaler, 2005) matters for reported life satisfaction.

To our knowledge this paper is the first to account for all these factors simultaneously. In addition, we control for a broad range of factors related to socio-demographic, economic, political, and attitudes and values in life. We perform a number of robustness exercises. Along with consumption levels, we use reported ranking on a ten-step ladder from poorest to richest as another measure of relative income within a comparison group. We take into account the possible impact of a number of significant events which occurred during the survey such as accession of Romania and Bulgaria to EU, parliamentary election in Latvia, etc. Finally we control for both nature and rate of refusal of potential respondents across countries.

First, we find that a lower relative position, whether measured in terms of consumption or ladders, to a reference group leads to a negative influence on one's life-satisfaction consistent with most findings in the literature⁴. Second, our results show that higher life satisfaction is correlated with lesser incidence of unpleasant events. From the

Kyrgyz Republic, Moldova, Tajikistan, and Uzbekistan; middle-income CIS region: Belarus, Kazakhstan, Russia, and Ukraine.

³ Positive and negative emotions are often associated with various measures of facial expressions (Ito and Cacioppo, 1999).

⁴ See Clark et al. (2007) for a comprehensive discussion on the findings on relative income.

retrospective section of LiTS data, which asks individuals about past events between 1989 and 2006⁵, we find evidence that adaptability is lower for negative events such as economic distress or labor market shock. Moreover, unpleasant events in the most recent past, in our case these are events which took place between 2000 and 2006, have higher impacts. This supports peak/end rule phenomenon suggested by Kahneman and Thaler (2005). Third, we find significant evidence that reluctant respondents on average are less satisfied with their lives. Reported life satisfaction is lower if the emotional state is negative during interview. We analyze this in greater detail in section 3.

Social capital such as trust, participation in civic groups and financial stability are associated with higher satisfaction. Finally, we find significant regional variation in reported life-satisfaction across European, Balkan, lower and middle income Commonwealth of independent states (CIS). This shows the significance of Soviet legacy and variation in reform trajectories since transition. We also find nuanced stories about life satisfaction separately for European countries, Balkan countries, low income and middle income CIS.

The rest of the paper is organized as follows. In section 2 we briefly discuss methodological issues of estimating a subjective well-being function. In section 3 we introduce our main arguments based on illustrative summary statistics and graphs. Section 4 discusses empirical model and key findings. In section 5 we provide a number of sensitivity analysis validating empirical outcomes. This is followed by a concluding discussion at the end.

2. Methodology

The analysis of life-satisfaction (or happiness) in mainstream economics relates to the maximization of the utility function even though there is mixed evidence that happiness is sufficiently measured by happiness (Clark, et al 2008). That said, the relevance of

⁵ Detail method of our calculation is given later, in section 3

relative income in the maximization of both utility and life-satisfaction have reached sufficient consensus among researchers. In a recent study, Clark et al (2008) provides a comprehensive review of how the concept of relative income connects life-satisfaction with economic issues such as taxation, consumption, savings, growth, labor supply, wage profile and migration. As a starting point, consider a simple life-satisfaction function with standard properties of any utility function:

$$(1) L_t = L(y_t, y_t / y_t^*, \Omega)$$

Where $L(.)$ is the life-satisfaction function which is influenced by own income (y_t), relative income (y_t / y_t^*) and other associated factors (Ω). The standard empirical application of equation 1 is a log-linear function as shown in equation 2.

$$(2) L_t = \beta_1 \ln(y_t) + \beta_2 \ln(y_t / y_t^*) + \Omega' \delta$$

In our analysis we have 27 transition countries with 1000 individuals from each. To estimate individual life-satisfaction equation, we measure individual consumption level (which is a proxy for income here) relative to PSU, region, country and supracountry level. Thus our comparison or reference groups are defined at four geographical levels. Therefore, in order to control for level fixed effects (Di Tella et al., 2003), we can re-write equation (2) as,

$$(3) L_{ijkt} = \beta_1 \ln(y_{ijkt}) + \beta_2 \ln(y_{ijkt} / y_{jkt}^*) + \beta_3 \ln(y_{ijkt} / y_{kt}^*) + \Omega' \delta$$

In equation 3 L_{ijkt} represents life satisfaction of individual i , in PSU/region j , in country/supracountry k , at time t . Here we have two relative income terms showing individual income relative to PSU/region and country/supracountry level. Next we add components of context, such as retrospective events and current emotional state of an individual.

$$(4) L_{ijkt} = \beta_1 \ln(y_{ijkt}) + \beta_2 \ln(y_{ijkt} / y_{jkt}^*) + \beta_3 \ln(y_{ijkt} / y_{kt}^*) + \sum_{s=1}^n \alpha_s R_{t-s} + \theta E_{ijkt} + Z' \delta$$

In equation 4, $\sum_{s=1}^n \alpha_s R_{t-s}$ is included as an index of retrospective events, such as labor shock, marriage, economic distress, and so on, which an individual experienced in a particular year from 1989 to 2006, while E_{ijkt} is a measure of current emotional state. Finally, Z includes a set of demographic, human capital, social capital and other variables measuring values and attitudes at an individual level.

We estimate equation 4 using an ordered probit model, which is standard in the literature⁶. There are some caveats with life-satisfaction estimation⁷. Here we explain how we address these identification problems and measurement errors in our estimation. We start with the identification of reference group. Life in transition survey does not ask for respondent's opinion for a suitable reference group (Melenberg, 1992; Knight and Song, 2006). We define reference group at various geographic levels. In addition we use information about ranking in the ladder of life as a proxy for relative position in the country.

We use a number of past events which are documented only once a year. One year window for an event seems too imprecise to judge adaptation in the long period, especially compared to laboratory experiments. Despite the fact that precise observation of the timing of any event is not feasible to do in a laboratory for a sufficiently longer period of time, a window lower than a year would certainly provide a better estimate of life satisfaction. As a robustness check we examine various time frames since transition separately in the regression, and group similar events (e.g., closely related events to labor shock, like losing job, getting unemployment benefit, etc) to trace certain type of events more consistently.

⁶ Log linear specification has received some criticisms which could be overcome with panel estimation (Frey and Stutzer, 2002). LiTS is available only for 2006, so we do not have much choice on this.

⁷ In a recent study Clark et al (2007) nicely summarizes potential problems associated with life-satisfaction estimation

Consumption could be a better measure of life satisfaction than income, since income gives a biased estimate of subjective well-being especially if we include individuals from different age groups (Clark, et al. (2008). But it is difficult to control for the measurement error associated with reported consumption level. We use monthly household consumption level as a proxy for own income. It could generate biased estimates if household size varies greatly. To avoid this we use per capita monthly household consumption for the estimation of life satisfaction.

We had to deal with missing observations as well. In a number of events in the retrospective section we have missing observations. As documented by LiTS these could be either zero (no event took place) or the reluctance to answer. We replace these missing observations with zero. In section 5, we include certain tests to verify that these missing observations as zero events do not account for any bias in the estimation. We examine these missing observations by country and other observable characteristics and find these to be random.

Also, these countries vary a lot in terms of population and physical area. The LiTS draws a nationally represented sample of 1000 people from each country. Since the Life in Transition Survey sample is unbalanced across PSUs, it requires a final weighting adjustment procedure to provide estimates at the national level. As a standard procedure we use PSU level weights for precise estimates at the national level.

3. Data and descriptive evidence

We use Life in Transition Survey (LITS) data of 2006, a joint initiative of the European Bank for Reconstruction and Development (EBRD) and the World Bank, covering 27 countries⁸ in Eastern European and Central Asia region further subdivided into European,

⁸ List of countries from different sub region, EU (Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia), Balkan (Albania, Bosnia, Croatia, FYR Macedonia, Montenegro, Serbia), CIS low income (Armenia, Azerbaijan, Georgia, Kyrgyzstan, Moldova, Tajikistan, Uzbekistan) and CIS middle income (Belarus, Kazakhstan, Russia, Ukraine)

Balkan countries, low-income Commonwealth of Independent States and middle-income Commonwealth of Independent States regions. The survey questionnaire was administered to a nationally representative sample of 1000 persons within each country. After collecting some basic household-level information, one person aged 18 years or older was selected at random within each household to answer detailed questions on education and labor, current activities, and attitudes and values. There is also a retrospective section where respondents answered some objective questions regarding their general life events, economic condition, nature of work and migration.

In this section we provide some descriptive evidence on the overall satisfaction with life for people in these transition countries. In figure 3.1, a fractional polynomial curve plots the share of each nationally representative population who agrees or strongly agrees with the statement “All things considered, I am satisfied with my life now” against the per capita GNI of the respective countries. The degree of fit in fractional polynomial projection is 0.48 as opposed to the linear projection of 0.1. This U shaped curve replicates other findings about the relationship between income and happiness (Easterlin, 1974).

[Figure 3.1 is about here]

The LiTS questionnaire asks “What would be the minimum amount of money that this household would need to make ends meet at the end of each month?” We use this information as a proxy for household income level, a standard method in the literature (Blanchflower, et al., 2004; Luttmer, 2005). We replicate the above graph (figure 3.1) replacing per capita GNI with average monthly household consumption expenditure. This is shown as Figure 3.2, which yields a similar U-shaped relationship (with a 0.26 degree of fit) showing richer or poorer countries have higher share of people with life satisfaction. In both of these graphs we find countries from EU region on the north-east corner (rich countries) and countries from low-income Commonwealth of Independent

States in the north-west corner (poor countries)⁹. In figure 3.2a we show distribution of respondents in various life-satisfaction categories within consumption deciles. Almost 26 percent agree that they are satisfied with life in the lowest consumption group as opposed to almost 44 percent in the uppermost consumption group.

[Figure 3.2 is about here]

Next, we construct three income groups based on the level of monthly household consumption expenditure: rich (the top 33%), middle (middle 33%) and poor (bottom 33%). We do a mean test to see if average satisfaction with life in the top 33% (rich) is significantly higher than average satisfaction with life in the bottom 33% (poor) in the same country. The mean difference of overall satisfaction with life between poor and rich group is significant at 5 percent level or lower in all countries except in Uzbekistan. This is shown in Figure 3.3. It is interesting to note that the percentage point difference between these two vary from 2.8 % (in Moldova) to 34.6 % (in Kazakhstan).

[Figure 3.2a is about here]

Respondents were asked “Please imagine a ten-step ladder where on the bottom, the first step, stand the poorest people and on the highest step, the tenth, stand the richest. On which step of the ten is your household today?” We compare average outcomes on this ten-step ladder with average outcomes on satisfaction with life for each country. This is shown in Figure 3.4. The correlation between these two subjective outcomes varies from 0.3 to 0.4 for most of these countries and is statistically significant at 1 percent. The highest correlation is found in Former Yugoslav Republic of Macedonia (0.52) and the lowest is found in Belarus (0.26).

[Figure 3.3 is about here]

⁹ Helliwell (2002) reports that life satisfaction in Former Soviet Union (FSU) is lower in 1990s than Eastern Europe countries. It started even lower than FSU, but improved significantly.

These subjective outcomes are somewhat consistent. Research on happiness over decades has shown that both absolute and relative positions matter for one's satisfaction with life. There is ample empirical evidence that relative position matters more, but it is hard to generalize this proposition on individual satisfaction question. Thus it becomes difficult to put exact weights on these two factors. In this case relative position is directly asked in ranking on the ladder question. So one could expect the weight for relative position is higher in the ranking question. A moderate positive correlation between these two factors indicates the co-existence and significance of both absolute and relative positions in satisfaction with life.

[Figure 3.4 is about here]

We now turn to historical life events. In a series experimental research retrospective evaluations of life events was found to play an important role in one's satisfaction with life. Kahneman and Thaler (2005) provide a review of adaptation and learning from the past in subjective judgment. As mentioned by Stone et al (1997), evaluations of the past are anchored on the individual's emotion when the evaluation is made. To them people must sometimes predict the hedonic effect of a long-term change in life circumstances.

Life in Transition Survey has a retrospective section where respondents were asked in which year(s), starting from 1989 until 2006, the transition has affected their work trajectory and life in general. The answers were binary - that is, yes or no, if someone experienced any life events (marriage, divorce, etc) or job events (worked, received unemployment benefits, etc) or economic distress (cut down on food consumption, etc). We grouped these variables into five categories, which are, life cycle events, labor market shocks, general economic distress, mobility intention and migration spanning over 18 years (1989 to 2006). In table 3.1 we show summary outcomes of these historical events under each broad group. On average mobility intention is found to be the most frequent event in life since transition for them.

[Table 3.1 is about here]

There is debate in the literature on the importance of persistence of certain types of retrospective events on current emotional state. Kahneman and Krueger (2005) document how life events, such as marriage and bereavement, have substantial effects on happiness and life satisfaction, but these effects are mainly temporary. On the other hand, Easterlin (2003) has argued that people adapt to income, but not to marriage. In another study Lucas et al (2004) find that, the effects of unemployment and chronic pain do not seem to attenuate fully with time. In figure 3.5 we plot the correlation between history of life cycle events from 1989 to 2006 and reported life satisfaction for each year. There is not much difference in the average life cycle experience of respondents until 2001. However, in the last five years we find that higher life satisfaction is positively correlated with events like marriage, having a child, etc. This indicates short run effects of life cycle events on life satisfaction.

[Figure 3.5 is about here]

In figure 3.6 we plot correlation between life satisfaction and labor market shock experienced by respondents over time. Prior to the transition most of these countries had mandatory labor force participation for all. Transition to a market economy disrupted this system favoring those with market friendly skills and entrepreneurial talent. Some of those left behind due to lack of these skills would surely be dissatisfied with their lives. Figure 3.6 reveals a different picture. The difference in the average experience of labor shock, between those who are satisfied with life and those who are not, has always been 5 to 7 percentage points. Thus regardless of how far back they happen, negative experiences in the labor market such as accepting wage cuts or being unemployed have a tendency to persist for long periods and to lead to low satisfaction with life.

[Figure 3.6 is about here]

Negative labor market experience was just one of many examples of general economic distress experienced by individuals during the transition period. We find evidence of the

latter via people turning to relatives for financial assistance, selling some of their household assets for consumption purpose, and cutting down on basic consumption. In figure 3.7 we plot the correlation between life satisfaction and retrospective experience of general economic distress over time. We find the pattern of life satisfaction in the face of economic distress to be similar to what we find when we examined the connection with labor market shocks. These experiences appear to linger for a long time period and unlike the connection we saw with labor market shocks, the disparity in the frequency of average retrospective experience between satisfaction categories are higher. The average percent of respondents who experienced these negative experiences is twice as much for those who are very dissatisfied with life compared to ones who are very happy with life.

[Figure 3.7 is about here]

We find evidence that negative events such as labor market shocks or economic distress persist longer in lived experiences compared to life cycle events such as marriage or having a child. This supports findings by Lucas et al (2005). We also find that irrespective of the nature of events (positive or negative), events that are experienced in the recent past have bigger impact on life satisfaction than the ones experienced further in time. This is similar to what Kahneman and Thaler (2005) called peak/end rule: a simple average of quality of the experience at its most extreme moment and at its end predicts retrospective evaluations with substantial accuracy.

Aside from having a dramatic impact on the well being of individuals, the transition magnified some initial differences across countries in terms of socio-economic and political attributes. The most obvious is diverging income levels. Figure 3.8 shows the average and standard deviation of monthly consumption levels, which, not surprisingly, varies significantly across these countries (e.g. Slovenia has \$1121.71 as compared to Uzbekistan's \$195.38). The variation is significant within countries, too. The standard deviation of monthly household consumption expenditure is as low as \$97.8 in Tajikistan and as high as \$ 881.1 in Latvia. As we move from poorer to richer countries, the standard deviation of consumption expenditure, a crude measure of inequality, increases.

[Figure 3.8 is about here]

This raises questions of consistency of responses when comparing subjective well being across these countries. It is possible, for example, that an answer of 4 on the life satisfaction scale for a person in Hungary, could be equivalent to an answer of 5 on the same scale for another person in Uzbekistan (see a similar example in Kahneman and Krueger (2005)). This seriously undermines the validity of any cross country correlation outcome and requires some consistency checks. As a first step we build an unpleasant index similar to “U” index by Kahneman and Krueger (2005). Kahneman and Krueger (2005) proposed this index based on the fraction of time that is spent in an unpleasant state.

[Figure 3.9 is about here]

We calculate the unpleasant index as the fraction of years at least one negative event is experienced from 1989 to 2006. In this case pleasant and unpleasant events are not mutually exclusive. Thus years in which one experiences an unpleasant event do not exclude the possibility of a pleasant event, since events are documented once a year. In figure 3.9 we compare the unpleasant index for labor shock in four major regions: EU, Balkan, CIS low income and CIS middle income. The average unpleasant index of labor shock is higher for those who reported lower life-satisfaction except in the CIS low-income region. In the CIS middle-income region (Belarus, Kazakhstan, Russia and Ukraine), the average unpleasant index is twice as much for those who reported lower life-satisfaction than higher.

[Figure 3.10 is about here]

In figure 3.10 we compare the unpleasant index for general economic distress across these regions. We find results similar to the labor market shocks. Respondents who reported higher life satisfaction tend to have a lower unpleasant index for economic

distress in all regions. These examples illustrate the consistency of individuals' psychological evaluation of any event in the past. Unlike monthly consumption expenditure level, we find almost similar typologies of life-satisfaction based on events in the past. This leads us to examine attitude and values further, which we show in Table 3.2.

[Table 3.2 is about here]

As noted by Kahneman and Krueger (2006), the validity of subjective measures of well-being can be assessed, in part, by considering the pattern of their correlations with other characteristics of individuals and their ability to predict future outcomes. Global life satisfaction questions have been found to correlate well with a variety of relevant measures. We find similar evidence from LiTS data. Among other characteristics, reported higher life satisfaction strongly correlated with “household lives better nowadays than around 1989” (0.56) and “satisfied with the present state of the economy” (0.52). Other attitudes and values like doing better than parents (0.38), high school classmates (0.45) or colleagues (0.44) are also moderately correlated with reported life satisfaction, which evaluates one's relative position.

[Table 3.3 is about here]

As we noted earlier, financial stability matters a lot for life-satisfaction. But how significant are psychological factors like temperament, mood or conduct during the interview? According to some, these factors account for much more of the variance in life satisfaction than life circumstances (see review in Kahneman and Krueger (2006)). In table 3.3 we show the correlation of reported values and attitudes with answers to “Did you feel that the respondent was reluctant to answer any questions?” and “How often did the respondent have difficulties answering questions?” Both of these variables are recoded on a scale (1 = never had any difficulty, 2 = almost never had / now and then had some difficulty and 3 = usually had difficulties). A negative correlation with subjective well being would mean life satisfaction is lower for someone showing reluctance or

difficulties in answering questions. The correlation coefficient is negative and significant in most of the cases. Reported life satisfaction has -0.05 correlations with both of these.

4. Empirical outcomes

The estimated coefficients and standard errors from ordered probit regressions are given in Table 4.1. The coefficients of own income are positive throughout. The signs on relative income are negative and significant at all reference levels except at supracountry. Thus reported life satisfaction increases with own income and decreases with median income of any reference group. Taking relative income with respect to all reference groups together, only median income at region and country level remains negative and significant.

[Table 4.1 is about here]

The retrospective or historical events we use in the regression are obtained as total number of years one experienced any particular event. We then group these experiences into three time periods: 1989 to 1994, 1995 to 2000 and 2001 to 2006. Among historical events labor shock is negative and significant with reported life satisfaction in two recent periods. Economic distress has a negative sign but significant only in the most recent period, 2001-2006. We use categorical dummy variables (1 as never to 3 as usually) for reluctance and difficulties to measure current emotional state of respondents during the interview as documented by the interviewer. A negative and significant coefficient for reluctance indicates reported life satisfaction is lower for respondents who were more reluctant to answer. Difficulty in answering has a positive but statistically insignificant coefficient.

We included a number of objective responses (yes = 1, no = 0) on attitudes and values about life. Reported life satisfaction is higher if someone has done better than classmates, better than parents, better than colleagues, prefer democracy and market economy. A

number of variables on individual financial status are also included in the regressions. Respondents with a bank account and who could spend more on entertainment reported higher life satisfaction. On the other hand more health expenditures makes one unhappy, perhaps because it is a sign of poor health. Our findings confirm that health is a strong indicator of life satisfaction. Reported life satisfaction is higher with good health and lower with bad health, both outcomes being statistically significant.

[Table 4.2 is about here]

We control for demographic and other important socioeconomic factors. Higher education is associated with higher life satisfaction. Women and older people on average have lower satisfaction with life. A bigger home with more children is associated with higher life satisfaction. Membership in a political group is associated with lower life satisfaction but membership in a civic organization has the opposite outcome. Moreover, respondents who think most people could be trusted reported higher life satisfaction.

We find interesting sub-regional differences across Europe and Central Asia. In table 4.2 we show estimates for countries from European and Balkan regions. We find a positive coefficient for relative income for both regions. Thus higher median income from any reference group is positive with reported life satisfaction. This is opposite to what we find in the full sample of all 27 countries. The rest of the results are more or less what we find in the full sample. In the EU reported life satisfaction is positive with life cycle events experienced in the earliest period after transition, i.e., 1989 to 1994 whereas the same is true for Balkan countries for the most recent period: 2001 to 2006. Our findings confirm earlier work by Hayo and Seifert (2003) on 10 Eastern European countries from 1991 to 1995. We find similar positive effect of education and negative effect of unemployment on life-satisfaction. Estimates from CIS middle income countries are similar to those from European and Balkan region. This is given in table 4.3.

[Table 4.3 is about here]

Estimates from CIS low income countries are different from the rest for some variables. For instance, life satisfaction is higher for those who are members of the communist party. A difficulty in answering questions during the interview is associated with lower life satisfaction. Also the coefficients of relative income are higher and significant for CIS low income countries. This indicates that the negative correlation between reference group's income and the reported life satisfaction is more significant in CIS low income countries compared to other regions. Surprisingly, labor shocks in the most recent period are associated with higher reported life satisfaction.

5. Sensitivity analysis

In this section we reexamine our empirical findings by addressing issues related to specification of the model, and measurement and identification of certain variables. Some studies claim that the effect of relative income differs between rich and poor (Veenhoven, 1991). Empirical outcomes shown in table 4.1 and 4.2 assume that relative income has equal effect on life satisfaction at different income level. We estimate life satisfaction separately for three income groups: rich, middle and poor. We perform Wald statistics to check if there exists any structural change between different income groups. The significant Wald statistic indicates there is structural change between these groups. In table 5.1 we compare coefficients of relative income between income groups. For the average person, income relative to median in the country produces stronger dissatisfaction than income relative to one's locality (PSU level), excluding the comparison at the supracountry level¹⁰.

[Table 5.1 is about here]

¹⁰ Supracountry reference group might have some bias from its definition since inequality across countries in any supracountry group is presumably lower than the inequality within any particular country in that group

This implies that the median consumption level within the PSU cluster weakly decreases life satisfaction compared to regional and country median consumption (Kingdon and Knight, 2004) but increases when compared at the supracountry cluster. This stronger negative spillover effect on life satisfaction at the country level supports the social distance argument (Akerlof, 1997). At the PSU level individuals might enjoy lower social distance which encourages risk sharing, increases trust in each other and mutual insurance. We find support that relative income effect varies across income groups but controlling for them does not change the main outcomes.

Next we estimate an alternative specification of our life satisfaction equation (in section 3). We can rewrite equation 2 as 2a (as shown below). We have so far estimated equation 2'. We used log of consumption of a reference group as relative income in our regression¹¹. Now we use the log of consumption ratio as shown in equation 2. This ratio directly captures the relative position compared to a reference group, so that we would expect the higher the position the higher life satisfaction – that is, the coefficient would be positive. As a robustness check, we use rank on the ladder of life as an alternative measure of this relative position. On a ten step ladder, respondents were asked to rank their household from poorest (step one) to richest (step ten). We use log of this ranking in the regression.

$$(2) L_t = \beta_1 \ln(y_t) + \beta_2 \ln(y_t / y_t^*) + \Omega' \delta$$

$$\Rightarrow (2a) L_t = \beta_1 \ln(y_t) + \beta_2 \ln(y_t) - \beta_2 \ln(y_t^*) + \Omega' \delta$$

$$\Rightarrow (2') L_t = [\beta_1 + \beta_2] \ln(y_t) + [-\beta_2] \ln(y_t^*) + \Omega' \delta$$

In table 5.2 we show estimated coefficients of equation 2. The outcomes conform to our earlier findings. Only the coefficient of relative income is positive and significant. This is due to the fact that relative income now is measured as a ratio of consumption levels. We find a similar outcome when reported rank on the ladder of life measures relative

¹¹ This has been a common practice in the literature (Luttmer, 2005 ; Shilpi et al, 2005 etc)

position. Outcomes are positive and statistically significant. Thus we have robust findings across different specifications.

[Table 5.2 is about here]

During fieldwork a number of political, social and other events took place that would affect the mood and the feeling of individuals when judging their life-satisfaction. As documented in the brief report¹² on Life in Transition Survey (2006) the timing of the fieldwork coincided with the holy month of Ramadan. This could be a source of exogenous bias in countries with Muslim majorities. In Table 5.3 we show seven countries, where more than 50 percent of the nationally representative sample population is Muslim (figures are given in the second column)¹³. In two other columns we show percent of respondents being reluctant to answer any question and who had difficulties in answering questions respectively. In all countries except in Albania, more than 50 percent of the respondents did not show any reluctance responding to the questions. Also according to interviewer's subjective evaluation, on average 44.5 percent of the respondents in Muslim majority countries never had difficulties in answering questions compared to 47.1 percent from other countries.

[Table 5.3 is about here]

The fraction of the population reporting satisfied with life varies substantially among these countries, from 27.6 percent in Azerbaijan to 72.6 percent in Uzbekistan. We also look at the correlation between reported life-satisfaction and reluctance and difficulties in answering questions during interview. Correlation coefficient (given within brackets) indicates negative relation in all cases except in Kazakhstan where reluctance and life-satisfaction are positively correlated. Apparently we do not have any systematic bias generated by the incident of Ramadan since outcomes in Muslim majority countries are similar to those of non-Muslim majority countries.

¹² <http://www.ebrd.com/pubs/econo/litsrepo.pdf>

¹³ In LiTS, 22.7 percent of the total respondents were Muslim

[Table 5.4 is about here]

Some of the other significant events are mentioned in table 5.4. During the survey period Bulgaria and Romania's accession to EU was confirmed. This might affect their current emotional state or overall satisfaction with life. We do not find any systematic evidence of this fact on reported life satisfaction. Alternatively, one could compare the reported life satisfaction before and after the confirmation of EU accession. This is not feasible in this study, since we have a single cross-section data.

[Table 5.5 is about here]

In table 5.5 we show country specific estimated coefficients for some selected countries listed in table 5.4. The sign of the coefficients conform to overall findings except in a few cases. Membership in a political group has a negative and significant coefficient in Belarus. It could be an outcome of negative reaction against the government for economic crimes and breaching labor legislations. Both in Bulgaria and Romania trust is positive and significant, but relative income has a positive sign for Romania. In Hungary, during the survey one of the biggest riots in the country's post-Soviet history took place. We find a negative and significant coefficient on membership in civic groups and reluctance to respond to questions.

It is documented in the LiTS report that 8,881 potential respondents refused to participate in the survey, which is almost 30 percent of total sample size of 29,000 respondents, so it is possible for expect this to affect the estimates. The most common reason for refusal to participate in the study was dislike of being interviewed (38 percent), followed by lack of time or consideration that the interview would take too long to complete (23 percent), and lack of interest in the topic of the survey (20 percent). Other reasons attributed include concerns around confidentiality of results, distrust of foreign institutions and a preference to self-complete such questionnaires.

Since we do not have any demographic or socio-economic profile of those who refused to participate in the survey it is difficult to say whether this phenomenon is related to life satisfaction of those who answered. As documented in the LiTS report, the highest refusal rates occurred in those countries which have most exposure to public opinion polling on a regular basis, such as Lithuania, Croatia, Latvia, Hungary, Poland and Slovenia. We control for these countries using a binary variable, but coefficient remains insignificant.

6. Conclusion

Despite the huge growth of happiness or life-satisfaction literature especially since 2000, evidence of the experiences of transition countries is limited to a small group of countries. This study certainly bridges this gap by considering a representative sample population of all transition countries.

Our findings confirm some standard findings in the literature. For example, they support existing evidence of higher life satisfaction with lower social distance, younger population, higher education, higher expectations, values and attitude about life, financial stability, and better health. However, some of our results add new nuances to the literature. We find the strongest negative effect of relative income on life satisfaction when the reference income is the median income at the country level. Moreover, we show that past events related to economic distress or labor shock lower life satisfaction and persist for a long time. Apart from historical events, we also control for current emotional state as inferred by a third party observant and demonstrate that current emotional state matters as average reported satisfaction is lower for those who were reluctant to answer during the interview. We also note that the effect of relative income on life satisfaction varies across income groups, with the poorest group exhibiting the strongest negative association. Finally, we provide evidence of sub-regional variation within the 27 transition countries. Additional sensitivity analysis did not change the key findings. The results on the links between relative income and life satisfaction remain consistent under

different model specifications. Furthermore, we did not find any systematic bias generated from any major event that took place during the survey.

The usefulness of subjective well-being data to understand numerous public policy debates is becoming increasingly recognized in the literature. As Clark et al (2008) mention, “the analysis of subjective well-being data provides a valuable alternative, but complementary, approach to a revealed preference framework that dominates the discipline of economics”. In the context of this analysis, the revealed policy preferences would imply desire for lower social inequality and the need to provide protection from shocks.

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Appendix

Figure 3.1 Per capita GNP and population share being satisfied or very satisfied with life, non-linear fit

Source: Life in Transition Survey data (Authors' own calculation)

Figure 3.2: Average monthly consumption expenditure and population share being satisfied or very satisfied with life, non-linear fit

Source: Life in Transition Survey data (Authors' own calculation)

Figure 3.2a Life-satisfaction and consumption deciles

Source: Life in Transition Survey data (Authors' own calculation)

Figure 3.3 Percentage of Poor and Rich satisfied with life, by region and country

Source: Life in Transition Survey data (Authors' own calculation)

Figure 3.4 Percentage Poor, Rich and population share being satisfied with life on a ten scale ladder of well-being

Source: Life in Transition Survey data (Authors' own calculation)

Table 3.1: Summary statistics on historical outcomes

Period	Variable	Average	Standard deviation	Min value	Max value
1989-1994	Life cycle events	0.64	1.02	0	10
	Labor market shocks	0.46	1.07	0	12
	General economic distress	1.04	2.55	0	17
	Mobility intention	2.90	2.76	0	12
	Migration	0.06	0.26	0	6
1995-2000	Life cycle events	0.61	0.90	0	9
	Labor market shocks	0.53	1.21	0	12
	General economic distress	1.49	3.15	0	21
	Mobility intention	2.47	2.67	0	12
	Migration	0.02	0.18	0	6
2001-2006	Life cycle events	0.40	0.95	0	9
	Labor market shocks	0.43	1.22	0	15
	General economic distress	1.47	3.14	0	20
	Mobility intention	2.33	2.74	0	12
	Migration	0.02	0.20	0	6

Notes: Historical outcomes are composed of following questions

Life cycle events	Labor market shocks	General economic distress	Mobility intention	Migration
Do your military service (all years)	Receive unemployment benefits	Turn to relatives for financial assistance	Work for wages (for an employer)	Move from urban to rural area
Get married (live in couple)	Have to do a job below your qualifications	Have to move in with relatives	Find a better job	Move from rural to urban area
Have a child (birth or adoption)	Have to accept wage cuts/arrears	Have to sell some of your household assets		
Divorce		Have to cut down on basic food consumption		
Officially retire				
Decided not to work				

Source: Life in Transition Survey data (Authors' own calculation)

Figure 3.5: Life-satisfaction and life cycle events

Source: Life in Transition Survey data (Authors' own calculation)

Figure 3.6: Life-satisfaction and labor market shocks

Source: Life in Transition Survey data (Authors' own calculation)

Figure 3.7: Life-satisfaction and economic distress

Source: Life in Transition Survey data (Authors' own calculation)

Figure 3.8 Monthly Consumption level, Mean and Standard Deviation

Source: Life in Transition Survey data (Authors' own calculation)

Figure 3.9 Unpleasant Index for labor shock

Source: Life in Transition Survey data (Authors' own calculation)

Figure 3.10 Unpleasant Index for economic distress

Source: Life in Transition Survey data (Authors' own calculation)

Table 3.2 Correlation between Satisfaction in life and other variables related to attitude and values

	All things considered, I am satisfied with my life
The economic situation in this country is better today than around 1989.	0.4275*
The political situation in this country is better today than around 1989	0.3764*
I have done better in life than most of my high school classmates	0.4462*
I have done better in life than most of my colleagues I had around 1989	0.4372*
I have done better in life than my parents	0.3765*
My household lives better nowadays than around 1989	0.5568*
Children who are born now will have a better life than my generation	0.4156*
On the whole, I am satisfied with the present state of the economy	0.5223*
The gap between the rich and the poor today in this country should be reduced	-0.0413*
There is less corruption now than around 1989	0.2053*

Source: Life in Transition Survey data (Authors' own calculation)

Table 3.3 Correlation between variables related to attitude and values and reluctance and difficulty while being interviewed

	Reluctance	Difficulty
The economic situation in this country is better today than around 1989.	-0.0347*	-0.0259*
The political situation in this country is better today than around 1989	-0.0147*	-0.004
I have done better in life than most of my high school classmates	-0.0456*	-0.0572*
I have done better in life than most of my colleagues I had around 1989	-0.0383*	-0.0521*
I have done better in life than my parents	-0.0161*	-0.0245*
My household lives better nowadays than around 1989	-0.0235*	-0.0309*
All things considered, I am satisfied with my life now	-0.0492*	-0.0455*
Children who are born now will have a better life than my generation	-0.0078	-0.0062
On the whole, I am satisfied with the present state of the economy	-0.0165*	-0.0073
The gap between the rich and the poor today in this country should be reduced	-0.0225*	0.0006
There is less corruption now than around 1989	-0.0019	0

Source: Life in Transition Survey data (Authors' own calculation)

Table 4.1: Life Satisfaction in Transition, full sample

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	PSU	Region	Country	Country group	All	Retrospective	Retrospective & All
Log (Per capita cons exp)	0.052**	0.063**	0.059**	0.025	0.061**	0.012	0.054**
Log (Spent on entertainment)	0.070*	0.069*	0.067*	0.069*	0.067*	0.066*	0.063*
Log (Spent on health)	-0.007	-0.008	-0.008	-0.007	-0.01	-0.007	-0.01
Holds bank account	0.193*	0.193*	0.194*	0.193*	0.180*	0.163*	0.156*
Log (age)	-0.092	-0.095	-0.091	-0.091	-0.1	-0.074	-0.08
Secondary education	0.026	0.022	0.022	0.028	0.025	0.055	0.05
Higher education	0.052	0.048	0.048	0.052	0.052	0.075***	0.072***
Worked in last year	0.031	0.03	0.027	0.031	0.027	0.106**	0.096***
Gender	-0.018	-0.019	-0.018	-0.02	-0.018	-0.01	-0.01
Owns a home	0.057	0.053	0.052	0.055	0.057	0.028	0.028
Good health	0.171*	0.169*	0.171*	0.174*	0.162*	0.137*	0.128*
Bad health	-0.306*	-0.302*	-0.302*	-0.306*	-0.297*	-0.298*	-0.290*
Ethnicity	0.008	0.001	0.003	0.007	-0.001	0.017	0.008
Household size	0.027	0.026	0.026	0.023	0.031	0.018	0.024
Number of children	0.041**	0.039**	0.038**	0.041**	0.039**	0.047**	0.043**
Trust	0.238*	0.236*	0.238*	0.236*	0.237*	0.234*	0.236*
Did better than classmates	0.070*	0.070*	0.070*	0.070*	0.070*	0.069*	0.069*
Did better than parents	0.192*	0.192*	0.193*	0.193*	0.191*	0.190*	0.189*
Did better than colleagues	0.068*	0.068*	0.068*	0.069*	0.069*	0.066*	0.066*
Prefer democracy	0.072***	0.071***	0.068***	0.073***	0.070***	0.074***	0.070***
Prefer market	0.146*	0.146*	0.145*	0.148*	0.146*	0.138*	0.137*
Member of civic society	0.136	0.135	0.135	0.138	0.127	0.121	0.114
Member of communist party	-0.055	-0.054	-0.055	-0.058	-0.053	-0.048	-0.043
Member of political party	-0.232*	-0.234*	-0.233*	-0.234*	-0.230*	-0.222*	-0.220*
Muslim	0.334*	0.270*	0.259*	0.361*	0.258*	0.362*	0.232*
Christian	0.094***	0.086	0.084	0.097***	0.076	0.071	0.05
Live in metropolitan	-0.076	-0.091	-0.125**	-0.102***	-0.116***	-0.112***	-0.135**
Live in rural area	-0.075	-0.064	-0.065	-0.062	-0.056	-0.053	-0.048
Reluctant to answer	-0.111*	-0.112*	-0.113*	-0.114*	-0.115*	-0.122*	-0.122*
Difficulty to answer	0.027	0.031	0.03	0.023	0.034	0.026	0.037
Comparison group (PSU)	-0.087**				0.048		0.052
Comparison group (Region)		-0.151*			-0.134		-0.125
Comparison group (Country)			-0.160*		-0.206***		-0.206***
Comparison group (Country group)				-0.055	0.243*		0.213*
Life cycle: 1989-1994						0	-0.001
Life cycle: 1995-2000						0	-0.001
Life cycle: 2001-2006						0.018	0.021
Labor market shock: 1989-1994						0.003	0.003
Labor market shock: 1995-2000						-0.028**	-0.026***
Labor market shock: 2001-2006						-0.026**	-0.029**
Economic distress: 1989-1994						0.013	0.015
Economic distress: 1995-2000						-0.014	-0.013
Economic distress: 2001-2006						-0.031*	-0.031*
Worked : 1989-1994						-0.009	-0.009
Worked: 1995-2000						0.005	0.004
Worked: 2001-2006						-0.008	-0.007
Migration: 1989-1994						0.064	0.077
Migration: 1995-2000						-0.13	-0.131
Migration: 2001-2006						0.028	0.026
/cut1	-0.561	-1.060**	-1.165**	-0.527	-0.246	-0.227	-0.507
/cut2	0.399	-0.098	-0.203	0.434	0.718	0.746***	0.469
/cut3	1.145**	0.648	0.543	1.179**	1.465*	1.498*	1.224*
/cut4	2.521*	2.025*	1.920*	2.554*	2.843*	2.884*	2.611*
Observations	26,230	26,230	26,230	26,230	26,230	26,230	26,230

note: * p<0.01, ** p<0.05, *** p<0.1

Source: Life in Transition Survey data (Authors' own calculation)

Table 4.2 Life Satisfaction in Transition, EU and Balkan

	European Union				Balkan region			
	PSU	Region	Country	Retrospective & All	PSU	Region	Country	Retrospective & All
Log (Per capita cons exp)	0.062***	0.055	0.06	0.056	0.051**	0.069*	0.073*	0.053**
Log (Spent on entertainment)	0.079*	0.078*	0.077*	0.074*	0.049*	0.048*	0.049*	0.049*
Log (Spent on health)	0.004	0.004	0.004	0.003	-0.006	-0.004	-0.004	-0.006
Holds bank account	0.329*	0.320*	0.303*	0.310*	0.249*	0.240*	0.244*	0.240*
Log (age)	0.100***	0.089	0.081	0.123***	0.159**	0.162**	0.167**	0.173**
Secondary education	-0.042	-0.042	-0.049	-0.024	0.037	0.041	0.04	0.047
Higher education	0.023	0.026	0.024	0.039	0.022	0.024	0.023	0.027
Worked in last year	-0.018	-0.017	-0.013	0.095	-0.046	-0.046	-0.046	0.036
Gender	-0.043	-0.044	-0.048	-0.049	0.094**	0.095*	0.095*	0.105*
Owens a home	0.053	0.062	0.064	0.054	0.069	0.067	0.061	0.067
Good health	0.298*	0.296*	0.293*	0.273*	0.205*	0.207*	0.209*	0.165*
Bad health	-0.120**	-0.121**	-0.121**	-0.128**	-0.349*	-0.352*	-0.357*	-0.325*
Ethnicity	0.01	0.008	0.018	0.021	-0.041	-0.06	-0.061	-0.036
Household size	0.073***	0.070***	0.076***	0.066	0.049	0.055***	0.056***	0.056***
Number of children	0.022	0.02	0.019	0.018	0.049**	0.050**	0.050**	0.051***
Trust	0.327*	0.327*	0.325*	0.324*	0.250*	0.255*	0.254*	0.262*
Did better than classmates	0.067*	0.067*	0.068*	0.066*	0.057*	0.057*	0.057*	0.055*
Did better than parents	0.213*	0.214*	0.214*	0.210*	0.173*	0.174*	0.174*	0.168*
Did better than colleagues	0.040*	0.039*	0.039*	0.034*	0.066*	0.067*	0.067*	0.067*
Prefer democracy	0.157*	0.153*	0.152*	0.155*	0.144*	0.145*	0.148*	0.128*
Prefer market	0.052	0.053	0.058	0.054	0.049	0.052	0.054	0.057
Member of civic society	0.025	0.021	0.006	0.015	0.049	0.043	0.04	0.053
Member of communist party	-0.08	-0.077	-0.077	-0.052	-0.170*	-0.167*	-0.168*	-0.157*
Member of political party	-0.042	-0.036	-0.034	-0.054	0	-0.002	-0.001	0.013
Muslim	-0.133	-0.105	-0.035	-0.066	0.074	0.074	0.073	0.055
Christian	-0.002	0.025	0.08	0.073	0.079	0.08	0.069	0.076
Live in metropolitan	-0.124**	-0.125**	-0.086	-0.075	-0.127	-0.138	-0.099	-0.13
Live in rural area	0.013	0.009	0.01	-0.004	-0.018	-0.04	-0.042	-0.038
Reluctant to answer	-0.043	-0.043	-0.045	-0.059	0	-0.005	-0.007	-0.005
Difficulty to answer	-0.008	-0.007	-0.01	0.003	0.024	0.027	0.025	0.036
Comparison group (PSU)	0.045			-0.035	0.125**			0.121***
Comparison group (Region)		0.147***		0.07		0.163		0.013
Comparison group (Country)			0.365*	0.326***			0.179	0.02
Life cycle: 1989-1994				0.039**				0.018
Life cycle: 1995-2000				-0.017				-0.019
Life cycle: 2001-2006				0.025				0.045***
Labor market shock: 1989-1994				-0.009				0.001
Labor market shock: 1995-2000				-0.014				-0.038**
Labor market shock: 2001-2006				-0.027***				-0.037**
Economic distress: 1989-1994				0.050*				-0.013
Economic distress: 1995-2000				-0.036**				0.030***
Economic distress: 2001-2006				-0.036*				-0.064*
Worked : 1989-1994				-0.025**				0.001
Worked: 1995-2000				0.007				-0.003
Worked: 2001-2006				-0.021				-0.013
Migration: 1989-1994				-0.022				0.148***
Migration: 1995-2000				-0.065				0.039
Migration: 2001-2006				0.014				0.058
/cut1	1.389***	2.183*	4.091*	4.037*	2.796*	3.311*	3.493*	3.038*
/cut2	2.344*	3.139*	5.048*	5.006*	3.601*	4.115*	4.297*	3.860*
/cut3	3.181*	3.977*	5.886*	5.855*	4.297*	4.812*	4.993*	4.567*
/cut4	4.613*	5.408*	7.319*	7.297*	5.562*	6.077*	6.258*	5.846*
Observations	9,842	9,842	9,842	9,842	5,729	5,729	5,729	5,729

note: * p<0.01, ** p<0.05, *** p<0.1

Source: Life in Transition Survey data (Authors' own calculation)

Table 4.3 Life Satisfaction in ECA, CIS low and CIS middle

	CIS low income				CIS middle income			
	PSU	Region	Country	Retrospective & All	PSU	Region	Country	Retrospective & All
Log (Per capita cons exp)	0.135*	0.150*	0.177*	0.147*	0.027	0.035	0.033	0.033
Log (Spent on entertainment)	0.074*	0.061*	0.048*	0.043**	0.057*	0.057*	0.053**	0.048**
Log (Spent on health)	-0.009	-0.015	-0.017	-0.016	-0.01	-0.011	-0.012	-0.011
Holds bank account	0.367*	0.329*	0.326*	0.288*	0.154**	0.145**	0.142**	0.122***
Log (age)	-0.089	-0.091	-0.092	-0.142**	-0.212***	-0.227**	-0.211***	-0.164
Secondary education	0.04	0.033	0.025	0.012	0.003	0.005	0.005	0.058
Higher education	0.011	0.012	0.016	0.005	0.041	0.043	0.042	0.079
Worked in last year	0.104**	0.079***	0.056	0.003	0	-0.002	-0.014	0.096
Gender	0.006	0.001	-0.004	0.007	-0.032	-0.038	-0.037	-0.027
Owns a home	0.208*	0.222*	0.217*	0.217*	0.025	0.035	0.025	-0.017
Good health	0.228*	0.215*	0.215*	0.206*	0.134**	0.129***	0.134**	0.095
Bad health	-0.425*	-0.409*	-0.397*	-0.341*	-0.352*	-0.341*	-0.343*	-0.345*
Ethnicity	0.088	0.061	0.071	0.058	0.059	0.035	0.039	0.05
Household size	0.054***	0.073**	0.088*	0.074**	0.015	0.015	0.016	0.025
Number of children	0.073*	0.068*	0.062*	0.040**	0.003	0.001	0.003	0.015
Trust	0.246*	0.249*	0.237*	0.224*	0.186*	0.173*	0.179*	0.158*
Did better than classmates	0.079*	0.083*	0.079*	0.074*	0.076*	0.074*	0.075*	0.074*
Did better than parents	0.208*	0.208*	0.205*	0.196*	0.176*	0.173*	0.175*	0.170*
Did better than colleagues	0.026***	0.029**	0.034**	0.038*	0.084*	0.084*	0.082*	0.081*
Prefer democracy	0.137*	0.110**	0.081***	0.064	0.022	0.029	0.025	0.032
Prefer market	0.106**	0.119**	0.132*	0.120**	0.214*	0.218*	0.217*	0.215*
Member of civic society	0.011	0.018	0.014	0.036	0.399	0.379	0.358	0.308
Member of communist party	0.022	0.025	0.032	0.03	-0.032	-0.029	-0.033	-0.019
Member of political party	-0.085	-0.066	-0.058	-0.044	-0.303**	-0.305**	-0.302**	-0.280***
Muslim	0.368**	0.340**	0.327**	0.316***	0.457*	0.370*	0.359**	0.288**
Christian	0.094	0.099	0.18	0.205	0.192**	0.201**	0.194**	0.166**
Live in metropolitan	0.094	0.221**	-0.024	-0.083	0.059	0.067	-0.009	-0.004
Live in rural area	-0.034	0.031	0.068	0.054	-0.148***	-0.118	-0.125	-0.087
Reluctant to answer	-0.086	-0.066	-0.06	-0.056	-0.135**	-0.135**	-0.139**	-0.145**
Difficulty to answer	-0.048	-0.045	-0.047	-0.041	0.013	0.02	0.016	0.018
Comparison group (PSU)	-0.460*			0.071	-0.119			0.06
Comparison group (Region)		-0.632*		0.067		-0.328*		-0.285**
Comparison group (Country)			-0.821*	-0.999*			-0.458*	-0.234
Life cycle: 1989-1994				0.021				-0.041
Life cycle: 1995-2000				0.027				0.007
Life cycle: 2001-2006				0.046*				0.009
Labor market shock: 1989-1994				0.048*				-0.003
Labor market shock: 1995-2000				-0.033***				-0.033***
Labor market shock: 2001-2006				0.01				-0.043**
Economic distress: 1989-1994				0.050*				0.012
Economic distress: 1995-2000				-0.045*				-0.009
Economic distress: 2001-2006				-0.034*				-0.030**
Worked : 1989-1994				0.007				-0.007
Worked: 1995-2000				0.007				0
Worked: 2001-2006				0.011				-0.007
Migration: 1989-1994				0.038				0.151
Migration: 1995-2000				-0.062				-0.199
Migration: 2001-2006				0.028				0.019
/cut1	-2.449*	-3.516*	-4.761*	-5.605*	-1.732	-3.554*	-4.698*	-4.641*
/cut2	-1.420**	-2.478*	-3.714*	-4.534*	-0.734	-2.552**	-3.696*	-3.619*
/cut3	-0.782	-1.833*	-3.062*	-3.867*	0.019	-1.796	-2.941**	-2.851**
/cut4	0.787	-0.251	-1.461**	-2.242*	1.375	-0.437	-1.585	-1.476
Observations	6,782	6,782	6,782	6,782	3,877	3,877	3,877	3,877

note: * p<0.01, ** p<0.05, *** p<0.1

Source: Life in Transition Survey data
(Authors' own calculation)

Table 5.1 Life-satisfaction and welfare level

Table 5.2 Life Satisfaction in ECA, alternative measures of the comparison group

	Comparison group: Consumption ratio			Comparison group: Ladder of Life		
	PSU	Country	Retrospective & All	PSU	Country	Retrospective & All
Log (Per capita cons exp)	-0.022	-0.057***	0.019	0.025	0.038***	0.028
Log (Spent on entertainment)	0.069*	0.066*	0.063*	0.059*	0.068*	0.056*
Log (Spent on health)	-0.007	-0.008	-0.01	-0.008	-0.008	-0.008
Holds bank account	0.192*	0.191*	0.153*	0.173*	0.187*	0.150*
Log (age)	-0.091	-0.088	-0.08	-0.102	-0.103	-0.088
Secondary education	0.027	0.025	0.051	0.014	0.03	0.04
Higher education	0.052	0.049	0.073***	0.046	0.058	0.068***
Worked in last year	0.03	0.026	0.097***	0.02	0.028	0.082***
Gender	-0.018	-0.019	-0.01	-0.025	-0.021	-0.017
Owens a home	0.057	0.052	0.029	0.047	0.05	0.018
Good health	0.171*	0.171*	0.127*	0.146*	0.159*	0.110*
Bad health	-0.305*	-0.301*	-0.289*	-0.291*	-0.300*	-0.282*
Ethnicity	0.007	0.001	0.007	-0.007	-0.003	-0.003
Household size	0.03	0.031	0.027	0.027	0.03	0.023
Number of children	0.042**	0.041**	0.044**	0.040**	0.037***	0.044**
Trust	0.237*	0.237*	0.236*	0.242*	0.238*	0.241*
Did better than classmates	0.070*	0.070*	0.069*	0.070*	0.069*	0.068*
Did better than parents	0.192*	0.192*	0.189*	0.189*	0.189*	0.186*
Did better than colleagues	0.068*	0.068*	0.066*	0.069*	0.070*	0.067*
Prefer democracy	0.073***	0.070***	0.070***	0.076**	0.065***	0.072***
Prefer market	0.146*	0.145*	0.137*	0.139*	0.142*	0.127*
Member of civic society	0.136	0.135	0.113	0.111	0.107	0.085
Member of communist party	-0.055	-0.056	-0.043	-0.056	-0.055	-0.046
Member of political party	-0.234*	-0.237*	-0.221*	-0.230*	-0.237*	-0.223*
Muslim	0.343*	0.298*	0.245*	0.338*	0.372*	0.316*
Christian	0.095***	0.088	0.05	0.084	0.112**	0.068
Live in metropolitan	-0.079	-0.120***	-0.132**	-0.146**	-0.120***	-0.167*
Live in rural area	-0.073	-0.062	-0.047	-0.048	-0.073	-0.049
Reluctant to answer	-0.112*	-0.114*	-0.122*	-0.118*	-0.128*	-0.131*
Difficulty to answer	0.026	0.028	0.037	0.019	0.026	0.025
Comparison group (PSU)	0.078**		-0.049	0.551*		0.497*
Comparison group (Region)			0.123			-0.023
Comparison group (Country)		0.120*	0.212***		0.740*	0.385**
Comparison group (Country group)			-0.248*			
Life cycle: 1989-1994			-0.001			0.001
Life cycle: 1995-2000			-0.001			-0.005
Life cycle: 2001-2006			0.021			0.018
Labor market shock: 1989-1994			0.003			0.002
Labor market shock: 1995-2000			-0.026***			-0.021
Labor market shock: 2001-2006			-0.028**			-0.029**
Economic distress: 1989-1994			0.015			0.011
Economic distress: 1995-2000			-0.013			-0.012
Economic distress: 2001-2006			-0.031*			-0.030*
Worked : 1989-1994			-0.009			-0.01
Worked: 1995-2000			0.004			0.006
Worked: 2001-2006			-0.007			-0.007
Migration: 1989-1994			0.075			0.091
Migration: 1995-2000			-0.132			-0.131
Migration: 2001-2006			0.027			0.031
/cut1	-0.443	-0.763***	-0.232	0.546	1.051**	0.930**
/cut2	0.518	0.199	0.743***	1.517*	2.015*	1.912*
/cut3	1.263*	0.944**	1.497*	2.270*	2.763*	2.673*
/cut4	2.639*	2.320*	2.885*	3.661*	4.141*	4.074*
Observations	26,230	26,230	26,230	26,230	26,230	26,230

note: * p<0.01, ** p<0.05, *** p<0.1

Source: Life in Transition Survey data (Authors' own calculation)

Table 5.3 Religion and Life-satisfaction

Country	Percent Muslim	Percent reported life satisfaction	Percent Never reluctant	Percent Never had difficulty
Turkey	98.9	44.4	58.9 (-.06)	48.7 (-.04)
Azerbaijan	98.8	27.6	74.9 (-.03)	54.3 (-.04)
Uzbekistan	94.4	72.6	72.6 (-.13)	56.5 (-.11)
Kyrgyzstan	83.6	59.1	49.9 (-.13*)	35.6 (-.12*)
Albania	70.7	46.7	38.9 (-.01*)	31.2 (-.06)
Kazakhstan	55.4	54.1	54.8 (.05)	39.5 (-.06*)
Bosnia	54.21	27.4	51.4 (-.08*)	45.9 (-.06)
Muslim majority country average	80.41	48.3	57.34 (-.05*)	44.53 (-.05*)
Non-Muslim majority country average	4.32	44.3	58.22 (-.06*)	47.14 (-.04*)

Source: Life in Transition Survey data (Authors' own calculation)

Table 5.4 Historical events and life-satisfaction

Country	Events	Percent Never reluctant to answer any question / Percent satisfied with life
Belarus	Local television had run a campaign about economic crimes and the penalties for those breaching labor legislations. As a consequence, respondents seemed to be suspicious about questions regarding their income, and wondered if the research was being covertly conducted by the government.	46.5 / 68.0
Bulgaria	The survey took place during the period that Bulgaria's EU accession in January 2007 was confirmed	62.5 / 28.9
Romania	The survey took place during the period that Romania's EU accession in January 2007 was confirmed	42.8 / 32.8
Estonia	Presidential elections were held on September 23rd, 2006	78.7 / 66.8
FYROM	There was widespread media reporting throughout the survey period about the large scale sackings of officials in the customs, prisons and health services. As many of the dismissed officials were former trainees of EU-run programs, there was strong EU criticism as a result.	61.2 / 28.0
Hungary	The survey coincided with the biggest riots in post-Soviet Hungarian history, following a leak that the prime minister admitted lying about the state of the economy in the past two years. With the 50th anniversary of the 1956 Hungarian Revolution approaching, there was widespread political upheaval. Against such a background, it was difficult to conduct interviews, especially in Budapest which was the centre of the unrest.	71.6 / 26.1
Latvia	On October 7th, 2006 parliamentary elections were held and some respondents seemed to be sensitive to questions about the government/cabinet of ministers/parliament and political parties.	66.9 / 55.7
Moldova	Following confirmation that Romania would become an EU-member from January 2007, 400,000 Moldovan citizens applied for Romanian nationality during August and September 2006.	32.5 / 27.6
Montenegro	General elections took place one day after fieldwork started. As a result people were tired with door-to-door canvassing and were suspicious about strangers entering their houses and talking about politics. Also, in the Podgorica district, the arrest of a group on terrorists made people more suspicious and wary of strangers.	52.2 / 29.8

Source: Life in Transition Survey data (Authors' own calculation)

Table 5.5 Life-satisfaction in specific countries

	Belarus	Bulgaria	Romania	Hungary	Latvia	Moldova	Montenegro
Log (Per capita cons exp)	0.132**	0.318*	0.162**	0.139	0.001	0.08	0.013
Log (Spent on entertainment)	0.011	0.053***	0.067**	0.077*	0.070**	0.088**	0.087*
Log (Spent on health)	0.021	-0.007	-0.006	0.002	0.016	0.075*	0.007
Holds bank account	0	0.212***	0.283*	0.214***	0.103	0.488*	0.269**
Log (age)	0.149	-0.036	0.082	0.104	0.164	-0.233	0.208
Secondary education	-0.05	0.037	-0.109	0.091	-0.012	0.116	0.042
Higher education	-0.023	0.086	-0.069	0.158	0.007	0.096	0.128
Worked in last year	0.147	-0.04	0.234**	-0.173	-0.273***	0.048	-0.328**
Gender	-0.127***	-0.147**	-0.194**	-0.016	0.149***	0.133***	0.062
Owns a home	0.101	0.129	0.268	0.015	0.129	0.25	0.112
Good health	0.151	0.187***	0.423*	0.256**	0.264*	0.178**	0.227***
Bad health	-0.572*	-0.262**	-0.042	-0.279**	-0.405*	-0.216**	-0.171
Ethnicity	0.168	-0.158	-0.151	0.033	-0.096	0.128	-0.065
Household size	0.044	0.209**	0.062	-0.019	0.082	-0.101	-0.062
Number of children	0.150***	0.093	0.019	0.02	0.08	-0.034	0.123**
Trust	0.123	0.363*	0.437*	0.278*	0.246*	0.561*	0.442*
Did better than classmates	0.039	0.051	0.062***	0.044***	0.073**	0.075**	0.056***
Did better than parents	0.234*	0.149*	0.109*	0.203*	0.112*	0.133*	0.085**
Did better than colleagues	-0.007	0.017	0.025	0.017	0.144*	0.042	0.007
Prefer democracy	-0.11	0.071	0.03	0.244**	0.042	-0.210***	-0.062
Prefer market	0.156	0.300*	0.03	0.171***	0.046	0.076	0.026
Member of civic society	0.068	-0.029	-0.052	-0.318***	-0.071	-0.052	0.001
Member of communist party		-0.049	-0.019	0.035	0.067	-0.163	-0.190**
Member of political party	-0.486**	0.167	-0.188	0.178	-0.235	-0.355	0.303*
Muslim	-0.524	0.051	-0.486	-0.168		0.552	0.329
Christian	0.017	0.093	-0.03	0.059	-0.149	0.736*	0.295
Live in metropolitan	0.033	0.341***	-0.304*	0.108	-0.099	0.464***	0.162
Live in rural area	-0.137	-0.041	-0.217	0.057	0.056	0.117	-0.171
Reluctant to answer	0.079	0.021	0.13	-0.218**	-0.079	-0.098	0.136
Difficulty to answer	0.049	0.087	-0.115	0.081	-0.047	0.023	0.101
Comparison group (PSU)	-0.14	-0.285	0.082	-0.026	0.226	-0.141	-0.109
Comparison group (Region)	-1.398*	-0.603***	0.21	0.465***	-0.312	-0.196	-0.760**
Life cycle: 1989-1994	-0.025	0.07	0.078	-0.011	-0.048	0.022	-0.048
Life cycle: 1995-2000	-0.023	-0.002	0.067	-0.056	-0.023	0.011	-0.159*
Life cycle: 2001-2006	-0.110*	-0.019	-0.052	0.019	-0.037	0.001	0.112**
Labor market shock: 1989-1994	-0.009	0.038	-0.032	-0.120**	0.001	-0.055	-0.012
Labor market shock: 1995-2000	0.011	-0.034	-0.007	-0.085**	-0.007	0.016	0.066***
Labor market shock: 2001-2006	-0.034	-0.025	-0.009	-0.027	-0.027	0.014	-0.053
Economic distress: 1989-1994	0.006	0.045	0.029	-0.003	0.01	-0.03	0.044
Economic distress: 1995-2000	-0.028	-0.038	-0.077***	-0.029	-0.007	0.018	0.035
Economic distress: 2001-2006	-0.049***	-0.011	-0.015	-0.087*	-0.065*	-0.008	-0.138*
Worked : 1989-1994	-0.023	-0.023	-0.009	-0.014	-0.043**	0.027	0.015
Worked: 1995-2000	-0.015	-0.018	-0.024	-0.065**	0.028	0.01	-0.036
Worked: 2001-2006	-0.024	0.028	-0.019	0.046***	0.042	-0.014	0.017
Migration: 1989-1994	0.139	-0.237	-0.017	0.016	0.323	0.235	-0.386
Migration: 1995-2000	-0.166	0.048	-0.134	0.081	0.03	-0.009	0.276
Migration: 2001-2006	-0.346**	0.301*	0.098	0.138***	-0.029	-0.025	0.418**
/cut1	-12.991*	-4.698**	3.513***	5.575**	-0.256	-1.45	-6.336**
/cut2	-11.677*	-3.437***	4.455**	6.502*	0.785	-0.385	-5.455**
/cut3	-10.875**	-2.592	5.374*	7.418*	1.342	0.497	-4.683***
/cut4	-8.957**	-1.374	6.743*	8.803*	3.076	2.031	-3.415
Observations	952	982	976	991	996	965	944

Note: * p<0.01, ** p<0.05, *** p<0.1

Source: Life in Transition Survey data (Authors' own calculation)