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Minding the happiness gap: Political institutions and perceived quality of life in transition

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ABSTRACT

Along with political and economic changes, the fall of the socialist regimes in Central and Eastern Europe and the former Soviet Union brought about fundamental institutional reforms. Several studies have examined the causes of the increasing unhappiness that accompanied the transition process, including deteriorating public goods, rising inequality, income volatility, stagnating labor market conditions and changing norms. However, few papers have sought explanations for the life satisfaction differentials between transition and non-transition economies. In this paper, I specifically examine the life satisfaction gap between post-socialist and advanced countries and the role of political institutions for explaining this gap. My results imply that both macro-economic factors and the rule of law explain the overall life satisfaction differential between the advanced and transition societies. The rule of law played an additional role in reducing the happiness gap in the 1990s and may have even reversed it in the post-crisis years. As institutions and macro-economic conditions continue to improve, post-socialist countries may complete their transformation processes and achieve quality-of-life levels comparable with those in the West.

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1. Introduction

Beginning with the emblematic fall of the Berlin Wall in 1989, the transition process in the former Soviet Union (FSU) and Central and Eastern Europe (CEE) was a period of far-reaching socio-economic, political and institutional changes. The reforms included switching from a planned to a market economy, restoring private property as well as liberalizing prices and foreign exchange (EC, 2015a). Importantly, these fledgling democracies had to create the legal and institutional fundamentals that underpin democratic and capitalist states, including designing modern institutions of public finance, (central) banking and customs (Guriev and Zhuravskaya, 2009).

One of the lessons learned from these experiences is that while the design and introduction of institutions can happen relatively quickly, achieving a functioning institutional framework to support a modern democracy is a long-term process (EC, 2015b). Moreover, the build-up of new political and economic institutions in the transition region coincided with a decline in the quality of formal and informal institutions such as falling social trust and increasing corruption, weakened civil societies and an overall decline in social capital (see Bartolini et al., 2015 for a review).¹

Several studies document a trend of unhappiness that accompanied the transition process and suggest that a persistent life satisfaction differential still exists between transition and non-transition countries. This paper examines the role of rule of law

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¹ Social capital formally refers to the “institutionalized norms of reciprocity and trust” that enable communities to solve collective action problems (Adsera et al., 2003, p. 446). The social capital gap between transition economies and the EU depends on the quality of formal political institutions and the level of development and may disappear once countries complete the transition process (Fidrmuc and Gërçhani, 2008).

(RoL) in explaining the subjective well-being differentials between transition and advanced societies (i.e. the “happiness gap”).² It finds that in addition to macro-economic factors, the conditional unhappiness gap may be accounted for by political institutions proxied by the RoL. This suggests that as institutional and market reforms continue, citizens in post-socialist economies may achieve the same quality of life as their counterparts in developed market economies.

Subjective well-being (SWB) metrics track positive and negative emotions, life evaluations and life purpose and have individual-, economic- and institutional-level determinants. Life satisfaction in particular is a perceived quality-of-life measure and is a cognitive reflective assessment of one's life as a whole. Because they trace both material and non-material aspects of life, SWB metrics furnish important complementary information to objective indicators such as income, employment and consumption. Furthermore, they are especially well-suited for studying the well-being implications of complex processes such as institutional reform or transition to democracy and a market economy. Given that it reflects both perceived and actual quality of life and as such is a broad welfare indicator, SWB has emerged as a key variable for economic and policy analysis. For example, SWB is linked with objective outcomes such as productivity, creativity, longevity and creativity (De Neve et al., 2013). Importantly, SWB may be relevant for the political process as voting behavior may be partly determined by SWB (Dolan et al., 2008; Liberini et al., 2014; Ward, 2015). Thus, studying how institutions and macro-economic conditions affect SWB and whether they can help transition countries on their way to prosperity is important for policy-makers at national and supra-national levels.

While the large life satisfaction gap between transition economies and other nations at similar or different levels of development is well documented, few papers have explored its determinants. (Djankov et al., 2016; Gruen and Klasen, 2012; Guriev and Zhuravskaya, 2009).³ This paper builds on and substantially extends previous studies in several ways. First, unlike other studies exploring the differences between transition and *non-transition* countries, this study explicitly examines the life satisfaction gap between transition and *advanced* countries. If the transition process entails reaching the level of development and material and non-material standards of developed countries, then I argue that advanced countries, and not non-transition countries in general, are the relevant comparison group.⁴ Second, I look at the life satisfaction differentials in light of a previously understudied factor, namely the RoL. Since institutions can both improve the quality of the social fabric and enhance economic outcomes, I examine both the direct and indirect influences of institutions on the size of the SWB gap by controlling for a number of macro-economic variables. Third, I use variance decompositions to study the relative importance of macro-economic vs. institutional and socio-demographic factors for individual life satisfaction in transition, which to my knowledge has not been undertaken in this context before. Finally, I distinguish between EU and non-EU transition countries and observe whether EU membership and the institutional transformations entailed had a particular effect for post-socialist countries.

2. Life and unhappiness in transition

Fig. 1 shows the average life satisfaction levels for transition and advanced countries in the main analysis sample based on data from the last four waves of the World Value Survey (1994–2013). Using earlier WVS waves, other studies document that life satisfaction has a V-shape in transition economies (Easterlin, 2009, 2014; Guriev and Zhuravskaya, 2009; Sanfey and Teksoz, 2007). During the 1990s, life satisfaction dramatically fell in transition economies, mirroring GDP trends, and while it eventually began to recover in the late-1990s, it failed to do so commensurately with GDP (Easterlin, 2009). Using data from later years, I show that while there was a large life satisfaction gap between advanced and transition economies in the mid-1990s, this gap has recently started to close. Nonetheless, even in the last WVS wave, the unconditional happiness gap is about 1 on a scale of 1–10, which is substantial. According to Fig. 1, while life evaluations in advanced economies have remained relatively stable over the analysis period, those in transition countries started at relatively low levels in mid-1990s. Accordingly, this paper focuses on studying what underlies the life satisfaction differentials between transition and advanced nations.

The conclusion of the relatively large literature on unhappiness in transition is that people in post-socialist economies paid for these tectonic transformations with their SWB. While income is certainly part of the explanation of unhappiness in transition, it does not account for the entire puzzle (Bartolini et al., 2015). Other causes of declining happiness in transition economies could include the depreciation of education acquired under socialism, deteriorating public goods, income inequality (Guriev and Zhuravskaya, 2009), worsening social protection and stagnating employment conditions (Easterlin, 2009), as well as changing norms and volatility (Graham and Pettinato, 2002). Moreover, large-scale reforms such as privatization may have further lowered happiness in transition (Popova, 2014).⁵

Transition economies present an opportune case to study the well-being consequences of institutions for several reasons. First, these nations witnessed the formation of new institutions or the fundamental restructuring of old ones. Importantly, this experience has varied across the transition region, with some countries making substantial progress while others lagging behind (Askarov and Doucouliagos,

² The “happiness gap” in this paper is borrowed from Guriev and Zhuravskaya (2009). Note, however, that Guriev and Zhuravskaya (2009) examine the differences between transition and non-transition countries (including advanced and developing countries), while I study the gap between transition and advanced Western nations.

³ Note that Djankov et al. (2016) work, which appeared after this paper was already in the editorial and publication process, focuses on Eastern Europe and uses cross-country panel regressions to argue that the happiness gap is explained by perceptions of government and corruption proxies.

⁴ I use the list of advanced economies from the International Monetary Fund Appendix Table B (IMF, 2015), which includes: Austria, Australia, Belgium, Canada, Cyprus, Denmark, Finland, France, Germany, Hong Kong, Greece, Iceland, Ireland, Israel, Italy, Japan, Korea, Luxembourg, Malta, the Netherlands, New Zealand, Norway, Portugal, San Marino, Singapore, Spain, Sweden, Switzerland, Taiwan, the United Kingdom and the United States. The Czech Republic, Estonia, Latvia, Lithuania, Slovakia and Slovenia are considered advanced in the IMF's list, although we include them in the transition countries list.

⁵ Factors such as increasing economic, political and social freedoms (Inglehart et al., 2008; Lelkes, 2006; Sanfey and Teksoz, 2007) and greater access to consumer goods (Guriev and Zhuravskaya, 2009) were arguably a positive channel affecting life satisfaction in transition. However, it seems that the negative experiences during transition associated with rapid political and economic change and fundamental socio-economic, social and institutional transformations dominated the transition experience.

Fig. 1. Life satisfaction, unconditional mean, 1994–2013.

Source: Author's calculations based on the World Value Survey, merged with the World Bank's macro data and the PRS' ICRG data.

2015). Second, transition economies are especially interesting for happiness economists as they have unique features related to both SWB levels and trends (Bartolini et al., 2015). For example, post-socialist societies are among the least happy countries in the world, even when controlling for income. Moreover, while the much-disputed Easterlin Paradox—or the observation that rises in income do not lead to SWB increases in long time-series data—may not hold overall (Stevenson and Wolfers, 2008), transition countries are an exception. Specifically, in these societies, economic growth predicts both short- and long-run changes in SWB (Easterlin, 2009). Third, while institutional change is generally only incremental, several transition countries altered their institutional arrangements in light of preparations for EU accession. Thus, given the large unconditional SWB gap between transition and advanced countries, it is important for policy-makers to understand the role of the RoL (if any) in closing this gap and achieving higher quality of life for transitional citizens.

3. Rule of law in transition

North (1991) defines institutions as informal and formal rules and constraints that guide and enable political, economic and social interactions and reduce uncertainty in exchange. Institutional quality is instrumentally important for economic performance (North, 1990), growth (Acemoglu et al., 2005; Dawson, 1998; Easterly et al., 2006) and health outcomes (Kozlov and Balalaeva, 2014).

There is much heterogeneity with respect to the level of economic and institutional advancements among post-socialist economies. Membership prospects to NATO, the OECD and the EU served as external anchors shaping the institutional changes in these countries by encouraging reforms that comply with the principles of democracy, respect for minorities, human rights and civil liberties, as well as functioning market economies. In light of this, two different patterns of democratic and economic transformation have emerged based on geographic proximity to the EU (Golinelli and Rovelli, 2013): specifically, despite frustrating market reforms, countries closer to the EU have had more stable democracies, while those belonging to the Commonwealth of Independent States are still struggling to reform certain features of the political process (Golinelli and Rovelli, 2013).

The RoL refers to a system with well-defined, universally applicable and fair laws. The extent to which RoL exists in a country is judged by the presence or absence of objective criteria, which can vary but usually include an independent and impartial judiciary, public laws, universal application of the law and no retroactive laws, among others (WorldBank, 2013). The RoL also requires that the government functions within the legal framework and public officials accept and follow the law (Carothers, 1998). Importantly, the RoL is intimately linked with the concept of democracy, ensuring the respect of people's civil and human rights, as well as with a functioning market economy, as it allows for contract enforcement and respect of property rights, the functioning of economic institutions such as banks, labor unions, and corporations and economic policy related to taxation, customs, regulation and others (Carothers, 1998).

Theoretically, the RoL in transition economies can change over time based on the depth of the RoL reforms. Specifically, Carothers (1998) distinguishes among three types of reforms. Type I refers to revising laws and codes and redrafting laws in the economic realm such as bankruptcy law, corporate governance, taxation and finance. By contrast, Type II reforms target law-related institutions by tightening ethic codes, increasing salaries for court employees, reforms targeting the police, prosecutors, prisons and public defenders, among others. Finally, Type III reforms seek government compliance with the law, for example, by achieving judicial independence. The RoL in transition economies is expected to change as these reforms are undertaken and as the social norms and practices change to

include respect for the law. Fig. 2 shows that the RoL variable used in the analytical part of this section has indeed fluctuated for the sample of transition countries, while the RoL levels have remained relatively stable for the advanced countries.

The end of the Cold War revived the RoL debate, with development experts around the world pointing to the RoL as an omnipotent solution for overcoming the institutional challenges in transition economies (Carothers, 1998). As the most active region for RoL reform, transition economies attracted various types of assistance. While this assistance has contributed to democracy, it has had no or even a negative effect on the quality of governance (Askarov and Doucouliagos, 2015).

This study focuses on the RoL as a key explanatory variable for the life satisfaction differentials between transition and advanced economies while also controlling for economic conditions in the two sets of countries. While I account for economic differentials, I argue that political institutions, and the RoL in particular, are the relevant explanatory factors for the life satisfaction gap for several reasons. First, several studies show that political institutions and their consequences are more important in middle- and high-income economies than in low-income economies (Bjørnskov et al., 2010; Dorn et al., 2007; Helliwell and Huang, 2008; Rode, 2013). As Rode (2013) notes, economic conditions and material well-being precede RoL reforms to allow citizens to derive procedural utility from institutions. In most transition economies, economic conditions had recovered by the mid-1990s, the beginning of the analysis period used in this paper, thus allowing me to discern the additional effects, if any, of political institutions and the RoL in explaining the life satisfaction gap.

Second, because the RoL concept is related to democracy and the market economy, it theoretically holds particular relevance for transition economies striving to complete their democratization and marketization processes. Third, RoL reforms have been the most active in the transition region (Carothers, 1998). Fourth, from a practical viewpoint, the RoL is the strongest index of political institutions because it measures the extent to which there is contract enforcement, property rights and the absence of crime and violence. By contrast, other existing measures of political institutions such as good governance, control of corruption, government stability and others are consequences of good institutions and not institutions per se (Adsera et al., 2003; Nikolova, 2015). Concepts such as democracy, good governance and economic freedom are arguably also more subjective and less precisely measured than the RoL. Many of the extant indices of good governance and quality of institutions are also correlated with one another and broadly reflect one key concept related to the consequences of good institutions (Bjørnskov et al., 2010; Langbein and Knack, 2010).

4. Subjective well-being and institutions

The main outcome of interest is life satisfaction, which is a cognitive assessment of one's contentment with life as a whole. Scholars distinguish between evaluative and hedonic well-being, and, in some instances, eudaimonic constructs related to feelings of meaning and purpose in life (Graham and Nikolova, 2015; OECD, 2013; Stone and Mackie, 2014). Evaluative well-being relates to the opportunities and means that people have, while hedonic well-being encompasses positive and negative feelings and covers how people experience their daily lives (Graham and Nikolova, 2015). Despite earlier skepticism about subjective data (Bertrand and Mullainathan, 2001), several decades of research have shown that SWB metrics are valid, reliable and comparable

Fig. 2. Rule of law, unconditional mean, 1994–2013.

Source: Author's calculations based on the PRS' ICRG data merged with the World Value Survey and the World Bank's macro data.

across groups of individuals in different contexts and over time (Di Tella and MacCulloch, 2006; Helliwell and Barrington-Leigh, 2010; Helliwell et al., 2010; Kahneman and Krueger, 2006; OECD, 2011, 2013; Stone and Mackie, 2014).

Importantly, while some of the influences behind cross-country SWB differentials are well documented, much of the SWB differences among countries may be unknown or, as Proto and Oswald (2016) suggest, possibly genetically determined, at least in part. As such, individual-, macro- and institutional-level variables cannot completely explain all of the variation in SWB. In this paper, I consider the cross-country differences between the SWB levels of individuals living in transition and advanced countries conditional on a large set of determinants. Nonetheless, the reported R^2 values are relatively low, reflecting the notion that much of well-being is unexplained and unobservable.

The increased attention of SWB measures among policy-makers, academics, and the general public alike is partly due to the growing realization that GDP and employment statistics are insufficient to understand all aspects of human well-being (Stiglitz et al., 2009). While economists prefer studying revealed choices rather than subjective self-assessments, SWB metrics are particularly valuable when studying public goods preferences (Welsch, 2002, 2006, 2007, 2008) and welfare tradeoffs, such as those between inflation and unemployment, for example (DiTella et al., 2001).

SWB metrics also furnish a complementary perspective about the welfare implications of complex social or political processes such as economic and political transitions (Easterlin, 2014). While traditional macro-economic indicators are important, they cannot fully capture the implications of the profound changes that occurred during transition, such as rising inequality, unemployment and crime, the loss of social protection, rising alcoholism, suicide and divorce rates, among many others (Easterlin, 2009). The happiness economics approach is also useful for assessing the well-being consequences of situations whereby individuals are themselves powerless to change, such as institutional arrangements and social norms (Graham, 2011).

There are several reasons why institutions can affect individual quality-of-life perceptions. First, people may enjoy participating in the democratic process (Frey and Stutzer, 2000) and exposure to democracy may raise individual well-being as democracies are more likely to reflect preferences (Dorn et al., 2007). “Procedural utility” thus refers to the satisfaction gained from the procedural aspects of institutions, i.e. from “institutions as such” (Frey et al., 2004). In short, individuals may value not only the outcomes of the political process but also how these outcomes were achieved.

Second, by reducing uncertainty and transaction costs, good institutions and the RoL in particular can promote well-being by: (i) preventing theft, violence and economic exploitation; (ii) enforcing property rights; and (iii) providing the means to influence the political process (Bjørnskov et al., 2010). Third, solid formal and informal institutions improve the quality of the social fabric, as another direct channel to life satisfaction (Delhey, 2001). Similarly, good institutions imply a strong social contract guided by norms of civic engagement, which is also conducive to greater well-being. Virtuous cycles may form, whereby happiness stimulates social capital formation that is conducive to economic development, which in turn improves formal institutions and ultimately happiness.⁶ Fourth, bad institutions, such as those marked by corruption and inefficiency, may have high psychological costs stemming from living in a dysfunctional society (Welsch, 2008). Finally, institutions can also indirectly affect SWB through income if it affects economic indicators and government services.

A relatively extensive academic literature investigates the empirical and theoretical links between SWB on the one hand and political and economic institutions and economic freedom on the other. First, one strand of the literature focuses on economic freedom, captured by the Economic Freedom Index (EFI) from the Fraser Institute (Gehring, 2013; Graafland and Compen, 2012; Nikolaev, 2014; Rode, 2013; Spruk and Kešeljević, 2015).⁷ Given that it emphasizes the importance of markets and the organization of economic activity, economic freedom is fundamentally distinguishable from political freedom, which refers to democracy and political rights (Gehring, 2013). While most studies automatically assume that causality runs from good institutions and economic freedom to SWB, Rode's (2013) instrumental variable analysis demonstrates that while economic freedom influences life satisfaction, the reverse is also true. The author suggests that more life-satisfied people also have higher social capital, which in turn creates better institutions.

Like Rode (2013) and Gehring (2013), who find a link between EFI and its components and life satisfaction at the country level, Nikolaev (2014) shows that economic freedom is positively and significantly associated with individual life satisfaction, happiness and financial satisfaction, among other outcomes. His results also imply that in high-income countries, the positive influence of economic freedom on SWB is entirely driven by income (i.e. the association between economic freedom and life satisfaction disappears once the income control is introduced).

Using the World Value Survey and the Worldwide Governance Indicators, Helliwell and Huang (2008) define *democratic quality* as the average of voice, accountability and political stability scores and *delivery quality* as the average of government effectiveness, regulatory quality, RoL and control of corruption. The authors discover that while democratic quality matters in rich nations, the emphasis is on delivery aspects in poor countries. Likewise, Bjørnskov et al. (2010) show that economic-judicial institutions matter in low-income countries, while political institutions are more relevant in mid- and high-income countries. In a similar vein, Dorn et al. (2007) find that the positive effect of democracy on happiness is stronger in established democracies. With respect to the sub-components of the EIF, Rode (2013) finds that respondents in developing countries value the procedural features of democracy, access to secure money and free trade, while their rich country counterparts value the functioning of the legal system and the protection of property rights. Likewise, Gehring (2013) discovers that poorer countries benefit more from economic freedom compared with more advanced countries. Importantly, the results (in terms of both significance and the direction of the association between SWB and institutions) seem to depend on

⁶ Nonetheless, the empirical evidence seems to suggest that the causal channel runs from good institutions to life satisfaction, while the reverse channel is relatively weaker (Rode, 2013).

⁷ The Economic Freedom Index comprises five areas: government size; legal structure and property rights security; money; freedom to trade internationally; and regulation of credit, labor and business (Nikolaev, 2014).

the definition of institutional quality, the life satisfaction metric used, the level of analysis (country vs. country-individual), the sample selection and the model specification (including omitted variables), among other methodological factors (Bjørnskov et al., 2010).

Scholars have also studied the link between life satisfaction and *informal* institutions such as religiosity, social trust and membership in voluntary and civic organizations. Using Eurobarometer data for 2001, Hudson (2006) is the first to show that trust in the national government and several supra-national institutions is positively associated with life satisfaction in the EU member states. Specifically for transition economies, Bartolini et al. (2015) find that social trust is a powerful determinant of observed SWB trends in the long run, being even more powerful than GDP. However, in the short run, only GDP matters for SWB in transition economies. Of course, causality can go in both directions as happier people may also be more trusting. A study using Hungarian data for the 1990s shows that regularly attending religious services is positively associated with life satisfaction (Lelkes, 2006). Moreover, the transition process less adversely affected those who were attached to religious institutions. Similarly, Popova (2014) finds that religion acts as social insurance in transition, protecting against painful reforms such as large-scale privatization. In addition, recent research by Helliwell et al. (2014) shows that social trust explains country-level life satisfaction changes in Europe's post-socialist countries but not in the advanced countries, thus suggesting the importance of informal institutions for countries experiencing institutional changes.

While few studies *explicitly* examine the link between institutions and life satisfaction in transition economies, several findings shed some light. Using data from the Freedom House on civil rights and political liberties, Gruen and Klasen (2012) suggest that there have been improvements in the civil rights and liberties in the EU transition countries and that lower civil liberties are negatively linked with overall life satisfaction. Sanfey and Teksoz (2007) use data from the 4th WVS wave and the WGI indicators and conclude that if transition economies were to increase the average quality of institutions to that of the EU-15, they would experience a 1.36-point increase in life satisfaction (on a 1–10 scale). Nikolaev (2014) shows that the Economic Freedom Index is negatively associated with life satisfaction in post-socialist societies. The author explains this finding with Friedman's admonition that economic freedom alone is insufficient to ensure progress; rather, the RoL is necessary to support progress. Furthermore, Popova (2014) discovers that life satisfaction in transition is unassociated with change in the EBRD's governance reform and enterprise restructuring indicator. Using data from the European Values Survey for the EU-10,⁸ one study finds that the life satisfaction effect of a one-point improvement in the World Bank's corruption measure equated to a 10% convergence towards the average EU-27 GDP in 2008 (Rodriguez-Pose and Maslauskaitė, 2012).

5. Data and variables

The main data source is the Integrated Values Surveys 1981–2014, constructed from the EVS Longitudinal Data File 1981–2008 and the World Value Survey 1981–2014.⁹ I merge macro-economic data from the World Bank's World Development Indicators (WDI) and institutional data from the PRS International Country Risk Guide (ICRG).¹⁰ The World Value Survey first included transition economies in Wave 2, conducted between 1989 and 1992 (Hungary was also surveyed in the first wave). However, once I merge the datasets and eliminate observations with missing data, the analysis sample spans 1994–2013.

Despite being widely used, WVS has several limitations.¹¹ First, the data are pooled-cross sections rather than a panel, thus not allowing for the use of individual fixed effects. Constructing a country-level panel was unfeasible because different countries are polled in different waves, which would have resulted in an unbalanced panel with a small number of observations. Second, while the EVS has information on income, the WVS data do not have an income variable (with actual dollar amounts) but rather report respondents' valuation of their household income on a notional scale where 1 corresponds to the lowest level in society and 10 corresponds to the highest (See Table A.1 in the Appendix A). Note that country-level income and economic development differences are taken into account by including the PPP-adjusted per capita income variable from the World Bank's WDI.

The dependent variable is life satisfaction, measured on a scale of 1–10 (Table A.1). In addition, following the extant literature, this study adds three individual-level proxies for social capital and cohesion from the WVS. I include (i) the number of memberships in voluntary and civic groups; (ii) a binary indicator for whether most people in society can be trusted; and (iii) an indicator for the importance of religion in the respondent's life. These social capital variables influence the quality of formal institutions and are also linked with life satisfaction.¹² Furthermore, religiosity (i.e. the importance of religion) reflects values and attitudes that affect behavior such as marriage, fertility and decorous conduct, all of which are linked with life satisfaction. Using a short panel for the US, Lim and Putnam (2010) demonstrate that religiosity affects life satisfaction by building social networks through attending religious services. Note that this study considers religiosity rather than belonging to a particular faith. The former can be thought of as an informal institution through the social externalities dimensions of religion. The final informal capital measure is the average memberships in voluntary and civic groups, which also reflects social capital through networks (Bjørnskov et al., 2010).

I use the Law and Order variable from the ICRG CountryData from the PRS group, which ranges from 0 to 6 (Table A.2 in the Appendix A).¹³ Since 1980, the ICRG has rated 144 countries on 22 variables classified in three categories of risk, namely political,

⁸ The EU-10 refers to the ten transition economies that became EU members in 2004 and 2007.

⁹ While other sources such as the European Social Survey (ESS), Eurobarometer and the New Democracy Barometer are possible, they have limited country and/or year coverage.

¹⁰ As a robustness check, in the appendix I use an alternative data source for the RoL, namely the WGI.

¹¹ For the remainder of this paper, WVS refers to the integrated EVS/WVS data file.

¹² For example, Fidrmuc and Gërghani (2008) document a social capital gap (measured as civic participation and access to social networks) between transition economies and the West. Once the authors account for economic development and quality of institutions, the gap no longer exists.

¹³ This re-scaling was undertaken to be consistent with the re-scaling of the WGI's rule of law variable, which is used as a robustness check. The results are available in the appendix.

financial and economic. Each index component is assigned a numerical value, whereby high values correspond to low risk (better institutional quality) and low values reflect high risk. The maximum value depends on the component's overall weight in the political risk index. ICRG editors assign risk points based on a series of pre-set questions to ensure comparability across countries and over time. The law and order variable comprises two sub-variables: the law component is about the fairness of the legal system, while order is about the popular observance of a law. A country could score high on the “law” component if it has an unbiased judicial system but low on the “order” component if it is plagued by crime or illegal activity (PRS, 2014). Because PRS reports the RoL indicator on a monthly basis, I calculated simple annual averages for each country.

As a robustness check, I use the RoL variable from the World Bank's Worldwide Governance Indicators (WGI) (See Appendix). The WGIs reflect the perceptions of international organizations, NGOs, experts, businesses and households on a range of governance aspects (Kaufmann et al., 2010). For ease of interpretation and consistency with the ICRG variable, I rescaled the RoL variable from its original range of -2.5 to $+2.5$ to a new range from 0 to 6 , where a higher score indicates better institutional quality. Tables A.1 and A.2 show the included variables and Table A.3 displays the list of included countries. The choice of countries in all analyses is determined by data availability.

6. Methodology

I study the factors explaining the life satisfaction differentials between transition and advanced countries using the following empirical model:

$$\text{LifeSat}_{icw} = \alpha + \beta \text{Trans}_c + X'_{icw} \gamma + \varsigma_r + \omega_w + \varepsilon_{icw}, \quad (1)$$

where *LifeSat* is the life satisfaction of individual *i* in country *c* polled in survey wave *w* (and measured on a scale of 1–10). *Trans* is a dummy variable equal to 1 if the country is a transition economy and 0 if it is an advanced economy. The parameter of interest is β , which shows the conditional difference between transition and non-transition countries controlling for the individual-level controls. X_{ic} is a matrix of personal characteristics (such as age, gender, education, household composition, income scale and others), ς_r are region dummies and ω are survey wave dummies, while ε_{ic} is a vector of stochastic errors. Note that Eq. (1) uses only individual-level controls.

To assess the extent to which macro-economic variables help to explain the observed life satisfaction differentials (i.e. reduce the size and/or the significance of β), I add a vector of country-level macro-economic controls *M* (GDP per capita, inflation, and unemployment) and estimate the following model:

$$\text{LifeSat}_{icw} = \alpha + \beta \text{Trans}_c + X'_{icw} \gamma + M'_{cw} \psi + \varsigma_r + \omega_w + \varepsilon_{icw} \quad (2)$$

The additional role of the *RoL* variable in explaining life satisfaction is estimated in:

$$\text{LifeSat}_{icw} = \alpha + \beta \text{Trans}_c + X'_{icw} \gamma + \delta \text{RoL}_{cw} + M'_{cw} \psi + \varsigma_r + \omega_w + \varepsilon_{icw} \quad (3)$$

The identification in Eqs. (2) and (3) relies on variation in country-level macro-economic and institutional differentials, conditioning on a large set of individual controls, which precludes the possibility of using country dummies. All analyses include survey wave and regional dummies. While it is possible to include country dummies in Eq. (1), for consistency purposes, the model includes regional dummies instead. The regions included are the Balkans, the Commonwealth of Independent States and the Ukraine, non-European advanced countries (the US, Australia, Canada, New Zealand, Korea, Japan, Singapore, Hong Kong), South-Central Europe and Northern Europe.¹⁴

As has been standard practice in the literature, I use an OLS estimator with robust standard errors because ignoring the ordinality of the life satisfaction data does not seem to matter for the final results (Ferrer-i-Carbonell and Frijters, 2004). Moreover, OLS estimates can also be easily interpreted in terms of marginal effects. As there is a technical problem in including variables at a higher level of aggregation (Moulton, 1990), I cluster the standard errors at the country level.

In addition, I examine the relative importance of institutions vis-à-vis other variables for life satisfaction in the transition economies sample. For this purpose, I employ Shapley-based decompositions (Israeli, 2007; Shorrocks, 2013), which decompose the R^2 statistic into the individual percentage contribution of each independent variable to the total variance of life satisfaction.¹⁵

Frequently used in the inequality literature, regression-based decomposition is a particularly useful technique for economists who wish to explain the relative importance of a variable for the overall R^2 . Specifically, while standardized coefficient estimates and marginal effects reveal the relative influence of a variable in the statistical sense, variance decompositions can show the additional value added, and therefore the relative influence, of a variable as an explanatory factor (Menard, 2004). The method essentially relies on decomposing the goodness of fit statistic into the sum of variances explained by each independent variable (Israeli, 2007). There are two types of variance decompositions, namely the Fields method (Fields, 2003, 2004) and the Shapley method (Israeli, 2007). In this paper, I use the latter technique as it is slightly more flexible and allows for correlations among the independent variables.

Endogeneity stemming from reverse causality is less of a problem in this empirical setup, because individual citizens are generally unable to change institutional arrangements. Nonetheless, reverse causality would be possible if politicians take into account information

¹⁴ For the sample using the RoL data from the WGI, both Ukraine and Georgia are included in the CIS group.

¹⁵ To perform the variance decompositions, I used Stata's user-written package -shapley2- (Juarez, 2012).

Table 1

Life satisfaction regressions, socio-economic and macro-economic determinants, 1994–2013.

Source: Author's calculations based on the PRS' ICRG data merged with the World Value Survey and the World Bank's macro data.

Dep. var. = life satisfaction (1–10)	(1)	(2)	(3)	(4)
Transition country (1 = yes)	–0.893*** (0.269)		–0.302 (0.252)	
Transition * Wave 3 (1994–98)		–1.841*** (0.256)		–1.287*** (0.289)
Transition * Wave 4 (1999–04)		–1.293*** (0.354)		–0.686* (0.400)
Transition * Wave 5 (2005–09)		–0.680** (0.257)		–0.337 (0.266)
Transition * Wave 6 (2010–13)		–0.098 (0.254)		0.135 (0.224)
Religion important (1 = yes)	0.237*** (0.059)	0.211*** (0.051)	0.239*** (0.060)	0.220*** (0.054)
Social trust (1 = yes)	0.390*** (0.046)	0.389*** (0.041)	0.344*** (0.038)	0.355*** (0.036)
Number of memberships	0.033 (0.029)	0.041** (0.018)	0.053*** (0.015)	0.056*** (0.011)
Age	–0.088*** (0.005)	–0.086*** (0.005)	–0.089*** (0.005)	–0.088*** (0.005)
Age ²	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
Male	–0.090*** (0.028)	–0.086*** (0.028)	–0.073** (0.028)	–0.076*** (0.027)
Married or living together (1 = yes)	0.391*** (0.040)	0.415*** (0.038)	0.414*** (0.035)	0.419*** (0.035)
Some college/college diploma (1 = yes)	0.108** (0.049)	0.106** (0.041)	0.110** (0.043)	0.106*** (0.039)
Number of children	0.030* (0.017)	0.024 (0.016)	0.035** (0.015)	0.029* (0.015)
Full-time employee (1 = yes)	0.089* (0.046)	0.085* (0.044)	0.035 (0.037)	0.048 (0.037)
Good health (1 = yes)	1.497*** (0.068)	1.470*** (0.073)	1.465*** (0.069)	1.457*** (0.070)
Relative income	0.182*** (0.017)	0.171*** (0.016)	0.168*** (0.017)	0.164*** (0.016)
Log GDP per capita (2011 PPP)			0.788*** (0.183)	0.433** (0.174)
Unemployment rate			–0.008 (0.013)	–0.021 (0.013)
Inflation			–0.001** (0.001)	–0.001** (0.000)
Region dummies	Yes	Yes	Yes	Yes
Wave dummies	Yes	Yes	Yes	Yes
N	90,181	90,181	88,274	88,274
Adjusted R ²	0.274	0.295	0.290	0.301

Notes: The dependent variable is life satisfaction, measured on a scale of 1 to 10. All regressions are estimated using OLS with robust standard errors, clustered at the country level. All regressions include wave dummies and region dummies. The included regions are the Balkans, the Commonwealth of Independent States and the Ukraine, non-European advanced countries (the US, Australia, Canada, New Zealand, Korea, Japan, Singapore, Hong Kong), South-Central Europe and Northern Europe. See Tables A.1–A.2 for variable definitions and Table A.3 for the included countries.

*** p < 0.01.

** p < 0.05.

* p < 0.1

about citizens' life satisfaction when designing and reforming institutions. Readers should treat the causal interpretation of the results with caution given that endogeneity is possible if there are (time variant immeasurable) omitted variables correlated with both the RoL and life satisfaction. Endogeneity can also stem from measurement error if the RoL variables are imprecisely measured.

7. Results

7.1. Main results

Table 1 shows the estimations of Eqs. (1) and (2). In each regression, the dependent variable is individual life satisfaction measured on a scale of 1–10. Models (1) and (2) use individual-level controls, while Models (3) and (4) include macro-economic controls. All models include survey wave indicators and region dummies. The first result (Model (1)) is that life satisfaction in transition economies

Fig. 3. Conditional life satisfaction by wave, transition and advanced countries. Note: The figure represents the predictive margins of life satisfaction by survey wave for transition and advanced countries (conditional marginal effects) with 95% confidence intervals. The results are based on the estimations in Model (1) in Table 1. Source: Author's calculations based on the PRS' ICRG data merged with the World Value Survey and the World Bank's macro data.

is 0.9 points lower than its predicted level (as shown in the coefficient on the dummy variable for whether the respondent comes from a transition economy). This is the “life satisfaction gap” between transition and advanced economies.

Graphically, the life satisfaction gap is evident from Fig. 3, which plots the predicted life satisfaction values from Model (1) in Table 1 for each survey wave using Stata's-margins-command and adjusting for the other variables included in the model. Fig. 3 demonstrates the life satisfaction differential between post-socialist countries and the West throughout all survey waves. The life satisfaction gap of 0.9 is statistically significant (evident from the non-overlapping confidence intervals) and relatively large in magnitude. The unstandardized transition country dummy coefficient in Model (1) Table 1 is more than two times larger than that of social trust (0.4), for example.

Following Guriev and Zhuravskaya (2009), Model (2) in Table 1 reports the regression results for all survey waves interacted with the transition country dummy. These interactions estimate the average difference in life satisfaction between post-socialist and advanced societies for each survey wave. Specifically, taking into consideration the non-linear effects over time, the life satisfaction differential between transition and non-transition economies has been declining throughout the past decade, from 1.8 points in Wave 3 (1994–98) to 0.7 points in Wave 5 (2005–09). The conditional life satisfaction differential between transition and advanced countries appears to have closed in the last survey wave as it is very small in magnitude (–0.1) and is statistically insignificant. This is also graphically illustrated in Fig. 4, which shows that for the last survey wave (2010–2013) the conditional life satisfaction differential between transition and advanced countries has closed.¹⁶

In Models (3) and (4) of Table 1, I add macro-economic controls from the World Bank's WDI database: log GDP per capita, unemployment and the inflation rate. It is evident from the first row in Model (3) that the difference between transition and non-transition countries becomes statistically insignificant once I add macro-economic controls. In other words, including the macro-economic controls eliminates the life satisfaction gap between post-socialist and advanced countries. Nonetheless, it is important to understand when exactly the life satisfaction gap closes.

Model (4) provides further information about the timing of the disappearance of the life satisfaction differentials. The interaction in the second row (Transition * Wave 3) shows that citizens in transition countries were 1.3 points less satisfied with their lives compared to their advanced countries counterparts in 1994–98, even after controlling for macro-economic differences. The gap becomes smaller in magnitude (–0.7) and only marginally statistically significant by 1999–2003 and is not statistically significant thereafter. Therefore, Models (3) and (4) jointly suggest that while macro-economic controls completely explain the average life satisfaction gap between transition and advanced countries in the 1994–2013 period, this relationship only begins starting in the mid-2000s. In Table 2, I further explore whether the RoL had any additional effects on reducing the gap in earlier years.

The coefficient estimates for the other variables included in Table 1 also warrant attention. The coefficient estimates for religiosity and social trust are positive and statistically significant, conforming to expectations and previous research findings. The number of memberships in voluntary and civil society groups becomes statistically significant once I control for economic conditions, but is also significant in

¹⁶ Therefore, what other authors call a “persistent” life satisfaction gap only refers to the unconditional gap and ignoring non-linear time effects.

Fig. 4. Life satisfaction by wave, transition and advanced countries. Note: The figure represents the predictive margins of life satisfaction by survey wave for transition and advanced countries (conditional marginal effects) with 95% confidence intervals. The results are based on the estimations in Model (2) in Table 1, which includes wave * transition dummy interactions. Source: Author's calculations based on the PRS' ICRG data merged with the World Value Survey and the World Bank's macro data.

Model (2). The rest of the socio-demographic variables generally have the expected signs. Life satisfaction is a U-shaped function of age with the minimum occurring at about age 44 (based on Model (1)). Females are more satisfied with their lives compared with males. In addition, being married, having a college education and having good self-reported health and income are all positively associated with life satisfaction. Being a full-time employee and the number of children are either marginally significant or not statistically significant. Inflation is negatively associated with life satisfaction, while GDP per capita is positively associated with it, although the unemployment rate coefficient estimate is statistically insignificant.

In short, Table 1's main takeaway is that living in a post-socialist society is associated with substantially lower life satisfaction levels compared with similar individuals living in the West. The life satisfaction penalty for living in a transition vs. an advanced country is about 0.9 on average, although it disappears in later survey waves and once I account for macro-economic conditions. Using earlier WVS waves and a sample of transition and non-transition countries (including developing countries), Guriev and Zhuravskaya (2009) find that even after including GDP per capita and country-level controls the life satisfaction differential between transition and non-transition countries is about 1.4 in wave 3 and 1.13 in wave 4 of the WVS. By contrast, according to my results, the life satisfaction differential is 1.8 in Wave 3 and is 1.3 in Wave 4, although it declines to 0.7 by Wave 5 and completely disappears by Wave 6 (2010–2013).

Table 2 includes the RoL variable from the PRS's ICRG data. Model (1) includes no macro-economic controls, Model (2) introduces the macro-economic controls (in addition to the RoL), Model (3) includes interaction terms for the transition country dummy and survey wave and Model (4) adds an interaction term between the RoL variable (minus its sample mean) and the transition country dummy. The coefficient on (the RoL-mean) * transition interaction shows the life satisfaction gap between transition and advanced countries evaluated at the mean of the RoL variable.

Model (1) shows that the life satisfaction differential reported in Table 1 (Models (1) and (2)) disappears once I control for the RoL. Including the macro-economic controls in Model (2) does not make a difference and the transition dummy remains statistically insignificant. Interestingly, Model (3) shows that while citizens in transition countries are less satisfied in their lives in the 1994–1998 wave, the differential disappears between 1999 and 2009, whereas there is even a positive well-being premium for transition economies in the post-crisis years in Wave 6 (2010–13). In other words, after controlling for macro-economic conditions and the RoL, respondents in post-socialist economies appear to be happier than their counterparts in the West in the 2010–2013 period. While it remains an open question whether this result persists in future waves, it could be due to the differential effects and timing of the crisis in Eastern Europe (i.e. appearing later and having abated by 2010) (Åslund, 2010). This paper's results suggest that the RoL has had a mediating effect during the economic crisis and its aftermath by fostering the life satisfaction of respondents in post-socialist economies.¹⁷

In all models, the RoL is positively associated with life satisfaction. However, the interaction between the RoL and the transition economies dummy in Model (4) shows that there is a life satisfaction penalty from the RoL for transition economies, although the magnitude of this penalty (−0.33) is insufficient to offset the positive life satisfaction influence of the RoL (0.56).

¹⁷ Nonetheless, this result is not robust to using the different RoL data source in Table B.2.

Table 2

Life satisfaction regressions, with rule of law control, 1994–2013.

Source: Author's calculations based on the PRS' ICRG data merged with the World Value Survey and the World Bank's macro data.

Dep. var. = life satisfaction (1–10)	(1)	(2)	(3)	(4)
Transition country (1 = yes)	−0.144 (0.224)	0.227 (0.199)		0.169 (0.203)
Transition * Wave 3 (1994–98)			−0.441** (0.215)	
Transition * Wave 4 (1999–04)			0.034 (0.307)	
Transition * Wave 5 (2005–09)			0.043 (0.228)	
Transition * Wave 6 (2010–13)			0.612*** (0.209)	
Rule of law (0–6)	0.406*** (0.129)	0.402*** (0.084)	0.383*** (0.071)	0.562*** (0.102)
(Rule of law -mean) * Transition				−0.324** (0.126)
Religion important (1 = yes)	0.218*** (0.041)	0.214*** (0.043)	0.201*** (0.040)	0.221*** (0.041)
Social trust (1 = yes)	0.343*** (0.045)	0.319*** (0.038)	0.333*** (0.035)	0.314*** (0.039)
Number of memberships	0.045*** (0.010)	0.043*** (0.010)	0.044*** (0.009)	0.037*** (0.009)
Age	−0.083*** (0.005)	−0.083*** (0.005)	−0.083*** (0.005)	−0.083*** (0.005)
Age ²	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
Male	−0.113*** (0.022)	−0.105*** (0.021)	−0.106*** (0.020)	−0.102*** (0.020)
Married or living together (1 = yes)	0.434*** (0.045)	0.446*** (0.039)	0.451*** (0.038)	0.453*** (0.038)
Some college/college diploma (1 = yes)	0.063 (0.038)	0.076** (0.036)	0.072** (0.034)	0.074** (0.034)
Number of children	0.029* (0.015)	0.030* (0.015)	0.026* (0.015)	0.025 (0.015)
Full-time employee (1 = yes)	0.067* (0.037)	0.034 (0.033)	0.044 (0.032)	0.037 (0.033)
Good Health (1 = yes)	1.530*** (0.069)	1.498*** (0.067)	1.489*** (0.069)	1.495*** (0.065)
Relative income	0.185*** (0.020)	0.181*** (0.020)	0.177*** (0.019)	0.177*** (0.019)
Log GDP per capita (2011 PPP)		0.625*** (0.170)	0.501*** (0.144)	0.543*** (0.150)
Unemployment rate		0.010 (0.015)	0.005 (0.015)	0.003 (0.013)
Inflation		−0.001*** (0.000)	−0.001*** (0.000)	−0.001*** (0.000)
Region dummies	Yes	Yes	Yes	Yes
Wave dummies	Yes	Yes	Yes	Yes
N	79,600	77,693	77,693	77,693
Adjusted R ²	0.244	0.253	0.259	0.255

Notes: The dependent variable is life satisfaction, on a 1–10 scale. All regressions are estimated using OLS with robust standard errors, clustered at the country level. All regressions include wave dummies and region dummies. The included regions are the Balkans, the Commonwealth of Independent States and the Ukraine, non-European advanced countries (the US, Australia, Canada, New Zealand, Korea, Japan, Singapore, Hong Kong), South-Central Europe and Northern Europe. See Tables A.1–A.2. for variable definitions and Table A.3 for the included countries.

*** p < 0.01.

** p < 0.05.

* p < 0.1.

This implies that while the RoL allows for achieving positive social outcomes and contributes to life satisfaction in general, the changes come at a life satisfaction cost, at least in a certain group of transition economies, as Table 3 reveals.

7.2. Results by EU vs. non-EU status

As noted above, transition economies had to either fundamentally reform the extant institutions or create new ones from scratch. In addition, many of the transition economies preparing for European Union (EU) membership had to shape their institutions in particular

ways to comply with EU admission criteria. Therefore, it is possible that while institutional reform is beneficial for a society in the long run, it also has short-term life satisfaction costs related to adapting to changes and new norms and rules.

To investigate the possible channels of institutional influence for life satisfaction stemming from EU membership, in separate regressions I compared: (i) EU-10 countries with the advanced countries, (ii) the non-EU-10 transition countries and the advanced countries and (iii) the EU-10 and non-EU-10 transition countries (Table 3). Across the board, the RoL measure is positively associated with life satisfaction.

Models (1) to (4) show that the transition country dummy is statistically insignificant, suggesting that there is no SWB premium or penalty for EU-10 countries compared with advanced countries (Models (1) and (2)) or when comparing the non-EU transition countries with advanced countries ((Models (3) and (4)). In Model (2), the interaction between RoL and the transition dummy is statistically insignificant, implying that there are no additional SWB benefits stemming from the RoL for EU-10 countries relative to advanced countries. In Model (4), the interaction term is negative, suggesting that there is indeed a life

Table 3

Life satisfaction regressions, with rule of law controls, EU and non-EU countries, 1994–2013.

Source: Author's calculations based on the PRS' ICRG data merged with the World Value Survey and the World Bank's macro data.

Dep. var. = life satisfaction (1–10)	(1) EU-10 vs. advanced	(2) EU-10 vs. advanced	(3) Non-EU transition vs. advanced	(4) Non-EU transition vs. advanced	(5) EU-10 vs. non-EU-10 transition	(6) EU-10 vs. non-EU-10 transition
Transition country (1 = yes)	0.209 (0.236)	−0.120 (0.305)	0.421 (0.331)	0.209 (0.347)		
EU-10 country (1 = yes, 0 = non-EU transition)					−0.558** (0.197)	−0.117 (0.257)
Rule of law (0–6)	0.459*** (0.110)	0.527*** (0.104)	0.368*** (0.079)	0.502*** (0.095)	0.308*** (0.090)	0.211** (0.097)
(Rule of law -mean) * Transition		−0.656 (0.393)		−0.298** (0.137)		
(Rule of law -mean) * EU-10						0.655** (0.290)
Religion important (1 = yes)	0.225*** (0.044)	0.230*** (0.044)	0.187*** (0.046)	0.188*** (0.043)	0.287*** (0.058)	0.268*** (0.050)
Social trust (1 = yes)	0.326*** (0.050)	0.327*** (0.048)	0.333*** (0.040)	0.329*** (0.039)	0.285*** (0.038)	0.288*** (0.043)
Number of memberships	0.042*** (0.009)	0.041*** (0.009)	0.037*** (0.009)	0.032*** (0.009)	0.059*** (0.013)	0.054*** (0.011)
Age	−0.075*** (0.005)	−0.075*** (0.005)	−0.081*** (0.006)	−0.080*** (0.006)	−0.089*** (0.007)	−0.087*** (0.007)
Age ²	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
Male	−0.132*** (0.021)	−0.131*** (0.021)	−0.111*** (0.023)	−0.109*** (0.022)	−0.059** (0.023)	−0.062** (0.023)
Married or living together (1 = yes)	0.494*** (0.041)	0.505*** (0.037)	0.448*** (0.044)	0.451*** (0.044)	0.392*** (0.053)	0.384*** (0.051)
Some college/college diploma (1 = yes)	0.055 (0.035)	0.055 (0.035)	0.066* (0.037)	0.063* (0.035)	0.177*** (0.050)	0.172*** (0.047)
Number of children	0.011 (0.013)	0.008 (0.013)	0.033** (0.015)	0.028* (0.014)	0.029 (0.031)	0.027 (0.030)
Full-time employee (1 = yes)	0.097*** (0.028)	0.105*** (0.030)	0.036 (0.035)	0.037 (0.034)	−0.023 (0.051)	−0.028 (0.049)
Good health (1 = yes)	1.528*** (0.061)	1.530*** (0.061)	1.549*** (0.079)	1.543*** (0.078)	1.196*** (0.065)	1.181*** (0.065)
Relative income	0.149*** (0.021)	0.142*** (0.017)	0.160*** (0.020)	0.159*** (0.020)	0.274*** (0.027)	0.281*** (0.027)
Log GDP per capita (2011 PPP)	0.474 (0.317)	0.340 (0.283)	0.672*** (0.189)	0.601*** (0.171)	0.457** (0.178)	0.390** (0.170)
Unemployment rate	0.005 (0.017)	−0.005 (0.016)	−0.001 (0.014)	−0.005 (0.013)	−0.022 (0.027)	−0.028 (0.028)
Inflation	−0.001*** (0.000)	−0.001*** (0.000)	−0.005*** (0.001)	−0.005*** (0.001)	−0.000** (0.000)	−0.000 (0.000)
Region dummies	Yes	Yes	Yes	Yes	Yes	Yes
Wave dummies	Yes	Yes	Yes	Yes	Yes	Yes
N	58,759	58,759	64,577	64,577	32,050	32,050
Adjusted R ²	0.202	0.204	0.256	0.257	0.237	0.239

Notes: The dependent variable is life satisfaction, on a 1–10 scale. All regressions are estimated using OLS with robust standard errors, clustered at the country level. All regressions include wave dummies and region dummies. The included regions are the Balkans, the Commonwealth of Independent States and the Ukraine, non-European advanced countries (the US, Australia, Canada, New Zealand, Korea, Japan, Singapore, Hong Kong), South-Central Europe and Northern Europe. See Tables A.1–A.2 for variable definitions and Table A.3 for the included countries.

*** p < 0.01.

** p < 0.05.

* p < 0.1.

satisfaction penalty for non-EU countries compared with the advanced countries, which is probably driving the results in Table 2, Column 4 above. In other words, while institutions have a positive influence on life satisfaction in general, the magnitude of this positive effect is reduced by half for non-EU transition economies.

Models (5) and (6) compare EU-10 and non-EU-10 countries. Based on Model (5), respondents in EU-10 countries are about 0.56 points less life-satisfied than those in non-EU transition countries. Upon first consideration, one might conclude that there is a life satisfaction penalty for being an EU member, yet the results are a little more nuanced. While the EU-10 country dummy is statistically insignificant, the interaction term between the RoL and the EU-10 country dummy in Model (6) shows that there is an additional life satisfaction benefit of 0.66 points coming from the RoL for citizens living in EU transition countries.¹⁸ In short, joining the EU has helped the EU-10 societies to reform their institutions, which has further improved the overall quality of the social fabric and the functioning of a country, as captured in the life satisfaction outcomes.

7.3. Relative importance of institutional and macro-economic factors in transition economies

The analyses thus far demonstrate that the life satisfaction gap between transition and advanced countries can be closed by improving macro-economic conditions and the RoL. Here, I further examine the relative importance of each life satisfaction determinant to better understand what the predictors of life satisfaction in transition countries are and how policy-makers in post-socialist societies can direct their efforts to increase the perceived quality of life of their citizens. Note that the analyses in this section only use the sample of transition economies, employing variance decompositions using institutional data from the PRS Group. The same analyses are available in the Appendix Fig. B.2 using the RoL variable from the World Bank.

Overall, relative income and socio-demographic characteristics appear to be the most relevant determinants of life satisfaction in post-socialist countries, jointly explaining almost two-thirds of the variation in the dependent variable. The country's material well-being and macro-economic volatility, as proxied by real GDP per capita and inflation, respectively, jointly explain about one-quarter of the variation in life satisfaction in post-socialist societies. The RoL is much less relevant, i.e. it only explains 2% of this variation, while the unemployment rate only accounts for 1%.

Based on these results, it appears that decision-makers in transition economies could improve perceived well-being through focusing on macro-economic reforms that increase material well-being and reduce volatility. At the same time, the results presented in Fig. 5 are conditional on the RoL and informal institutions, suggesting that macro-economic reforms by themselves may be necessary yet insufficient to ensure objective and SWB. In the spirit of Milton Friedman's work, the RoL is necessary to facilitate the success of economic reforms. Social capital and trust are additional preconditions that enable social progress and economic and institutional reforms. Therefore, while macro-economic reforms may close the life satisfaction gap between advanced and transition countries, social trust and institutional arrangements are necessary to ensure well-being improvements in transition economies.

8. Discussion and conclusion

The transition process in CEE and the FSU was marked by the creation and major reforming of formal institutions on the one hand and the deterioration of informal institutions and social capital on the other. Macro-economic studies have traditionally been concerned with studying the instrumental role of institutions for GDP and growth. However, the economics of happiness has started investigating the link between micro- and macro-level and institutional determinants of SWB amidst the growing realization that human well-being also has non-income dimensions. Given their informational value, SWB metrics can provide a guide to policy by revealing information about the personal consequences of reforms and phenomena, which GDP may fail to reflect (Easterlin, 2014). Whether and how the RoL is linked to SWB is important not only intrinsically but also instrumentally, given that happiness and life satisfaction are associated with positive outcomes such as health, longevity, productivity, innovation and others.

The large literature on happiness in transition has documented declining life satisfaction in transition and a "happiness gap" between transition and non-transition countries. While the literature on the determinants of the gap is scarce, several studies shed some light. For example, Guriev and Zhuravskaya (2009) discover that the gap disappears once they account for sample bias, age and education, income, income volatility, inequality and public goods. In this paper, I use a more recent time series and explore the extent to which the life satisfaction gap between transition and advanced countries is due to institutional features. While I propose that institutions are a major factor behind the perceived well-being differentials between transition and advanced countries, I do not imply that institutions can account for all of the unexplained variation in SWB; rather, I simply explore whether and to what extent the RoL can account for observed quality-of-life gaps between CEE/FSU and the West.

For this purpose, I merge individual-level data from the EVS/WVS with macro-economic and institutional variables. This paper's main results can be summarized as follows. First, there is an unconditional life satisfaction gap between transition and non-transition countries, which has been decreasing over time (Fig. 1). Controlling for a large set of socio-demographic characteristics, this gap persisted until the early-2000s but has closed in the latest wave of the WVS survey (Table 1, Model (2)). Macro-economic covariates were found to be a part of the explanation for this reduction. In the 1990s and early-2000s, macro-economic differences between transition countries and the West reduce the magnitude of the gap and completely eliminate it by Wave 5 of the WVS (Models (2) and (4) in Table 1). RoL was a factor reducing the size of the life satisfaction gap in the 1990s and it completely explained life satisfaction in Waves 4–5 of the WVS. In fact, it appears that holding both macro-economic factors and the RoL constant, transition countries appear to be 0.6 points happier than

¹⁸ This positive life satisfaction premium for the EU-10 members could be interpreted as a "credibility effect" of the improved institutions over time.

Fig. 5. Relative importance of factors for life satisfaction, transition countries, (% contribution to R^2). Notes: $R^2 = 0.236$ the figure shows the Shapley-based decomposition results, based on the PRS analysis sample, for the sub-sample of transition economies based on a regression of life satisfaction on the RoL, socio-demographic characteristics, macro-economic factors, social capital variables and wave dummies. The socio-demographics include: age, age squared, gender, marital status, education, employment status and health perceptions.

Source: Author's calculations based on the PRS' ICRG data merged with the World Value Survey and the World Bank's macro data.

advanced countries in the latest WVS wave. In other words, this paper's results suggest that people in post-socialist countries may be on a path to transition completion, at least in people's minds.

The findings also show that macro-economic conditions are more important than the RoL for the life satisfaction of citizens in transition economies. Nonetheless, economic progress is unlikely to be successful without the existence of solid formal and informal institutional fundaments. The EU has been an important catalyst of institutional change in the transition countries that joined in the 2004, 2007 and 2013 enlargements, while the prospect of EU membership has also shaped the institutional transformations in other transition economies. Importantly, however, while institutional change is a gradual and long-term process as transition economies continue their transformation processes, they will also improve their quality-of-life perceptions.

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Appendix A. Data and summary statistics

Table A.1

Variables used in the main analyses.

Source: Author based on World Value Survey, 1981–2014 Longitudinal Data File. The Root Questionnaire for Wave 5 was used for question wording. Note that question wording may differ across the waves.

Variable	Definition	Values/Scale*
Dependent variables		
Life satisfaction	All things considered, how satisfied are you with your life as a whole these days? Using this card on which 1 means you are "completely dissatisfied" and 10 means you are "completely satisfied", where would you put your satisfaction with your life as a whole?	1 = completely dissatisfied 10 = completely satisfied

Table A.1 (continued)

Variable	Definition	Values/Scale*
Independent variables		
Age	Respondent's age	
Age squared	Respondent's age squared divided by 100	
Male	Respondent's gender	1 = male 0 = female
Marital status ^a	Respondent's marital status	1 = married or living together; 0 = otherwise (divorced, separated, or widowed; single)
College	Whether the respondent has some college education or a college diploma	1 = yes; 0 = no
Kids ^a	Number of own children	Note: 8 or more was top-coded as 8
Employment status ^a	Respondent's employment status	1 = full-time; 0 = otherwise (including: part-time, self-employed; retired; housewife; student; unemployed; other)
Health ^a	All in all, how would you describe your state of health these days? Would you say it is...	0 = bad (very poor and poor) 1 = good (fair, good, very good)
Religiosity ^a	Religion. For each of the following, indicate how important it is in your life. Would you say it is...	0 = not important (not at all important and not very important) 1 = important (rather important and very important)
Social trust	Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?	1 = most people can be trusted 0 = need to be very careful
Membership	Number of memberships: belong to social welfare service for elderly; belong to religious organization; belong to education, arts, music or cultural activities; member; belong to labor unions; belong to political parties; belong to local political actions; belong to human rights; belong to conservation, the environment, ecology, animal rights; belong to conservation, the environment, ecology; belong to animal rights; belong to professional associations; belong to youth work; belong to sports or recreation; belong to women's group; belong to peace movement; belong to organization concerned with health; belong to other groups; active/inactive membership of church or religious organization; active/inactive membership of sport or recreation; active/inactive membership of art, music, educational; active/inactive membership of labor unions; active/inactive membership of political party; active/inactive membership of environmental organization; active/inactive membership of professional organization; active/inactive membership of charitable/humanitarian organization; active/inactive membership of any other organization; active/inactive membership: consumer organization	Min = 0; max = 16
Income scale	On this card is an income scale on which 1 indicates the lowest income group and 10 the highest income group in your country. We would like to know in what group your household is. Please, specify the appropriate number, counting all wages, salaries, pensions and other incomes that come in.	1 = lowest income group 10 = highest income group

^a Recoded scale reported.**Table A.2**

Macro-economic and institutional quality variables.

Source: Author based on WDI Documentation, ICRG Methodology Documents, and Kaufman et al. (2010).

Variable	Definition	Values/scale ^a
WDI variables		
GDP per capita	GDP per capita, PPP (constant 2011 international \$)	This variable is log-transformed
Inflation	Inflation, consumer prices (annual %)	
Unemployment	Unemployment, total (% of total labor force) (modeled ILO estimate)	
ICRG PRS rule of law variable		
Law and order	"Law" is assessed based on the strength and objectiveness of the legal system; "order" is assessed based on popular observance of the law.	0 = high risk; 6 = low risk
WGI rule of law variable		
Rule of law ^a	"capturing perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence" Kaufmann et al. (2010), p. 4).	Rescaled to range from 0 to 6 (original scale: from -2.5 to +2.5)

^a Recoded scale reported.

Table A.3

Countries included in analyses.

Source: Author, based on estimation sample from Model (1), Table 1 for ICRG and Table B.1, Model (1) for WGI.

Wave	Using ICRG data for institutions		Using WGI data for institutions	
	Transition countries	Advanced countries	Transition countries	Advanced countries
Wave 3 (1994–1998)	Albania, Armenia, Azerbaijan, Belarus, Bulgaria, Czech Republic, Estonia, Latvia, Lithuania, Moldova, Romania, Russia, Serbia, Slovakia, the Ukraine	Australia, Finland, Germany, New Zealand, Norway, Spain, Sweden, Switzerland, United States	Albania, Belarus, Bosnia and Herzegovina, Czech Republic, Estonia, Latvia, Moldova, Montenegro, Romania, Serbia, Slovakia, the Ukraine	Finland, New Zealand, Norway, Sweden, Switzerland
Wave 4 (1999–2004)	Albania, Moldova, Serbia	Canada, Japan, South Korea, Spain, United States	Albania, Kyrgyz Republic, Moldova	Canada, Japan, Spain
Wave 5 (2005–2009)	Bulgaria, Hungary, Moldova, Poland, Romania, Russia, Serbia, Slovenia, the Ukraine	Australia, Canada, Cyprus, Finland, France, Germany, Hong Kong, Italy, Japan, South Korea, Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, Great Britain	Bulgaria, Georgia, Hungary, Moldova, Poland, Romania, Russia, Serbia, Slovenia, Ukraine	Australia, Canada, Cyprus, Finland, France, Germany, Hong Kong, Italy, Japan, South Korea, Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, Great Britain
Wave 6 (2010–2013)	Armenia, Azerbaijan, Belarus, Estonia, Kazakhstan, Poland, Romania, Russia, Slovenia, the Ukraine	Australia, Cyprus, Germany, Japan, South Korea, Netherlands, New Zealand, Singapore, Spain, Sweden, United States	Armenia, Azerbaijan, Belarus, Estonia, Kazakhstan, Kyrgyz Republic, Poland, Romania, Russia, Slovenia, the Ukraine, Uzbekistan	Australia, Cyprus, Germany, Japan, South Korea, Netherlands, New Zealand, Singapore, Spain, Sweden, United States

Appendix B. Robustness checks using RoL data from the worldwide governance indicators

As a robustness check, I also merged the WVS-WDI data with comparable RoL information from the Worldwide Governance Database following the same procedure as in the main analysis. See Table A.3 for the countries included in the analysis. The data source does not seem to make a tremendous difference and the results are robust to using the RoL measure from the WGI.

Fig. B.1 shows that the WGI's measure of the RoL tends to vary much less compared with the PRS's measure shown in Fig. 2. Transition countries also score lower on the WGI's rule of law index compared with the one provided by PRS.

Fig. B.1. Rule of law, unconditional mean, 1994–2013.

Source: Author's calculations based on the World Bank's WGI Data merged with the World Value Survey and the World Bank's macro data.

Tables B.1 and B.2 show the same analyses as in Tables 1–2 in the main analysis. In Table B.1 Models (1) and (2) include only socio-economic and demographic controls, while Models (3) and (4) introduce the macro-level controls. The results in Table B.1 are very similar to those in Table 1. Model (1) in Table B.1 shows that the conditional life satisfaction differential between transition and advanced countries is about 0.7 on a scale of 1–10 (compared with 0.9 in the main analysis). As in the main analysis (Table 1), Model (2) in Table B.1 shows that the life satisfaction gap declined across the waves, from about 1.9 points in Wave 3 to about 0.7 points in Wave 5 and is not statistically significant in the last wave. As in the main analysis, the life satisfaction gap disappears when I add the macro-economic variables in Model (3). After controlling for macro-economic conditions, the life satisfaction gap between advanced and transition economies only appears in Wave 3 (1994–1998), before subsequently disappearing in later waves. In the main analysis, there is a marginally significant life satisfaction gap in Wave 4, even after controlling for macro-economic conditions.

In Table B.2, I present the same set of regression results as those in Table 2. As in the main analysis, the results in Table B.2 show that the transition country dummy becomes statistically insignificant once I add the RoL control. While the main conclusions and results still hold, there are several notable differences between Tables 2 and B.2. First, referring to Column (3), whereas

Table B.1

Life satisfaction regressions, socio-economic and macro-economic determinants, 1994–2013.

Source: Author's calculations based on the World Bank's WGI Data merged with the World Value Survey and the World Bank's macro data.

Dep. var. = life satisfaction (1–10)	(1)	(2)	(3)	(4)
Transition country (1 = yes)	–0.738** (0.279)		–0.368 (0.276)	
Transition * Wave 3		–1.901*** (0.253)		–1.580*** (0.344)
Transition * Wave 4		–1.138* (0.625)		–0.642 (0.522)
Transition * Wave 5		–0.729*** (0.263)		–0.424 (0.264)
Transition * Wave 6		0.022 (0.279)		0.141 (0.250)
Religion important (1 = yes)	0.183*** (0.052)	0.176*** (0.042)	0.200*** (0.055)	0.193*** (0.046)
Social trust (1 = yes)	0.386*** (0.048)	0.373*** (0.041)	0.365*** (0.045)	0.360*** (0.038)
Number of memberships	0.065*** (0.014)	0.061*** (0.010)	0.069*** (0.013)	0.064*** (0.010)
Age	–0.085*** (0.005)	–0.084*** (0.005)	–0.085*** (0.005)	–0.084*** (0.005)
Age ²	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
Male	–0.100*** (0.026)	–0.095*** (0.023)	–0.092*** (0.025)	–0.093*** (0.023)
Married or living together (1 = yes)	0.366*** (0.039)	0.384*** (0.034)	0.380*** (0.036)	0.386*** (0.034)
Some college/college diploma (1 = yes)	0.026 (0.050)	0.040 (0.043)	0.076* (0.038)	0.078** (0.036)
Number of children	0.062** (0.024)	0.051** (0.020)	0.050** (0.020)	0.043** (0.018)
Full-time employee (1 = yes)	0.010 (0.052)	0.012 (0.046)	0.011 (0.039)	0.021 (0.036)
Good health (1 = yes)	1.525*** (0.076)	1.484*** (0.071)	1.469*** (0.073)	1.455*** (0.069)
Relative income	0.207*** (0.021)	0.198*** (0.019)	0.191*** (0.019)	0.187*** (0.018)
Log GDP per capita (2011 PPP)			0.485* (0.262)	0.246 (0.188)
Unemployment rate			–0.012 (0.017)	–0.018 (0.014)
Inflation			–0.010* (0.005)	–0.001 (0.005)
Region and wave dummies	Yes	Yes	Yes	Yes
N	81,039	81,039	76,805	76,805
Adjusted R ²	0.260	0.280	0.277	0.288

Notes: The dependent variable in all regressions is life satisfaction, measured on a scale of 1 to 10. All regressions are estimated using OLS with robust standard errors, clustered at the country level. All regressions include wave dummies and region dummies. The included regions are: Balkans, Commonwealth of Independent States and the Ukraine, non-European advanced countries (US, Australia, Canada, New Zealand, Korea, Japan, Singapore, Hong Kong), South-Central Europe, Northern Europe. See Tables A.1–A.2 for variable definitions and Table A.3 for the included countries.

*** p < 0.01.

** p < 0.05.

* p < 0.1.

Table B.2

Life satisfaction regressions, with rule of law controls from the World Bank, 1994–2013.

Source: Author's calculations based on the World Bank's WGI Data merged with the World Value Survey and the World Bank's macro data.

Dep. var. = life satisfaction (1–10)	(1)	(2)	(3)	(4)
Transition country (1 = yes)	–0.519 (0.339)	–0.268 (0.324)		0.335 (0.303)
Transition * Wave 3			–1.497*** (0.407)	
Transition * Wave 4			–0.564 (0.511)	
Transition * Wave 5			–0.364 (0.297)	
Transition * Wave 6			0.211 (0.303)	
Rule of law (0–5)	0.141 (0.147)	0.078 (0.118)	0.053 (0.097)	0.428*** (0.133)
(Rule of law -mean) * Transition				–0.598** (0.232)
Religion important (1 = yes)	0.186*** (0.053)	0.199*** (0.055)	0.193*** (0.046)	0.214*** (0.058)
Social trust (1 = yes)	0.375*** (0.045)	0.361*** (0.044)	0.358*** (0.037)	0.334*** (0.041)
Number of memberships	0.061*** (0.012)	0.068*** (0.013)	0.063*** (0.010)	0.054*** (0.011)
Age	–0.084*** (0.005)	–0.084*** (0.005)	–0.084*** (0.005)	–0.084*** (0.005)
Age ²	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
Male	–0.095*** (0.027)	–0.091*** (0.025)	–0.092*** (0.023)	–0.088*** (0.025)
Married or living together (1 = yes)	0.364*** (0.040)	0.378*** (0.036)	0.385*** (0.035)	0.394*** (0.036)
Some college/college diploma (1 = yes)	0.027 (0.050)	0.077** (0.037)	0.079** (0.036)	0.092** (0.036)
Number of children	0.065** (0.024)	0.050** (0.020)	0.043** (0.018)	0.042** (0.018)
Full-time employee (1 = yes)	0.001 (0.047)	0.008 (0.037)	0.019 (0.034)	0.012 (0.035)
Good health (1 = yes)	1.532*** (0.075)	1.474*** (0.073)	1.457*** (0.069)	1.455*** (0.068)
Relative income	0.209*** (0.020)	0.192*** (0.018)	0.188*** (0.017)	0.184*** (0.017)
Log GDP per capita (2011 PPP)		0.462* (0.259)	0.233 (0.190)	0.374 (0.229)
Unemployment rate		–0.011 (0.018)	–0.017 (0.014)	–0.017 (0.015)
Inflation		–0.009* (0.005)	–0.000 (0.005)	–0.010** (0.005)
Region and wave dummies	Yes	Yes	Yes	Yes
N	80,850	76,805	76,805	76,805
Adjusted R ²	0.262	0.278	0.288	0.282

Notes: The dependent variable is life satisfaction, measured on a scale of 1 to 10. All regressions are estimated using OLS with robust standard errors, clustered at the country level. All regressions include wave dummies and region dummies. The included regions are: Balkans, Commonwealth of Independent States and the Ukraine, non-European advanced countries (US, Australia, Canada, New Zealand, Korea, Japan, Singapore, Hong Kong), South-Central Europe, Northern Europe. See [Tables A.1–A.2](#) for variable definitions and [Table A.3](#) for the included countries.

*** p < 0.01.

** p < 0.05.

* p < 0.1.

there is a positive well-being premium for transition economies in the last wave of the WVS in [Table 2](#), the results in [Table B.2](#) show a positive coefficient, although it is not statistically significant.¹⁹

Second, note that the RoL variable is positive but statistically insignificant in Models (1) to (3). In fact, this variable does not vary much: its mean is 1.9 with a standard deviation of 1.2 for transition economies and 5.3 with a standard deviation of 0.6 in the advanced economies sample. The results suggest that as it does not strongly vary, especially in the advanced countries sample, the RoL variable in the WGI may not be a robust predictor of life satisfaction.

Finally, note that based on Model (4), there appears to be a large and statistically significant negative life satisfaction premium for transition economies related to the RoL, which is also evident in Column (4) of [Table 2](#). It appears that while the results are

¹⁹ The life satisfaction differences between post-socialist and advanced countries in Wave 3 is about 1.5 points in [Table B.1](#), whereas it is only 0.4 points in [Table 2](#).

somewhat sensitive to the data source and countries included in the analysis, the general conclusion is that improving macro-economic and institutional conditions may indeed raise the perceived quality of life in transition economies.

Fig. B.2. Relative importance of factors for life satisfaction, transition countries (% contribution to R^2).

Notes: $R^2 = 0.250$. The figure shows the Shapley-based decomposition results, based on the WGI analysis sample, for the sub-sample of transition economies based on a regression of life satisfaction on the RoL, socio-demographic characteristics, macro-economic factors, social capital variables and wave dummies. The socio-demographics include: age, age squared, gender, marital status, education, employment status and health perceptions.

Source: Author's calculations based on the World Bank's WGI Data merged with the World Value Survey and the World Bank's macro data.

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