DISCUSSION PAPER SERIES

IZA DP No. 9484

Minding the Happiness Gap: Political Institutions and Perceived Quality of Life in Transition

Milena Nikolova

November 2015

Forschungsinstitut
zur Zukunft der Arbeit
Institute for the Study
of Labor

Minding the Happiness Gap: Political Institutions and Perceived Quality of Life in Transition

Milena Nikolova
IZA and Brookings Institution

Discussion Paper No. 9484
November 2015

IZA

P.O. Box 7240
53072 Bonn
Germany

Phone: +49-228-3894-0
Fax: +49-228-3894-180
E-mail: iza@iza.org

IZA Discussion Paper No. 9484
November 2015

ABSTRACT

Minding the Happiness Gap: Political Institutions and Perceived Quality of Life in Transition*

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 which accompanied the transition process, including deteriorating public goods, rising inequality, income volatility, stagnating labor market conditions, and changing norms. Yet, 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 in explaining this gap. My results imply that both macroeconomic factors and the rule of law explain the overall life satisfaction differential between the advanced and transition societies. The rule of law had an additional role of reducing the happiness gap in the 1990s and may have even reversed it in the post-crisis years. As institutions and macroeconomic conditions continue to improve, post-socialist countries may complete their transformation processes and achieve quality of life levels comparable with those in the West.

JEL Classification: D02, E02, I31, P20

Keywords: subjective well-being, institutions, transition economies

Corresponding author:

Milena Nikolova
IZA
P.O. Box 7240
53072 Bonn
Germany
E-mail: nikolova@iza.org

* I am greatly indebted to Carol Graham, Niclas Berggren, Derek Stemple, David Dorn, Maryam Naghsh Nejad, Elena Nikolova, and Tommaso Colussi for their encouragement and comments on earlier drafts. I'd be remiss if I failed to acknowledge excellent copy editing support from Derek Stemple and Sarah Stahlmann and help with procuring articles for the literature review from Margard Ody. All errors remain my own. This paper was originally presented on March 13, 2015 at the Public Choice Society Meetings in San Antonio, Texas.

1. Introduction

The transition process in the former Soviet Union (FSU) and Central and Eastern Europe (CEE), which began with the emblematic fall of the Berlin Wall in 1989, 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, and liberalizing prices and foreign exchange (EC, 2015a). Importantly, these fledgling democracies had to create the legal and institutional fundamentals that underpin democratic and capitalists states, including designing modern institutions of public finance, (central) banking, and customs (Guriev & 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 buildup 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 that a persistent life satisfaction differential still exists between transition and non-transition countries. This paper examines the role of rule of law (RoL) in explaining the subjective well-being differentials between transition and advanced societies (i.e., the "happiness gap"). It finds that in addition to macroeconomic factors, the conditional unhappiness gap in these countries may be accounted for by political institutions proxied by the rule of law. 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.[2]

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, these metrics furnish important complementary information to objective indicators such as income, employment, and consumption. They are furthermore 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, Diener, Tay, & Xuereb, 2013). Importantly, SWB may be relevant for the political process as voting behavior may in part be determined by SWB

[1] Social capital formally refers to the "institutionalized norms of reciprocity and trust" which enable communities to solve collective action problems (Adsera, Boix, & Payne, 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 & Gërxhani, 2008).

[2] While the "happiness gap" follows the same logic as in Guriev and Zhuravskaya (2009), the latter paper looks at the differences between transition and non-transition countries (including advanced and developing countries).

(Dolan, Metcalfe, & Powdthavee, 2008; Liberini, Redoano, & Proto, 2014; Ward, 2015). Thus, studying how institutions and macroeconomic conditions affect SWB and whether they can help transition countries on their way to prosperity is important for policymakers 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 look at its determinants. (Djankov, Nikolova, & Zilinsky, 2015; Gruen & Klasen, 2012; Guriev & Zhuravskaya, 2009).[3] This paper builds on and substantially extends previous studies in several ways. First, unlike other papers looking at 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 rule of law. Since institutional quality works both through improving the quality of the social fabric and enhancing 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 macroeconomic variables. Third, I use variance decompositions to study the relative importance of macroeconomic vs. institutional and socio-demographic factors for individual life satisfaction in transition, which to my knowledge, has not been done in this context before. Finally, I distinguish between EU and non-EU transition countries and see whether EU membership and the institutional transformations it entailed had a particular effect for post-socialist countries.

2. Life and Unhappiness in Transition

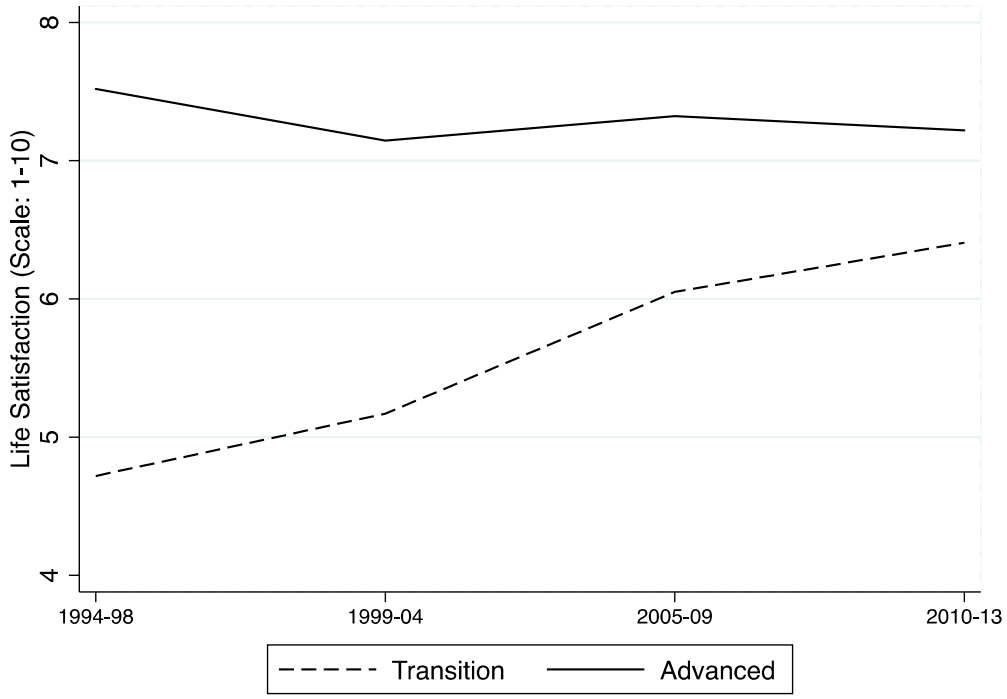
Figure 1 shows the average life satisfaction levels for transition and advanced countries in the main analysis sample based on data from the last four waves of the World Values Survey (1994-2013). Using earlier WVS waves, other studies document that life satisfaction has a V-shape in transition economies (Easterlin, 2009, 2014; Guriev & Zhuravskaya, 2009; Sanfey & Teksoz, 2007). During the 1990s, life satisfaction in transition economies fell dramatically, 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. Yet, even in the last WVS wave, the unconditional happiness gap is about 1 on a scale of 1-10, which is substantial. According to Figure 1, while life evaluations in advanced economies have remained relatively stable over the time period of analysis, those in transition countries started at relatively low levels in mid-1990s. Studying what

[3] Note that Djankov et al.'s (2015) work, which appeared after this paper was already in the editorial 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, but we include them in the transition countries list.

underlies these life satisfaction differentials between transition and advanced nations is therefore the focus of this paper.

Figure 1: Life Satisfaction, Unconditional Mean, 1994-2013



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

The conclusion of the relatively large literature on unhappiness in transition is, consequently, 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, Mikucka, & Sarracino, 2015). Other causes of declining happiness in transition economies could include the depreciation of education acquired under socialism, deteriorating public goods, income inequality (Guriev & Zhuravskaya, 2009), worsening social protection and stagnating employment conditions (Easterlin, 2009), and changing norms and volatility (Graham & 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

[5] Factors such as increasing economic, political, and social freedoms (Inglehart, Foa, Peterson, & Welzel, 2008; Lelkes, 2006; Sanfey & Teksoz, 2007) and greater access to consumer goods (Guriev & Zhuravskaya, 2009) were arguably a positive channel affecting life satisfaction. It seems, however, 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.

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 & Doucouliagos, 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 economic growth does not correlate with a country's SWB over time—may not hold overall (Stevenson & 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 in general institutional change is 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 policymakers to understand the role of the rule of law (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 which 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, Johnson, & Robinson, 2005; Dawson, 1998; Easterly, Ritzen, & Woolcock, 2006), and health outcomes (Kozlov & Balalaeva, 2014).

There is much heterogeneity with respect to the level of economic and institutional advancements among transition 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, and functioning market economies. In light of this, more generally, two different patterns of democratic and economic transformation have emerged based on geographic proximity to the EU (Golinelli & 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 of the political process (Golinelli & Rovelli, 2013).

The rule of law (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, no retroactive laws, and 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, and 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

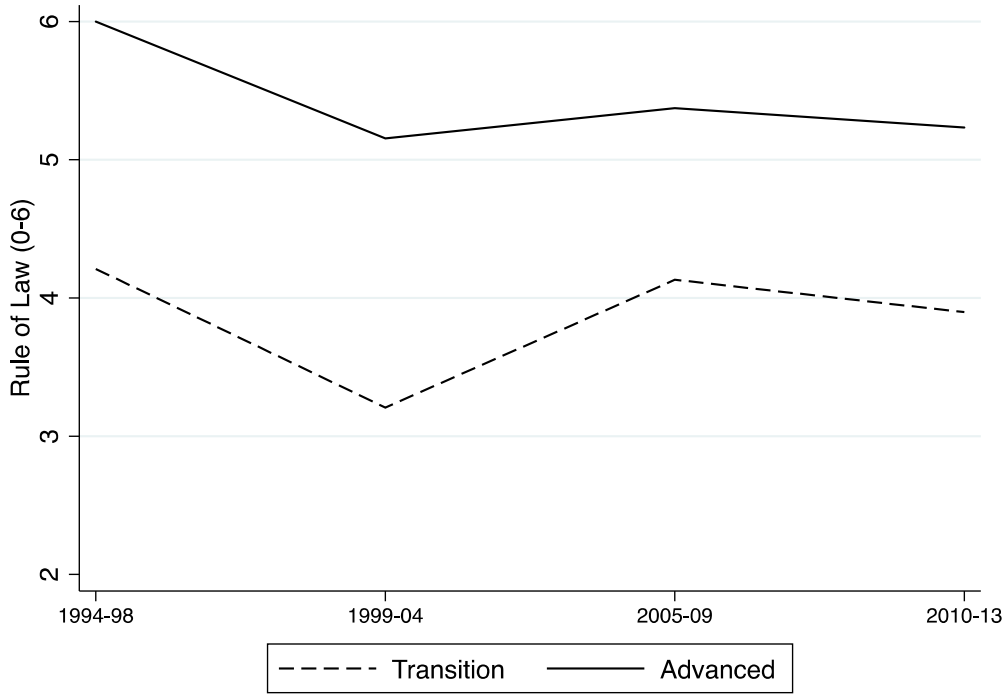
RoL reforms. Specifically, Carothers (1998) distinguishes among three types or reforms. Type I refers to revising laws and codes and redrafting laws in the economic realm such as bankruptcy law, corporate governance, taxation, and finance. In contrast, Type II reforms target law-related institutions 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 by, for example, 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. Figure 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 effect or even a negative effect on the quality of governance (Askarov & 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, Dreher, & Fischer, 2010; Dorn, Fischer, Kirchgässner, & Sousa-Poza, 2007; Helliwell & 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. Economic conditions in most transition economies had recovered by the mid-1990s, the beginning of the analysis period used in this paper, allowing me to discern the additional effects, if any, of political institutions and the rule of law in explaining the life satisfaction gap.

Second, theoretically, because the RoL concept is related to democracy and the market economy, it is of 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, absence of crime and violence. In 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 furthermore correlated with one another and broadly reflect one key concept related to the consequences of good institutions (Bjørnskov, et al., 2010; Langbein & Knack, 2010).

Figure 2: Rule of Law, Unconditional Mean, 1994-2013



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

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 & Nikolova, 2015; OECD, 2013; Stone & Mackie, 2014). Evaluative well-being relates to the opportunities and means that people have, while hedonic well-being encompasses positive and negative feelings of how people experience their daily lives (Graham & Nikolova, 2015). Despite earlier skepticism about subjective data (Bertrand & Mullainathan, 2001), several decades of research have shown that SWB metrics are valid, reliable, and comparable across groups of individuals in different contexts and over time (Di Tella & MacCulloch, 2006; Helliwell & Barrington-Leigh, 2010; Helliwell, Barrington-Leigh, Harris, & Huang, 2010; Kahneman & Krueger, 2006; OECD, 2011, 2013; Stone & 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 (2014) suggest, possibly genetically determined. 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. Even so, the reported R^2 values are relatively low, reflecting the notion that much of perceived well-being is unexplained and unobservable.

The increased attention of SWB measures from policymakers, academics, and the general public alike, is in part due to the growing realization that GDP and employment statistics are insufficient to understand all aspects of human well-being (Stiglitz, Sen, & Fitoussi, 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, MacCulloch, & Oswald, 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 macroeconomic 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, and many others (Easterlin, 2009). The Happiness Economics approach is also useful for assessing the well-being consequences of situations that 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 & 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, Benz, & Stutzer, 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, another direct channel to life satisfaction (Delhey, 2001). Similarly, good institutions imply a strong social contract guided by norms and networks 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, quality of life perceptions.[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

[6] Yet, 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).

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 & Compen, 2012; Nikolaev, 2014; Rode, 2013; Spruk & Kešeljević, 2015).[7] Because 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 subjective well-being, 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 Values 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, rule of law, 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 than more advanced countries. Importantly, the results (both in terms of significance and direction of the association between SWB and institutions) seem to depend on 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. (2014) find that social trust is a powerful determinant of observed SWB trends in the long-run, even more powerful than GDP. In the short-run, however, only GDP matters for SWB in transition

[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).

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). The transition process less adversely affected those who were attached to religious institutions, moreover. 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, Huang, and Wang (2014) shows that social trust explains country-level life satisfaction changes in Europe's post-socialist countries but not in the advanced countries, 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 in 2008, the life satisfaction effect of a one-point improvement in the World Bank's corruption measure equated to a 10% convergence towards the average EU27 GDP (Rodriguez-Pose & Maslauskaite, 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 macroeconomic data from the World Bank's World Development Indicators (WDI) and institutional data from the PRS International Country Risk Guide (ICRG).[10] The World Values Survey first included transition economies in Wave 2, conducted between 1989-1992 (Hungary was surveyed in the first wave as well). Once I merge the datasets and eliminate observations with missing data, however, the analysis sample spans 1994-2013.

Although 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,

[8] The EU-10 refers to the 10 transition economies which 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 Worldwide Governance Indicators (WGI).
[11] For the remainder of this paper, WVS refers to the integrated EVS/WVS data file.

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 one (See Table A1 in the appendix). 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 A1). 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 A2 in the appendix).[13] Since 1980, the ICRG has rated 144 countries on 22 variables classified in three categories of risk—political, 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 consists of two sub-variables: the law component is about the fairness of the legal system, while order is about the poplar 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 rule of law 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, Kraay, & Mastruzzi, 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

[12] For example, Fidrmuc and Gërxhani (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 done to be consistent with the rescaling of the WGI's Rule of Law variable, which is used as a robustness check. The results are available in the appendix.

from 0 to 6, where a higher score indicates better institutional quality. Tables A1 and A2 show the included variables, and Table A3 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:

$$LifeSat_{icw} = \alpha + \beta Trans_c + X'_{icw}\gamma + \varsigma_r + \omega_w + \varepsilon_{icw}, \quad (1)$$

where *LifeSat* is the life satisfaction of individual *i* in country *c* polled in survey wave *w* (and is 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 are region dummies, and ω are survey wave dummies, ε_{ic} is a vector of stochastic errors. Note that Equation (1) uses only individual-level controls.

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

$$LifeSat_{icw} = \alpha + \beta Trans_c + X'_{icw}\gamma + M'_{cw}\psi + \varsigma_r + \omega_w + \varepsilon_{icw} \quad (2)$$

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

$$LifeSat_{icw} = \alpha + \beta Trans_c + X'_{icw}\gamma + \delta RoL_{cw} + M'_{cw}\psi + \varsigma_r + \omega_w + \varepsilon_{icw} \quad (3)$$

The identification in (2) and (3) relies on variation in country-level macroeconomic 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 (1), for consistency purposes, the model includes regional dummies instead. 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.[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 & Frijters, 2004). OLS estimates can also easily be interpreted in

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

terms of marginal effects, moreover. 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. To that end, 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—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.

In this empirical setup, because individual citizens are generally unable to change institutional arrangements, endogeneity stemming from reverse causality is less of a problem. Yet, reverse causality would be possible if politicians take into account information about citizens' life satisfaction when designing and reforming institutions. Readers should treat with caution the causal interpretation of the results due to the fact 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 equations (1) and (2). In each regression, the dependent variable is individual life satisfaction measured on a scale of 1-10. Models (1)-(2) use individual-level controls, while Models (3) and (4) include macroeconomic controls. All models include survey wave indicators and region dummies. The first result (Model (1)) is that life satisfaction in transition economies 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.

[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

	(1)	(2)	(3)	(4)
Transition Country (1=Yes)	-0.893***		-0.302	
	(0.269)		(0.252)	
Transition*Wave3 (1994-98)		-1.841***		-1.287***
		(0.256)		(0.289)
Transition*Wave4 (1999-04)		-1.293***		-0.686*
		(0.354)		(0.400)
Transition*Wave5 (2005-09)		-0.680**		-0.337
		(0.257)		(0.266)
Transition*Wave6 (2010-13)		-0.098		0.135
		(0.254)		(0.224)
Religion Important (1=Yes)	0.237***	0.211***	0.239***	0.220***
	(0.059)	(0.051)	(0.060)	(0.054)
Social Trust (1=Yes)	0.390***	0.389***	0.344***	0.355***
	(0.046)	(0.041)	(0.038)	(0.036)
Number of Memberships	0.033	0.041**	0.053***	0.056***
	(0.029)	(0.018)	(0.015)	(0.011)
Age	-0.088***	-0.086***	-0.089***	-0.088***
	(0.005)	(0.005)	(0.005)	(0.005)
Age^2	0.001***	0.001***	0.001***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Male	-0.090***	-0.086***	-0.073**	-0.076***
	(0.028)	(0.028)	(0.028)	(0.027)
Married or Living Together (1=Yes)	0.391***	0.415***	0.414***	0.419***
	(0.040)	(0.038)	(0.035)	(0.035)
Some College/College Diploma (1=Yes)	0.108**	0.106**	0.110**	0.106***
	(0.049)	(0.041)	(0.043)	(0.039)
Number of Children	0.030*	0.024	0.035**	0.029*
	(0.017)	(0.016)	(0.015)	(0.015)
Full-time employee (1=Yes)	0.089*	0.085*	0.035	0.048
	(0.046)	(0.044)	(0.037)	(0.037)
Good Health (1=Yes)	1.497***	1.470***	1.465***	1.457***
	(0.068)	(0.073)	(0.069)	(0.070)
Relative Income	0.182***	0.171***	0.168***	0.164***
	(0.017)	(0.016)	(0.017)	(0.016)
Log GDP Per Capita (2011 PPP)			0.788***	0.433**
			(0.183)	(0.174)
Unemployment Rate			-0.008	-0.021
			(0.013)	(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

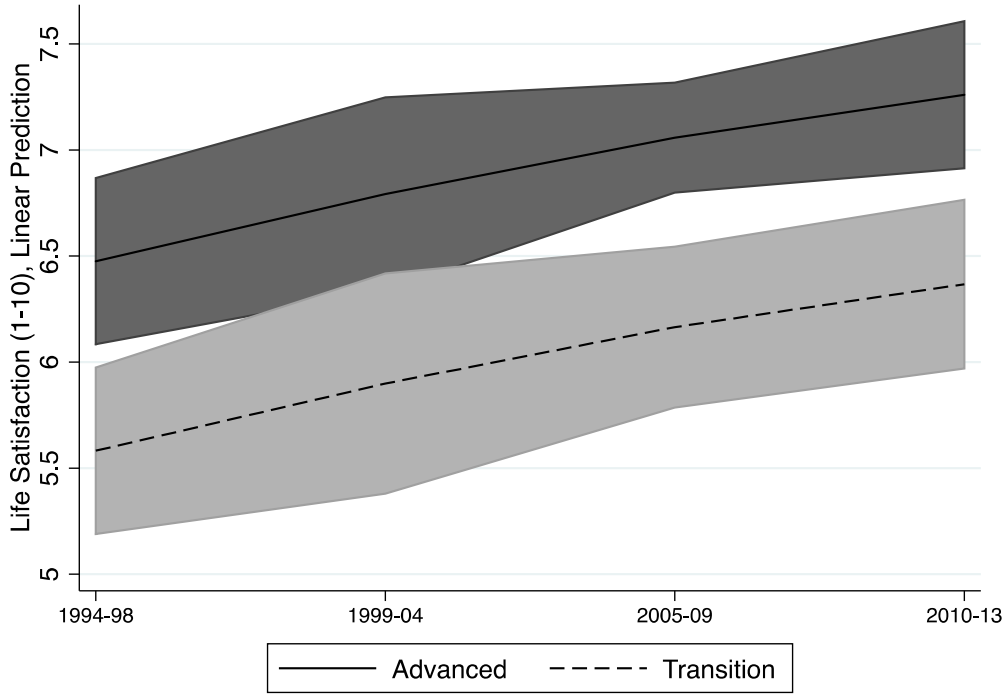
Sources: WVS and WDI, matched with PRS data sample

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: 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 A1-A2 for variable definitions and Table A3 for the included countries.

*** p<0.01, ** p<0.05, * p<0.1

Graphically, the life satisfaction gap is evident from Figure 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 included variables in the model. Figure 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.

Figure 3: Conditional Life Satisfaction by Wave, Transition and Advanced Countries

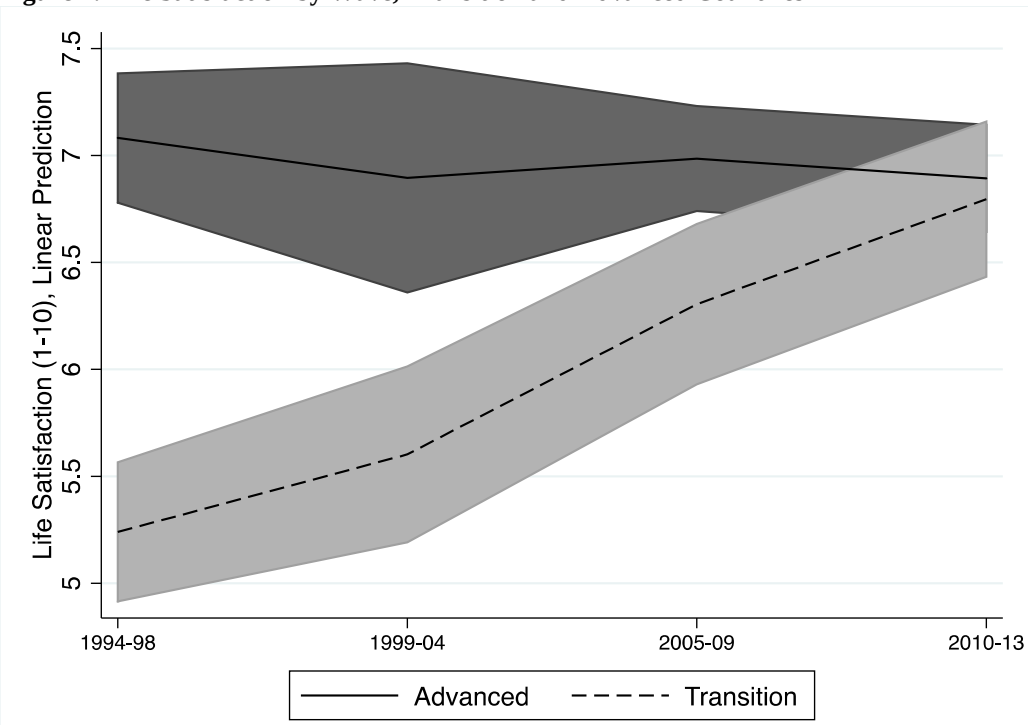


Source: Author
Note: The figure represents the predictive margins of life satisfaction by survey wave for transition and advanced countries (conditional marginal effects) with 95 percent confidence intervals. The results are based on the estimations in Model (1) in Table 1.

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 waves, from 1.8 points in Wave 3 (1994-98) to 0.68 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 Figure 4, which shows that for the last survey

wave (2010-2013), the conditional life satisfaction differential between transition and advanced countries has closed.[16]

Figure 4: Life Satisfaction by Wave, Transition and Advanced Countries



Source: Author
Note: The figure represents the predictive margins of life satisfaction by survey wave for transition and advanced countries (conditional marginal effects) with 95 percent confidence intervals. The results are based on the estimations in Model (2) in Table 1 which includes wave*transition dummy interactions.

In Models (3) and (4) of Table 1, I add macroeconomic 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 once I add macroeconomic controls, the difference between transition and non-transition countries becomes statistically insignificant. In other words, including the macro-economic controls eliminates the life satisfaction gap between post-socialist and advanced countries. Yet, 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*Wave3) 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 macroeconomic 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 macroeconomic controls completely explain the average life

[16] Therefore, what other authors call a "persistent" life satisfaction gap (Djankov, et al., 2015) only refers to the unconditional gap and ignoring non-linear time effects.

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 included variables in Table 1 also deserve 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 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 than 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 but disappears in later survey waves and once I account for macroeconomic 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. In contrast, according to my results, the life satisfaction differential is 1.8 in Wave 3 and is 1.3 in Wave 4, but 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)-(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 is still 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 1999-2009, and 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 macroeconomic 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 whether this result persists in future waves remains an open question, 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. The interaction between the RoL and the transition economies dummy in Model (4) shows, however, that there is a life satisfaction penalty from the RoL for transition economies, yet the magnitude of this penalty (-0.33) is not enough to offset the positive life satisfaction influence of the RoL (0.56). 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.

[17] Yet, this result is not robust to using the different RoL data source in Table A5.

Table 2: Life Satisfaction Regressions, with Rule of Law Control, 1994-2013

	(1)	(2)	(3)	(4)
Transition Country (1=Yes)	-0.144	0.227		0.169
	(0.224)	(0.199)		(0.203)
Transition*Wave3 (1994-98)			-0.441**	
			(0.215)	
Transition*Wave4 (1999-04)			0.034	
			(0.307)	
Transition*Wave5 (2005-09)			0.043	
			(0.228)	
Transition*Wave6 (2010-13)			0.612***	
			(0.209)	
Rule of Law (0-6)	0.406***	0.402***	0.383***	0.562***
	(0.129)	(0.084)	(0.071)	(0.102)
(Rule of Law -mean)*Transition				-0.324**
				(0.126)
Religion Important (1=Yes)	0.218***	0.214***	0.201***	0.221***
	(0.041)	(0.043)	(0.040)	(0.041)
Social Trust (1=Yes)	0.343***	0.319***	0.333***	0.314***
	(0.045)	(0.038)	(0.035)	(0.039)
Number of Memberships	0.045***	0.043***	0.044***	0.037***
	(0.010)	(0.010)	(0.009)	(0.009)
Age	-0.083***	-0.083***	-0.083***	-0.083***
	(0.005)	(0.005)	(0.005)	(0.005)
Age^2	0.001***	0.001***	0.001***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Male	-0.113***	-0.105***	-0.106***	-0.102***
	(0.022)	(0.021)	(0.020)	(0.020)
Married or Living Together (1=Yes)	0.434***	0.446***	0.451***	0.453***
	(0.045)	(0.039)	(0.038)	(0.038)
Some College/College Diploma (1=Yes)	0.063	0.076**	0.072**	0.074**
	(0.038)	(0.036)	(0.034)	(0.034)
Number of Children	0.029*	0.030**	0.026*	0.025
	(0.015)	(0.015)	(0.015)	(0.015)
Full-time employee (1=Yes)	0.067*	0.034	0.044	0.037
	(0.037)	(0.033)	(0.032)	(0.033)
Good Health (1=Yes)	1.530***	1.498***	1.489***	1.495***
	(0.069)	(0.067)	(0.069)	(0.065)
Relative Income	0.185***	0.181***	0.177***	0.177***
	(0.020)	(0.020)	(0.019)	(0.019)
Log GDP Per Capita (2011 PPP)		0.625***	0.501***	0.543***
		(0.170)	(0.144)	(0.150)
Unemployment Rate		0.010	0.005	0.003
		(0.015)	(0.015)	(0.013)
Inflation		-0.001***	-0.001***	-0.001***
		(0.000)	(0.000)	(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

Sources: WVS and WDI, matched with PRS data sample

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: 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 A1-A2 for variable definitions and Table A3 for the included countries.

*** p<0.01, ** p<0.05, * p<0.1

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 EU membership had to shape their institutions in particular ways to comply with EU admission criteria. It is possible, therefore, 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)-(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)-(2)) or when comparing the non-EU transition countries with advanced countries ((Models (3)-(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 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. Just looking at this result, one might conclude that there is a life satisfaction penalty for being an EU member. Yet, the results are a bit 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 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.

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

Table 3: Life Satisfaction Regressions, with Rule of Law Controls, EU and non-EU countries, 1994-2013

	(1)	(2)	(3)	(4)	(5)	(6)
	EU-10 vs. advanced	EU-10 vs. advanced	non-EU transition vs. advanced	non-EU transition vs. advanced	EU-10 vs. non-EU-10 transition	EU-10 vs. non-EU-10 transition
Transition Country (1=Yes)	0.209	-0.120	0.421	0.209		
	(0.236)	(0.305)	(0.331)	(0.347)		
EU-10 Country (1=Yes, 0=Non-EU transition)					-0.558**	-0.117
					(0.197)	(0.257)
Rule of Law (0-6)	0.459***	0.527***	0.368***	0.502***	0.308***	0.211**
	(0.110)	(0.104)	(0.079)	(0.095)	(0.090)	(0.097)
(Rule of Law -mean)*Transition		-0.656		-0.298**		
		(0.393)		(0.137)		
(Rule of Law -mean)*EU-10						0.655**
						(0.290)
Religion Important (1=Yes)	0.225***	0.230***	0.187***	0.188***	0.287***	0.268***
	(0.044)	(0.044)	(0.046)	(0.043)	(0.058)	(0.050)
Social Trust (1=Yes)	0.326***	0.327***	0.333***	0.329***	0.285***	0.288***
	(0.050)	(0.048)	(0.040)	(0.039)	(0.038)	(0.043)
Number of Memberships	0.042***	0.041***	0.037***	0.032***	0.059***	0.054***
	(0.009)	(0.009)	(0.009)	(0.009)	(0.013)	(0.011)
Age	-0.075***	-0.075***	-0.081***	-0.080***	-0.089***	-0.087***
	(0.005)	(0.005)	(0.006)	(0.006)	(0.007)	(0.007)
Age^2	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Male	-0.132***	-0.131***	-0.111***	-0.109***	-0.059**	-0.062**
	(0.021)	(0.021)	(0.023)	(0.022)	(0.023)	(0.023)
Married or Living Together (1=Yes)	0.494***	0.505***	0.448***	0.451***	0.392***	0.384***
	(0.041)	(0.037)	(0.044)	(0.044)	(0.053)	(0.051)
Some College/College Diploma (1=Yes)	0.055	0.055	0.066*	0.063*	0.177***	0.172***
	(0.035)	(0.035)	(0.037)	(0.035)	(0.050)	(0.047)
Number of Children	0.011	0.008	0.033**	0.028*	0.029	0.027
	(0.013)	(0.013)	(0.015)	(0.014)	(0.031)	(0.030)
Full-time employee (1=Yes)	0.097***	0.105***	0.036	0.037	-0.023	-0.028
	(0.028)	(0.030)	(0.035)	(0.034)	(0.051)	(0.049)
Good Health (1=Yes)	1.528***	1.530***	1.549***	1.543***	1.196***	1.181***
	(0.061)	(0.061)	(0.079)	(0.078)	(0.065)	(0.065)

Relative Income	0.149***	0.142***	0.160***	0.159***	0.274***	0.281***
	(0.021)	(0.017)	(0.020)	(0.020)	(0.027)	(0.027)
Log GDP Per Capita (2011 PPP)	0.474	0.340	0.672***	0.601***	0.457**	0.390**
	(0.317)	(0.283)	(0.189)	(0.171)	(0.178)	(0.170)
Unemployment Rate	0.005	-0.005	-0.001	-0.005	-0.022	-0.028
	(0.017)	(0.016)	(0.014)	(0.013)	(0.027)	(0.028)
Inflation	-0.001***	-0.001***	-0.005***	-0.005***	-0.000**	-0.000
	(0.000)	(0.000)	(0.001)	(0.001)	(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

Sources: WVS and WDI, matched with PRS data sample

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: 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 A1-A2 for variable definitions and Table A3 for the included countries.

*** p<0.01, ** p<0.05, * p<0.1

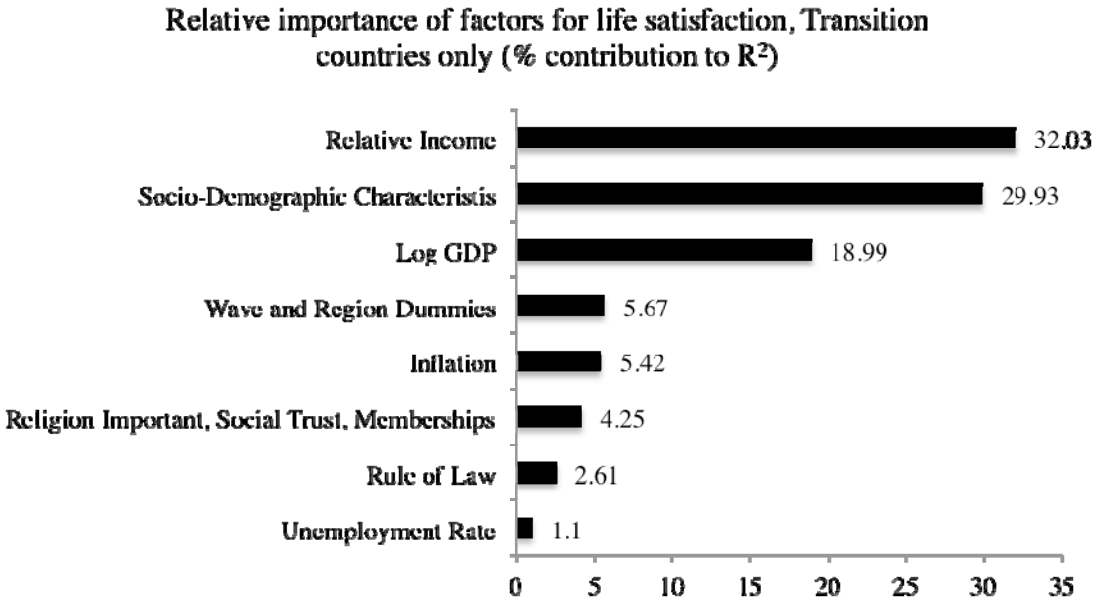
7.3. Relative importance of institutional and macroeconomic factors in transition economies

The analyses thus far demonstrate that the life satisfaction gap between transition and advanced countries can be closed by improving macroeconomic 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 policymakers 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 Appendix Figure A2 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 nearly two thirds of the variation in the dependent variable. The country's material well-being and macroeconomic volatility, as proxied by real GDP per capita and inflation, respectively, jointly explain about a quarter of the variation in life satisfaction in post-socialist societies. The rule of law is far less relevant, i.e., it only explains 2 percent of this variation, while the unemployment rate only accounts for 1 percent.

Based on these results, it appears that decision-makers in transition economies could improve perceived well-being through focusing on macroeconomic reforms that increase material well-being and decrease volatility. At the same time, the results presented in Figure 5 are conditional on the rule of law and informal institutions, suggesting that macroeconomic reforms by themselves may be necessary but insufficient to ensure objective and subjective well-being. In the spirit of Milton Friedman's work, the rule of law is necessary to facilitate the success of economic reforms. Social capital and trust are additional preconditions which enable social progress and economic and institutional reforms. Therefore, while macroeconomic 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.

Figure 5



Source: Author based on WVS, WDI, PRS matched data
Notes: R^2=0.236 The figure shows the Shapley-based decomposition results, based on the PRS analysis sample, for the subsample of transition economies based on a regression of life satisfaction on the rule of law, 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.

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 deterioration of informal institutions and social capital on the other. Macroeconomic studies have traditionally been concerned with studying the instrumental role of institutions for GDP and growth. The Economics of Happiness, however, has started investigating the link between micro-level and macro- and institutional determinants of subjective well-being amidst the growing realization that human well-being has non-income dimensions as well. 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 rule of law is linked to subjective well-being is important not only intrinsically but also instrumentally, as 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 thin, 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 to what extent 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 rule of law can account for observed quality of life gaps between CEE/FSU and the West.

To that end, 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 (Figure 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)). Macroeconomic covariates were found to be a part of the explanation for this reduction. In the 1990s and early 2000s, macroeconomic 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 an additional 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 macroeconomic factors and the RoL constant, transition countries appear to be 0.6 points happier than 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 macroeconomic conditions are more important for the life satisfaction of citizens in transition economies than the rule of law. Yet 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 which joined in the 2004, 2007, and 2013 enlargements, and the prospect of EU membership has shaped the institutional transformations in other transition economies as well. 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.

References

Acemoglu, D., Johnson, S., & Robinson, J. A. (2005). Institutions as a Fundamental Cause of Long-Run Growth. *Handbook of economic growth, 1*, 385-472.

Adsera, A., Boix, C., & Payne, M. (2003). Are You Being Served? Political Accountability and Quality of Government. *Journal of Law, Economics, and organization, 19*(2), 445-490.

Askarov, Z., & Doucouliagos, H. (2015). Aid and Institutions in Transition Economies. *European Journal of Political Economy, 38*, 55-70.

Åslund, A. (2010). *The Last Shall Be the First: The East European Financial Crisis*: Peterson Institute for International Economics.

Bartolini, S., Mikucka, M., & Sarracino, F. (2015). Money, Trust and Happiness in Transition Countries: Evidence from Time Series. *Social Indicators Research*, 0 (0).

Bertrand, M., & Mullainathan, S. (2001). Do People Mean What They Say? Implications for Subjective Survey Data. *The American Economic Review, 91*(2), 67-72.

Bjørnskov, C., Dreher, A., & Fischer, J. A. (2010). Formal Institutions and Subjective Well-Being: Revisiting the Cross-Country Evidence. *European Journal of Political Economy, 26*(4), 419-430.

Carothers, T. (1998). The Rule of Law Revival. *Foreign Affairs, 77*, 95-106.

Dawson, J. W. (1998). Institutions, Investment, and Growth: New Cross‚Äêcountry and Panel Data Evidence. *Economic Inquiry, 36*(4), 603-619.

De Neve, J.-E., Diener, E., Tay, L., & Xuereb, C. (2013). The Objective Benefits of Subjective Well-Being. In J. F. Helliwell, R. Layard & J. Sachs (Eds.), *World Happiness Report* (pp. 54-79).

Delhey, J. (2001). The Prospects of Catching up for New Eu Members: Lessons for the Accession Countries to the European Union from Previous Enlargements. *Social Indicators Research, 56*(2), 205-231.

Di Tella, R., & MacCulloch, R. (2006). Some Uses of Happiness Data in Economics. *The Journal of Economic Perspectives, 20*(1), 25-46.

DiTella, R., MacCulloch, R. J., & Oswald, A. (2001). Preferences over Inflation and Unemployment: Evidence from Surveys of Happiness. *The American Economic Review, 91*(1), 335-341.

Djankov, S., Nikolova, E., & Zilinsky, J. (2015). The Happiness Gap in Eastern Europe. *Available at SSRN 2658136*.

Dolan, P., Metcalfe, R., & Powdthavee, N. (2008). Electing Happiness: Does Happiness Affect Voting and Do Elections Affect Happiness. *Discussion Papers in Economics*(30).

Dorn, D., Fischer, J. A., Kirchgässner, G., & Sousa-Poza, A. (2007). Is It Culture or Democracy? The Impact of Democracy and Culture on Happiness. *Social Indicators Research, 82*(3), 505-526.

Easterlin, R. A. (2009). Lost in Transition: Life Satisfaction on the Road to Capitalism. *Journal of Economic Behavior & Organization, 71*(2), 130-145.

Easterlin, R. A. (2014). Life Satisfaction in the Transition from Socialism to Capitalism: Europe and China. In A. E. Clark & C. Senik (Eds.), *Happiness and Economic Growth: Lessons from Developing Countries* (pp. 6-31). Oxford, UK: Oxford University Press.

Easterly, W., Ritzen, J., & Woolcock, M. (2006). Social Cohesion, Institutions, and Growth. *Economics & Politics, 18*(2), 103-120.

EC. (2015a). Economic Reforms (Transition to a Market-Based Economy). *European Commission* Retrieved February 5, 2015, from https://webgate.ec.europa.eu/multisite/etc/en/content/economic-reforms-transition-market-based-economy
EC. (2015b). Political Freedoms and Democratically Elected Institutions. *European Commission* Retrieved February 5, 2015, from https://webgate.ec.europa.eu/multisite/etc/node/39
EVS (2011). European Values Study 1981-2008, Longitudinal Data File. GESIS Data Archive, Cologne, Germany, ZA4804 Data File Version 1.0.0 (2011-04-30) doi:10.4232/1.14804.
Ferrer-i-Carbonell, A., & Frijters, P. (2004). How Important Is Methodology for the Estimates of the Determinants of Happiness?*. *The Economic Journal, 114*(497), 641-659.
Fidrmuc, J., & Gërxhani, K. (2008). Mind the Gap! Social Capital, East and West. *Journal of Comparative Economics, 36*(2), 264-286.
Fields, G. S. (2003). Accounting for Income Inequality and Its Change: A New Method, with Application to the Distribution of Earnings in the United States. *Research in Labor Economics, 22*, 1-38.
Fields, G. S. (2004). Regression-Based Decompositions: A New Tool for Managerial Decision-Making. *Department of Labor Economics, Cornell University*, 1-41.
Frey, B. S., Benz, M., & Stutzer, A. (2004). Introducing Procedural Utility: Not Only What, but Also How Matters. *Journal of Institutional and Theoretical Economics* 377-401.
Frey, B. S., & Stutzer, A. (2000). Happiness, Economy and Institutions. *The Economic Journal, 110*(466), 918-938.
Gehring, K. (2013). Who Benefits from Economic Freedom? Unraveling the Effect of Economic Freedom on Subjective Well-Being. *World Development, 50*, 74-90.
Golinelli, R., & Rovelli, R. (2013). Did Growth and Reforms Increase Citizens' Support for the Transition? *European Journal of Political Economy, 30*, 112-137.
Graafland, J., & Compen, B. (2012). Economic Freedom and Life Satisfaction: A Cross Country Analysis.
Graham, C. (2011). The Pursuit of Happiness: An Economy of Well-Being.
Graham, C., & Nikolova, M. (2015). Bentham or Aristotle in the Development Process? An Empirical Investigation of Capabilities and Subjective Well-Being. *World Development, 68*, 163-179.
Graham, C., & Pettinato, S. (2002). *Happiness and Hardship: Opportunity and Insecurity in New Market Economies*. Washington, DC: The Brookings Institution Press.
Gruen, C., & Klasen, S. (2012). Has Transition Improved Well-Being? *Economic Systems, 36*(1), 11-30.
Guriev, S., & Zhuravskaya, E. (2009). (Un)Happiness in Transition. *Journal of Economic Perspectives, 23*(2), 143-168.
Helliwell, J. F., & Barrington-Leigh, C. P. (2010). Viewpoint: Measuring and Understanding Subjective Well-Being. *Canadian Journal of Economics, 43*(3), 729-753.
Helliwell, J. F., Barrington-Leigh, C. P., Harris, A., & Huang, H. (2010). International Evidence on the Social Context of Well-Being. In E. Diener, J. F. Helliwell & D. Kahneman (Eds.), *International Differences in Well-Being*. New York: Oxford University Press.
Helliwell, J. F., & Huang, H. (2008). How's Your Government? International Evidence Linking Good Government and Well-Being. *British Journal of Political Science, 38*(04), 595-619.
Helliwell, J. F., Huang, H., & Wang, S. (2014). Social Capital and Well-Being in Times of Crisis. *Journal of Happiness Studies, 15*(1), 145-162.

Hudson, J. (2006). Institutional Trust and Subjective Well-Being across the Eu. *Kyklos, 59*(1), 43-62.
IMF. (2015). *World Economic Outlook 2015 Uneven Growth: Short- and Long-Term Factor*. Washington, DC: International Monetary Fund.
Inglehart, R., Foa, R., Peterson, C., & Welzel, C. (2008). Development, Freedom, and Rising Happiness: A Global Perspective (1981-2007). *Perspectives on Psychological Science, 3*(4), 264-285.
Inglehart, R., Foa, R., Ponarin, E., & Welzel, C. (2013). Understanding the Russian Malaise: The Collapse and Recovery of Subjective Well-Being in Post-Communist Russia. *National Research University Higher School of Economics WP BRP 32/SOC/2013*.
Integrated Values Surveys 1981-2014. Data file is being constructed by user from EVS Longitudinal Data File and WVS official aggregate
Israeli, O. (2007). A Shapley-Based Decomposition of the R-Square of a Linear Regression. *The Journal of Economic Inequality, 5*(2), 199-212.
Juarez, F. C. (Producer). (2012) Shapley2: Stata Module to Compute Additive Decomposition of Estimation Statistics by Regressors or Groups of Regressors. retrieved from http://fmwww.bc.edu/RePEc/bocode/s
Kahneman, D., & Krueger, A. B. (2006). Developments in the Measurement of Subjective Well-Being. *Journal of Economic Perspectives, 20*(1), 3-24.
Kaufmann, D., Kraay, A., & Mastruzzi, M. (2010). The Worldwide Governance Indicators: Methodology and Analytical Issues. *World Bank Policy Research Working Paper No. 5430. Available at SSRN: http://ssrn.com/abstract=1682130*.
Kozlov, V., & Balalaeva, D. (2014). Institutional Deficit and Health Outcomes in Post-Communist States. *Available at SSRN 2521327*.
Langbein, L., & Knack, S. (2010). The Worldwide Governance Indicators: Six, One, or None? *Journal of Development Studies, 46*(2), 350-370.
Lelkes, O. (2006). Tasting Freedom: Happiness, Religion and Economic Transition. *Journal of Economic Behavior & Organization, 59*(2), 173-194.
Liberini, F., Redoano, M., & Proto, E. (2014). Happy Voters. *CESifo Working Paper Series No. 5002*.
Lim, C., & Putnam, R. D. (2010). Religion, Social Networks, and Life Satisfaction. *American Sociological Review, 75*(6), 914-933.
Menard, S. (2004). Six Approaches to Calculating Standardized Logistic Regression Coefficients. *The American Statistician, 58*(3), 218-223.
Moulton, B. R. (1990). An Illustration of a Pitfall in Estimating the Effects of Aggregate Variables on Micro Units. *The review of Economics and Statistics, 72*(2), 334-338.
Nikolaev, B. (2014). Economic Freedom and Subjective Well-Being - Revisiting the Relationship. *Mimeo*, 1-31.
Nikolova, E. (2015). Destined for Democracy? Labor Markets and Political Change in Colonial British America. *British Journal of Political Science*.
North, D. C. (1990). *Institutions, Institutional Change and Economic Performance*. Cambridge, New York, Port Chester, Melbourne, Sydney: Cambridge University Press.
North, D. C. (1991). Institutions. *Journal of Economic Perspectives, 5*(1), 97-112.
OECD. (2011). *How's Life?: Measuring Well-Being*: OECD Publishing, http://dx.doi.org/10.1787/9789264121164-en.

OECD. (2013). *Oecd Guidelines on Measuring Subjective Well-Being*: Organisation for Economic Cooperation and Development, OECD Publishing.
Popova, O. (2014). Can Religion Insure against Aggregate Shocks to Happiness? The Case of Transition Countries. *Journal of Comparative Economics, 42*(3), 804-818.
PRS (Artist). (2014). *The Prs Group. International Country Risk Guide Methodology*.
Rode, M. (2013). Do Good Institutions Make Citizens Happy, or Do Happy Citizens Build Better Institutions? *Journal of Happiness Studies, 14*(5), 1479-1505.
Rodriguez-Pose, A., & Maslauskaite, K. (2012). Can Policy Make Us Happier? Individual Characteristics, Socio-Economic Factors and Life Satisfaction in Central and Eastern Europe. *Cambridge Journal of Regions, Economy and Society, 5*(1), 77-96.
Sanfey, P., & Teksoz, U. (2007). Does Transition Make You Happy? *Economics of Transition, 15*(4), 707-731.
Shorrocks, A. F. (2013). Decomposition Procedures for Distributional Analysis: A Unified Framework Based on the Shapley Value. *Journal of Economic Inequality*, 1-28.
Spruk, R., & Kešeljević, A. (2015). Institutional Origins of Subjective Well-Being: Estimating the Effects of Economic Freedom on National Happiness. *Journal of Happiness Studies*, 1-54.
Stevenson, B., & Wolfers, J. (2008). Economic Growth and Subjective Well-Being: Reassessing the Easterlin Paradox. *Brookings Papers on Economic Activity*, 1-102.
Stiglitz, J., Sen, A., & Fitoussi, J.-P. (2009). The Measurement of Economic Performance and Social Progress Revisited. *Reflections and overview. Commission on the Measurement of Economic Performance and Social Progress, Paris*.
Stone, A. A., & Mackie, C. (2014). *Subjective Well-Being: Measuring Happiness, Suffering, and Other Dimensions of Experience*: National Academies Press.
Ward, G. (2015). Is Happiness a Predictor of Election Results? *CEP Discussion Papers, CEPDP1343. Centre for Economic Performance, London School of Economics and Political Science, London, UK.*
Welsch, H. (2002). Preferences over Prosperity and Pollution: Environmental Valuation Based on Happiness Surveys. *Kyklos, 55*(4), 473-494.
Welsch, H. (2006). Environment and Happiness: Valuation of Air Pollution Using Life Satisfaction Data. *Ecological Economics, 58*(4), 801-813.
Welsch, H. (2007). Environmental Welfare Analysis: A Life Satisfaction Approach. *Ecological Economics, 62*(3-4), 544-551.
Welsch, H. (2008). The Welfare Costs of Corruption. *Applied Economics, 40*(14), 1839-1849.
World Bank. (2013). Rule of Law as a Goal of Development Policy. Retrieved September 8, 2015, from http://go.worldbank.org/DZETJ85MD0
WVS (2015). World Value Survey 1981-2015 official aggregate v.20150418, 2015. World Values Survey Association (www.worldvaluessurvey). Aggregate File Producer: JDSystems, Madrid.

Appendix

Table A1: Variables Used in the Main Analyses

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
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*	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*	Number of own children	Note: 8 or more was top-coded as 8
Employment Status*	Respondent's employment status	1=Full-time; 0=Otherwise (including: part-time, self-employed; retired; housewife; student; unemployed; other)
Health *	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*	*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

Source: Author based on World Values 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.

Notes: *Recoded scale reported

Table A2: Macroeconomic and Institutional Quality Variables

Variable	Definition	Values/Scale*
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*	"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)

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

Notes: *Recoded scale reported

Table A3: Countries Included in Analyses

	Using ICRG Data for Institutions		Using WGI Data for Institutions	
Wave	***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

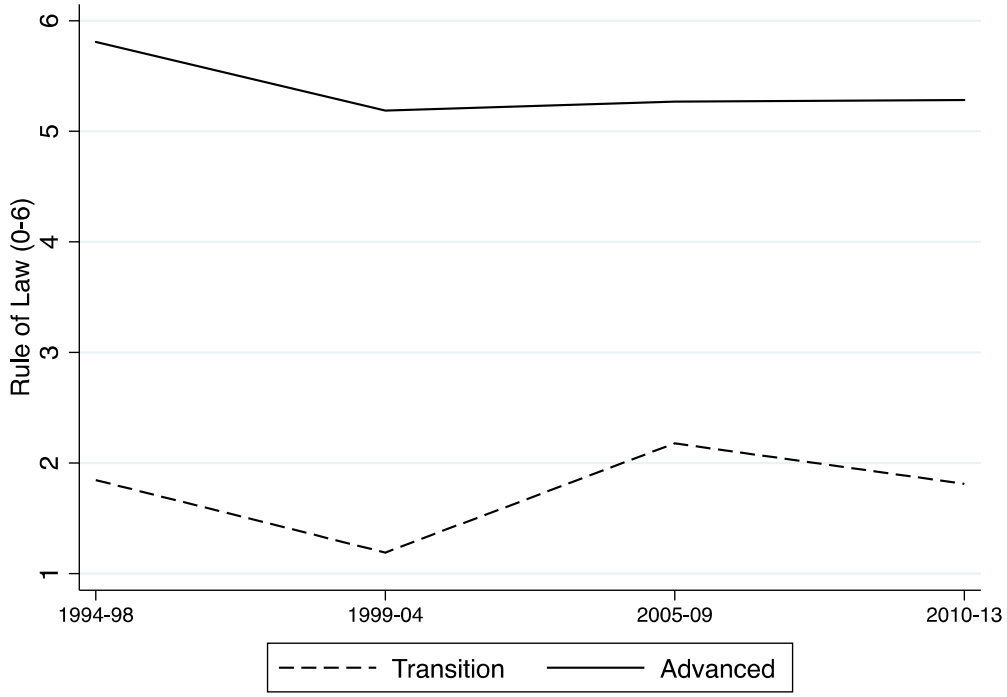
Source: Author, based on estimation sample from Model (1), Table 1 for ICRG and Table A4, Model (1) for WGI

Robustness Checks Using RoL Data from the Worldwide Governance Indictors

As a robustness check, I also merged the WVS-WDI data with comparable rule of law information from the Worldwide Governance Database following the same procedure as in the main analysis. See Table A3 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 rule of law measure from the WGI.

Figure A1 shows that the WGI's measure of the rule of law tends to vary a lot less compared with the PRS's measure shown in Figure 2. Transition countries also score lower on the WGI's Rule of Law index compared with the one provided by PRS.

Figure A1: Rule of Law, Unconditional Mean, 1994-2013



Source: Author's calculations based on the World Bank's Worldwide Governance Indicators Data merged with the World Values Survey and the World Bank's macro data.

Tables A4-A5 show the same analyses as in Tables 1-2 in the main paper. In Table A4, Models (1)-(2) include only socio-economic and demographic controls, while Models (3)-(4) introduce the macro-level controls. The results in Table A4 are very similar to those in Table 1. Model (1) in Table A4 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 A4 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 macroeconomic variables in Model (3). After controlling for macroeconomic conditions, the life satisfaction gap between advanced and transition economies appears to be only in wave 3 (1994-1998) but disappears in later waves. In the main analysis, there is a marginally significant life satisfaction gap in Wave 4, even after controlling for macroeconomic conditions.

In Table A5, I present the same set of regression results as the ones in Table 2. As in the main analysis, the results in Table A5 show that the transition country dummy becomes statistically insignificant once I add the rule of law control. While the main conclusions and results still hold, there are several notable differences between Tables 2 and A5. First, referring to column (3), whereas in Table 2, there is a positive well-being premium for transition economies in the last wave of the WVS, the results in Table A5 show a positive coefficient but it is not statistically significant.[19]

Second, note that the RoL variable is positive but statistically insignificant in Models (1)-(3). In fact, this variable does not vary much – it's 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 the as it does not vary much, 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 rule of law, which is also evident in Column (4) of Table 2. It appears that while the results are somewhat sensitive to the data source and countries included in the analysis, the general conclusion is that improving macroeconomic and institutional conditions may indeed raise the perceived quality of life in transition economies.

[19] The life satisfaction differences between post-socialist and advanced countries in Wave 3 is about 1.5 points in Table A5, whereas it is only 0.4 points in Table 2.

Table A4: Robustness Checks: Life Satisfaction Regressions, Socio-Economic and Macro-Economic Determinants, 1994-2013

	(1)	(2)	(3)	(4)
Transition Country (1=Yes)	-0.738**		-0.368	
	(0.279)		(0.276)	
Transition*Wave3 (1994-98)		-1.901***		-1.580***
		(0.253)		(0.344)
Transition*Wave4 (1999-04)		-1.138*		-0.642
		(0.625)		(0.522)
Transition*Wave5 (2005-09)		-0.729***		-0.424
		(0.263)		(0.264)
Transition*Wave6 (2010-13)		0.022		0.141
		(0.279)		(0.250)
Religion Important (1=Yes)	0.183***	0.176***	0.200***	0.193***
	(0.052)	(0.042)	(0.055)	(0.046)
Social Trust (1=Yes)	0.386***	0.373***	0.365***	0.360***
	(0.048)	(0.041)	(0.045)	(0.038)
Number of Memberships	0.065***	0.061***	0.069***	0.064***
	(0.014)	(0.010)	(0.013)	(0.010)
Age	-0.085***	-0.084***	-0.085***	-0.084***
	(0.005)	(0.005)	(0.005)	(0.005)
Age^2	0.001***	0.001***	0.001***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Male	-0.100***	-0.095***	-0.092***	-0.093***
	(0.026)	(0.023)	(0.025)	(0.023)
Married or Living Together (1=Yes)	0.366***	0.384***	0.380***	0.386***
	(0.039)	(0.034)	(0.036)	(0.034)
Some College/College Diploma (1=Yes)	0.026	0.040	0.076*	0.078**
	(0.050)	(0.043)	(0.038)	(0.036)
Number of Children	0.062**	0.051**	0.050**	0.043**
	(0.024)	(0.020)	(0.020)	(0.018)
Full-time employee (1=Yes)	0.010	0.012	0.011	0.021
	(0.052)	(0.046)	(0.039)	(0.036)
Good Health (1=Yes)	1.525***	1.484***	1.469***	1.455***
	(0.076)	(0.071)	(0.073)	(0.069)
Relative Income	0.207***	0.198***	0.191***	0.187***
	(0.021)	(0.019)	(0.019)	(0.018)
Log GDP Per Capita (2011 PPP)			0.485*	0.246
			(0.262)	(0.188)
Unemployment Rate			-0.012	-0.018
			(0.017)	(0.014)
Inflation			-0.010*	-0.001
			(0.005)	(0.005)
Region Dummies	Yes	Yes	Yes	Yes
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

Sources: WVS and WDI, matched with WGI data sample

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 and Georgia, non-European advanced countries (US, Australia, Canada, New Zealand, Korea, Japan, Singapore, Hong Kong), South-Central Europe, Northern Europe. See Tables A1-A2 for variable definitions and Table A3 for the included countries.

*** p<0.01, ** p<0.05, * p<0.1

Table A5: Robustness Checks: Life Satisfaction Regressions, with Rule of Law, 1994-2013

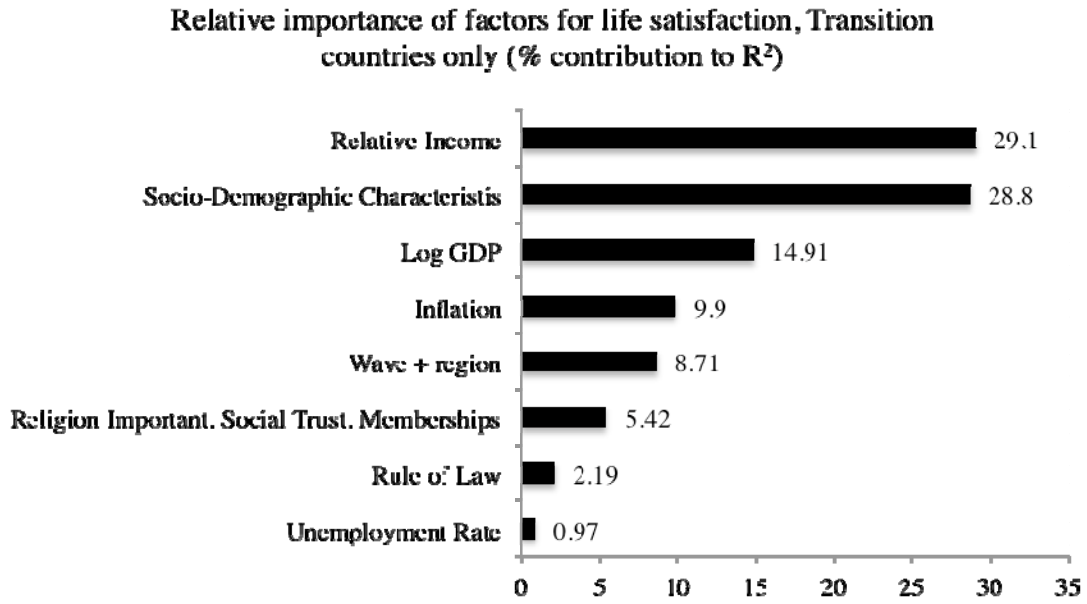
	(1)	(2)	(3)	(4)
Transition Country (1=Yes)	-0.519	-0.268		0.335
	(0.339)	(0.324)		(0.303)
Transition*Wave3 (1994-98)			-1.497***	
			(0.407)	
Transition*Wave4 (1999-04)			-0.564	
			(0.511)	
Transition*Wave5 (2005-09)			-0.364	
			(0.297)	
Transition*Wave6 (2010-13)			0.211	
			(0.303)	
Rule of Law (0-6)	0.141	0.078	0.053	0.428***
	(0.147)	(0.118)	(0.097)	(0.133)
(Rule of Law -mean)*Transition				-0.598**
				(0.232)
Religion Important (1=Yes)	0.186***	0.199***	0.193***	0.214***
	(0.053)	(0.055)	(0.046)	(0.058)
Social Trust (1=Yes)	0.375***	0.361***	0.358***	0.334***
	(0.045)	(0.044)	(0.037)	(0.041)
Number of Memberships	0.061***	0.068***	0.063***	0.054***
	(0.012)	(0.013)	(0.010)	(0.011)
Age	-0.084***	-0.084***	-0.084***	-0.084***
	(0.005)	(0.005)	(0.005)	(0.005)
Age^2	0.001***	0.001***	0.001***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Male	-0.095***	-0.091***	-0.092***	-0.088***
	(0.027)	(0.025)	(0.023)	(0.025)
Married or Living Together (1=Yes)	0.364***	0.378***	0.385***	0.394***
	(0.040)	(0.036)	(0.035)	(0.036)
Some College/College Diploma (1=Yes)	0.027	0.077**	0.079**	0.092**
	(0.050)	(0.037)	(0.036)	(0.036)
Number of Children	0.065**	0.050**	0.043**	0.042**
	(0.024)	(0.020)	(0.018)	(0.018)
Full-time employee (1=Yes)	0.001	0.008	0.019	0.012
	(0.047)	(0.037)	(0.034)	(0.035)
Good Health (1=Yes)	1.532***	1.474***	1.457***	1.455***
	(0.075)	(0.073)	(0.069)	(0.068)
Relative Income	0.209***	0.192***	0.188***	0.184***
	(0.020)	(0.018)	(0.017)	(0.017)
Log GDP Per Capita (2011 PPP)		0.462*	0.233	0.374
		(0.259)	(0.190)	(0.229)
Unemployment Rate		-0.011	-0.017	-0.017
		(0.018)	(0.014)	(0.015)
Inflation		-0.009*	-0.000	-0.010**
		(0.005)	(0.005)	(0.005)
Region Dummies	Yes	Yes	Yes	Yes
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

Sources: WVS and WDI, matched with WGI data sample

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 A1-A2 for variable definitions and Table A3 for the included countries.

*** p<0.01, ** p<0.05, * p<0.1

Figure A2



Source: Author
Notes: R^2=0.250. The figure shows the Shapley-based decomposition results, based on the WGI analysis sample, for the subsample of transition economies based on a regression of life satisfaction on the rule of law, 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.