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Economics of happiness - the case of post-communist countries

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Abstract

This thesis analyses the so-called "iron curtain of unhappiness" - the gap between former communist countries and Western Europe. In our analysis, we focused on a group of 8 post-communist countries which became members of the European Union in 2004. Despite recent advancements, these countries report strikingly low levels of life satisfaction. Our aim was to find an answer to the following key questions: Why are they unhappy? We find that this is partly the legacy of communism and also the result of turbulent transition. Analysing the determinants of life satisfaction using a sample of 8616 individuals and comparing our results to studies examining mostly Western European countries, we find that the effect of numerous determinants which have been found to significantly influence life satisfaction in Western nations carries over to post-communist countries as well. Most of the determinants we examined showed to be significant. Based on the analysis of individual countries, we conclude that job satisfaction and income level have the highest impact on individual life satisfaction in post-communist countries.

Keywords

economics of happiness, communism, life satisfaction, subjective well-being

Abstrakt

V tejto bakalárskej práci sme sa zamerali na takzvanú "železnú oponu nešťastia" - rozdielnu úroveň šťastia medzi bývalými komunistickými krajinami a krajinami západnej Európy. V našej analýze sme sa sústredili na skupinu 8 postkomunistických krajín, ktoré sa stali v roku 2004 členmi Európskej únie. Napriek výraznému pokroku v posledných rokoch sa ukazuje, že tieto krajiny dosahujú pozoruhodne nízku úroveň spokojnosti so životom. Našim cieľom bolo nájsť odpoveď na nasledujúcu otázku: Prečo nie sú tieto krajiny šťastné? Zistili sme, že nízka úroveň šťastia je čiastočne dedičstvom komunizmu a sčasti výsledok turbulentnej transformácie. Analýzou determinantov spokojnosti so životom na dátach od 8616 respondentov a následným porovnaním s výsledkami štúdií zameraných na západnú Európu sme zistili, že efekt viacerých významných determinantov je podobný v oboch skupinách krajín. Väčšina nami skúmaných determinantov sa ukázala byť signifikantná. Na základe analýzy jednotlivých krajín usudzujeme, že spokojnosť so zamestnaním a relatívna výška príjmu patria medzi premenné s najvyšším vplyvom na individuálnu spokojnosť so životom v postkomunistických krajinách.

Klíčová slova

ekonomie štěstí, komunismus, spokojenost se životem, subjektivní blahobyt

Declaration of authorship

I declare that I wrote this bachelor thesis on my own under the guidance of my supervisor and that all resources and literature I have used are referenced herein.

This thesis was not used to obtain another degree. I grant permission to reproduce and distribute copies of this thesis document for study and research purposes.

Prague, May 17, 2012

Miroslava Mičáková

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Contents

1 Introduction

> "No society can surely be flourishing and happy of which by far the greater part of the numbers are poor and miserable. "
>
> Adam Smith[1]

This paper is a contribution to the growing literature on the economics of happiness. More specifically, we wish to address the so-called iron curtain of unhappines - the division line between the countries with a communist past and Western Europe. Data on subjective well-being and happiness show that former communist nations are on average significantly less happy than countries of Western Europe. More than twenty years ago, these countries experienced transitions from communism to democracy that introduced a set of new freedoms. However, despite recent advancements, citizens of post-communist countries still report lower life satisfaction than Western European nations, even after more than 20 years. It remains to precisely see what changed in the life of citizens since the fall of communism. Why do people in these countries feel less satisfied with their lives?

We aim to examine eight countries that became members of the European Union in 2004. These are the Czech Republic, Estonia, Poland, Latvia, Lithuania, Hungary, Slovakia and Slovenia. The main reason why we focus on these countries is their relative coherence and the relevance for our region.

The paper is structured as follows. First, we will briefly introduce the economics of happiness and examine the relevance of happiness research in economics.

In the next section, we will discuss the impact of communism and subsequent transformation. We will also inspect the changes in levels of life satisfaction , mainly through the use of data collected in the World Values Survey and in the Life in Transition Survey.

Next, we focus on selected determinants of life satisfaction in post-communist countries. We briefly discuss methodological issues of estimating life satisfaction. In the main part, analyse determinants of life satisfaction with three estimation methods (ordered logit and probit, OLS). This section also discusses empirical model and key findings. We introduce our main arguments based on summary statistics and graphs. Finally, this is followed by concluding remarks.

[1] An Inquiry into the Nature and Causes of the Wealth of Nations, p.83. Available at http://www.questia.com/PM.qst?a=o&d=13886935#

2 Economics of happiness

2.1 Why study happiness?

> "It's time we admitted that there's more to life than money, and it's time we focused not just on GDP, but on GWB - general well-being. Well-being can't be measured by money or traded in markets. ... Improving our society's sense of well-being is, I believe, the central political challenge of our times."
>
> David Cameron [2]

Happiness is considered by many to be the ultimate goal. Who wants to be happy? The answer to this question is even more evident if we, like Frey and Stutzer (2001), pose a reverse question: "Who would like to be unhappy?" It is therefore no wonder that happiness has been the subject of heated debates and captured the interest of economists, policy-makers and public alike.

Kennedy famously said that we "cannot measure national spirit by the Dow Jones average, nor national achievement by the gross domestic product"[3] and David Cameron recently made a commitment to a public policy which would take happiness of citizens seriously. The idea of politicians focusing on general well-being is not novel, in a way, the British government is just catching up with the United States' Declaration of Independence of 1776, which not only mentioned pursuit of happiness but also called it as one of "inalienable rights"[4], putting it on the same level of importance as values such as life and liberty.

Researchers also consider the contribution general well-being could make to shaping public policy, following the major advances in this field in the past 50 years. In his "Guidelines for National Indicators of Subjective Well-Being and Ill-Being", Diener (2005) points out that indicators of subjective well-being, or, as he puts it, ill-being can be used for the evaluation of policies in domains such as health care, social services and the environment. He calls for a comprehensive picture of well-being, which would include, but not be limited to, moods and emotions, perceived mental and physical health, satisfaction with particular activities and subjective assessment of pressure, pointing out that while in much of economic research, money is used as a kind of measuring rod, it is often impossible to put a price tag on all the different options. In such cases, an index

[2] http://www.economist.com/blogs/theworldin2011/2010/11/happiness_and_gdp

[3] Excerpt from his speech at the University of Kansas in 1964. Transcript: http://www.uiowa.edu/~lifeclas/docs/Kennedy%20speech-1968.pdf

[4] The American Declaration of Independence, 1776, as cited in Hawke (1964).

of subjective well-being (SWB) can be used to deal with the problem of missing prices and to evaluate costs of policies.

When trying to evaluate the cosst of a recession, most economists would consider the drop in gross domestic product. However, this approach neglects pure psychological costs. DiTella, MacCulloch and Oswald (2001) argue that on top of the losses from a fall in GDP and the direct costs of business cycle downturn to those falling unemployed, a downturn of one year's length would have to be compensated by giving each citizen approximately $200 per year.[5]

Happiness data are being used to tackle important questions in economics. This approach seems after all quite natural, seeing as many questions in economics are fundamentally about happiness. However, this approach departs from a trend in economics that focuses on observable choices of people rather than what they say about their feelings.

Instead, economists analyse what people do and from these observations and some theoretical assumptions deduce the implied changes in happiness. Di Tella and MacCulloch (2006) argue that economists who believe that welfare can be measured empirically have an easier time when deciding on what social goals to emphasize or what macroeconomic tradeoffs there are. They can simply compare measures of welfare, and what causes changes in welfare, under different scenarios. Naturally, results based on happiness surveys must be considered cautiously. We will address possible issues with happiness data in later chapters. However, as Di Tella and MacCulloch (2006) explain, the alternative ways of approaching social welfare - either attempting to infer the level of social welfare out of observed behavior or just giving up and leaving it to the politicians - surely need to be treated with caution, too.

Oswald (2006) criticizes politicians who believe that economic growth makes a nation happier. In his lecture the University of Warwick he proclaimed: "Happiness, not economic growth, ought to be the next and more sensible target for the next and more sensible generation." [6]

Indeed, gross domestic product, a measure of all the goods and services produced in an economy, has become something of a proxy for economic development of a country. Layard (2005) notes that while the concept of GDP was developed for a good purpose, it got "hijacked" to become a measure of national welfare" and got so far that nations "now jostle for position in the national in-

[5] In 1985 US dollars.

[6] From his speech delivered at One World Week Summit at the University or Warwick. Source: http://www.andrewoswald.com/docs/fthappinessjan96.pdf

come stakes" (Layard, 2005, p. 133). However, more economic activity does not automatically equal higher well-being. Oswald (2006) also notes that human beings are inherently bad at forecasting what will make them happy. They have been shown to systematically choose the wrong things for themselves in laboratory settings. For example, they tend to overestimate the effect winning a lottery would have on their happiness level and conversely, it has been shown that people overestimate the impact of a potential disability on their happiness level. Opposite to what people expect, those who do become disabled recover about 80 percent of their happiness within three years of the accident (Oswald, 2006).

It should be noted that this does not mean that the sole objective of public policies should be to maximize happiness or life satisfaction. Happiness remains a very individual matter and many of the important aspects of life are beyond the scope of government intervention. However, people's opinions are also essential for understanding how their well-being is affected by circumstances beyond individuals' control, such as macroeconomic instability or inequality. Policy makers should try to understand how perceptions are formed and how they influence the attitudes of individuals and their relations with institutions and public policies.

As Ng and Ho (2006) put it, "most people are worried and feel miserable if their lives or if the lives of their loved ones are in danger: when their jobs are insecure, when they face an uncertain future, when their personal freedoms are restricted, when they are treated unfairly, when they or their loved ones fall ill and cannot get the medical attention needed, etc" (Ng and Ho, 2006, p. 2).

Despite its significance, happiness received only modest attention from economists until recently. However, the number of publications on this topic has been amundant in the past years. The fact that this interest in this topic surpasses academia and has become a subject of political discussion is, according to Bjornskov, Drehev and Fischer (2005), an incentive to generate robust findings from which implications can be drawn. Diener and Seligman (2004) note that a systematic approach to happiness research is required in order to provide leaders with well-being indicators from which valid policy recommendations can be drawn.

2.2 Definition of happiness

What does the word happiness mean? Philosophy can help us in establishing this. The definition of happiness is a question that has occupied some of the greatest thinkers in our world. However, the concept of pursuit of happiness is most likely as old as mankind itself, far older than its mention in the Declaration of Independence. In fact, the topic of happiness turns all of us into philosophers. Everyone wants to be happy, but hardly anyone is able to say with absolute assurance what exactly happiness is. As Kant puts it, "the concept of happiness is such an indeterminate one that even though everyone wishes to attain happiness, yet he can never say definitely and consistently what it is what he really wishes and wills." (Kant, 1785. In:Cahn, 2007, p. 970)

Aristotle addressed the question "what is happiness?" most thoroughly. His second question, where happiness could be found, quickly followed from there, however, it is futile to try to provide an answer to the latter question without answering the former one first. In his work "Nicomachean ethics", he spoke of eudamonia, an activity of soul in accordance with virtue or excellence. Virtue, arete, or excellence can be defined as a mean between two extremes, one being that of excess and the other one of defect in regard to a feeling or action. For Aristotle, happiness is more than just a state of mind, it is a way of living. Eudaimonia requires living in agreement with certain moral and intellectual virtues for their own sake. McMahon (2004) summarizes this view of happiness by saying that it is "not a function of feeling, but a function of virtue" (p. 8). In order to lead a happy life, numerous requirements should be fulfilled. This way of life would however lead to long-term happiness, not just a short-term pleasure.

Epicurus, on the other hand, emphasized pleasure as something that is not directly related to the value of the activity enjoyed: all pleasure is, as such, good. It should be noted that although he made pleasure the goal, it does not mean that he advocated that every pleasure should be pursued regardless of consequences of such action. If certain pleasure is sure to lead to suffering in the future, it is best to avoid it. It should therefore not be confused with hedonism. Similarly, it is worth putting up with short-term pain if it leads to pleasure in the long term horizon.

Hedonism builds on the epicurean notion of pleasure as the goal, however, its notion of pleasure is in stark contrast with ascetic lifestyle. Short-term pleasures are not frowned upon. For hedonists, the main goal is to achieve more pleasure

	Passing	*Enduring*
Part of life	**Pleasure**	**Domain satisfaction**
Life as a whole	**Top experience**	**Life satisfaction** (Happiness)

Figure 1: Four kinds of satisfaction. Source: Veenhoven, 2004, p. 16.

than pain.

"There is nothing which has been contrived by man by which so much happiness is produced as by a good tavern or inn." [7]

This is similar to to the concept of instant satisfaction in Veenhoven´s matrix of Four kinds of satisfaction (Figure 1). Veenhoven defines four kinds of satisfaction. His classification is based on the following dichotomies: life aspects versus life-as-a-whole and passing versus enduring happiness.

We can therefore assert that there are different kind of happiness. There is short-term happiness, which is characterised by its elusiveness. Veenhoven describes it as instant satisfaction, or pleasure. The top left quadrant represents hedonistic happiness. Similarly short-lasting is moment of bliss in the bottom left quadrant - it is the combination of passing experience and appraisal of life-as-a-whole.

The top right quadrant denotes domain satisfaction – satisfaction with enduring appreciation of aspects of life. An example is satisfaction with marriage – although undoubtedly positive, it does not imply satisfaction with life as a whole. Finally, the bottom-right quadrant denotes the combination of enduring satisfaction and life-as-a-whole. Like Aristotle's notion of happiness, it is long-lasting, even though his concept of happiness is not necessarily the same that we would think of today. As Edwards (2010) points out, "the economic analysis of subjective well-being data is placed far from the eudaimonistic tradition" (p. 18). It signifies well-being, fulfillment, or, as Tatarkiewicz (1976) puts it:

[7] Samuel Johnson. In: Boswell, 1952.

"lasting, complete and justified satisfaction with life as a whole" (p. 16). In this thesis, this is the concept we are going to work with. In the text that follows, happiness is used interchangeably with life satisfaction, happiness or well-being. We are aware of the differences between these concepts. However, equivalent simplification is usual in similar studies (e.g. Frey and Stutzer, 2000).

2.3 Happiness economics

The literature on happiness is large and we are not going to attempt to review it in its eternity, instead, we will focus specifically on literature dealing with well-being in transition countries in later chapter. Before that, we will briefly look at the evolution of happiness economics and present some significant findings whose grasp will be relevant for later chapters.

Bruni and Porta's Handbook on the economics of happiness (2007) starts with a section entitled: "Economics and happiness: a new field with a long history" in which they present this field as the "process of rediscovery of happiness in economics" (Bruni and Porta, 2007, p. xiv).

Indeed, for much of the 20th century, happiness research was to be the domain of psychologists and sociologists. However, Layard (2005) points out that this was not always the case. In the previous century, most English economists associated economics with happiness, of which they thought as of measurable and comparable. They also assumed that "extra income brought less and less extra happiness as a person got richer" (Layard, 2005, p. 133).

However, the 20th century was marked by extensive focus on rigorosity. Standard microeconomic theory focuses on observable choices which are thought to reveal p of individuals. Individual utility is inferred from these observations. Subjective data are taken to be unscientific because they cannot be directly observed.

Mlcoch (2005) describes mainstream economic thought as individualistic and utilitaristic. He maintains that the idea that the maximalization of individual utility will lead to common good is "simple minded" (2005, p. 5). Di Tella and MacCulloch (2006, p. 25) note: "Economists are trained to infer p from observed choices; that is, economists typically watch what people do, rather than listening to what people say. Happiness research departs from this tradition."

The assumptions of microeconomic theory have several shortcomings. For example, it is assumed that p of individuals are transitive. However, an empirical study by Loomes et al. (1991) shows that this is not always the case and points

out that preferences of individuals appear quite frequently to be intransitive. If one prefers product A to product B and B to C, then it is assumed that one will also prefer A to C. Their research demonstrates this assumption does not always hold in real decision-making.

Sen (1986, p. 18) also comments on the phenomenon of focusing on observable p and states that „the popularity of this view in economics may be due to a mixture of an obsessive concern with observability and a peculiar belief that choice ... is the only human aspect that can be observed". Oswald and Di Tella (2006) observe that surveys have shown that measures of happiness are closer to experienced utility than to the decision utility of standard economic theory.

Until recently, there was still little research by economists on reported well-being data. Richard Easterlin (1974) changed this with his influential paper "Does econ growth improve the human lot?" in which he pointed out an apparent paradox. His starting point was a simple fact: the real income has been rising in the western countries. Next, he asked whether this extra income bought extra happiness. Easterlin did not seem to think so. He postulated that while within one country, people whose incomes are higher are more likely to report being happy, the same does not hold on the national level. Having examined data from around the world, he argued that the link between national income level and happiness is insignificant.

His findings can be summarised under three main points:

1) Rich people do tend to be happier than the poor ones within a society.
2) In general, rich societies tend not to be happier than poor societies.
3) As countries get richer, they do not get happier.

This conclusion has since been known as the Easterlin paradox. Agan, Orhan and Sevinc (2009, p. 14) observe: "What seems to be an intuitive relationship has been rather an elusive one to prove or falsify. There are both supporting and weakening findings of the relationship." Traditional economics cannot sufficiently explain the Easterlin paradox. The microeconomic concept of insatiability of needs means that everytime one's income increases, they can afford to buy more or better products of services. In line with properties of utility function, one can only be better off after such change. There are several explanations for this phenomenon. A prominent one is one of so-called "treadmill effect" which suggest that only relative and not absolute income matters. This essentially means that within a society, an equal increase in income of everyone does not raise life satisfaction of individuals. Under this theory, happiness is

significantly influenced by status which may be deemed to be a zero sum game and therefore only the amount of income relative to others matters.

Another possible explanation, "hedonic adaptation hypothesis", is quite similar to the previous one. Under this hypothesis, relative income also matters, but the reference point is not the income of peers, but it is the past income of the individual which influences the level of happiness in the present.

This perceived paradox motivated many researchers to delve into the analysis of happiness data. Especially the 1990s saw an enormous increase in academic research into the concept, with no fewer than 4,351 articles being published by the year 2000 (Veenhoven, 2007). Edwards (2009) notes that while the early literature on the subject of economics of happiness (1974-1999) evolved mainly from theoretical discussions, the current field of the literature of happiness is characterized by intensive use of data.

It should be noted that the existence of the paradox has been questioned. Easterlin's view has quickly found opponents. They mainly criticize his use of data. For example, Stevenson and Wolfers (2008) and Sacks et al. (2010) tried to disprove this paradox and discovered a positive and significant relation over time between GDP and subjective well-being. Some argue that when Easterlin's paper was first published, too few data were available to draw a valid conclusion. Veenhoven (1991) presents a comprehensive review of the relative versus absolute debate, and concludes that the theory that happiness is relative does not fit the facts. It has sometimes been suggested that the income happiness slope is larger in developing or transition countries than in developed economies.[8] While some scholars believe that there is no strong relationship between GDP per capita and happiness among rich countries, most admit that the situation is not the same for all countries, in particular, developing and transition. This threshold separates "survival societies" and "modern societies" (Inglehart et al., 2008).

3 Post-communist countries

> "More fundamentally, a judgement about whether transition has worked must involve more than economic issues, such as income, trade or employment. Ultimately, for transition to be declared a success, it should lead to a measurable improvement in people's lives"

[8] See Clark, Frijters and Shields, 2008.

Erik Berglof, Chief Economist of European Bank for Reconstruction and Development [9]

Communism and the subsequent transformation have had a profound effect on the lives of the inhabitants of these countries. For them, the transition from communism not only meant change from centrally planned to free market economy, but also brought about a drastic change to their lifestyle. The fall of the Berlin Wall inspired a myriad of emotions. It brought "euphoria and triumphalism"[10], for many also a sense of hope. Easterlin (2008) points out that it was far from clear how exactly such a huge change would affect subjective well-being. Hayo and Seifert (2002) note that the majority of citizens of Eastern and Central European countries were looking forward to economic and political reforms which would lead to a new system reflecting the Western Model consisting of a democratic political system and a market economy. However, evidence shows that inhabitants of post-communist countries are remarkably unhappy. The levels of reported happiness and life satisfaction significantly differ from those of Western European countries. As Layard (2005, p. 33) points out: "The most striking finding is the misery of the former communist countries, where oppression once degraded the human condition." In fact, this difference is so pronounced that it has been named the iron curtain of unhappiness. The reasoning behind this name becomes even more obvious if we look at the map of world happiness.[11]

It speaks for itself: reported happiness in post-communist Europe is much lower than in Western Europe.

For the purpose of our analysis, we have chosen 8 post-communist countries which accessed the EU in 2004. Kornai (2006) collectively refers to these countries as "Central-Eastern Europe" while EBRD calls them "Central Europe and the Baltic states". We selected these countries because of their common past – the communist regime, subsequent transformation and EU accession. Kornai also emphasises their relative homogeneity (2006). According to EBRD, the outcome of the transition is remarkably uniform throughout this region, which means that the individual examination of this group of countries should

[9] Source: Life in Transition report, 2006, p. 3. Available at: http://www.ebrd.com/downloads/research/surveys/lits.pdf

[10] Source: Life in Transition report, 2006. Available at: http://www.ebrd.com/downloads/research/surveys/lits.pdf

[11] Readers interested in methodology and exact data should refer to White's paper.

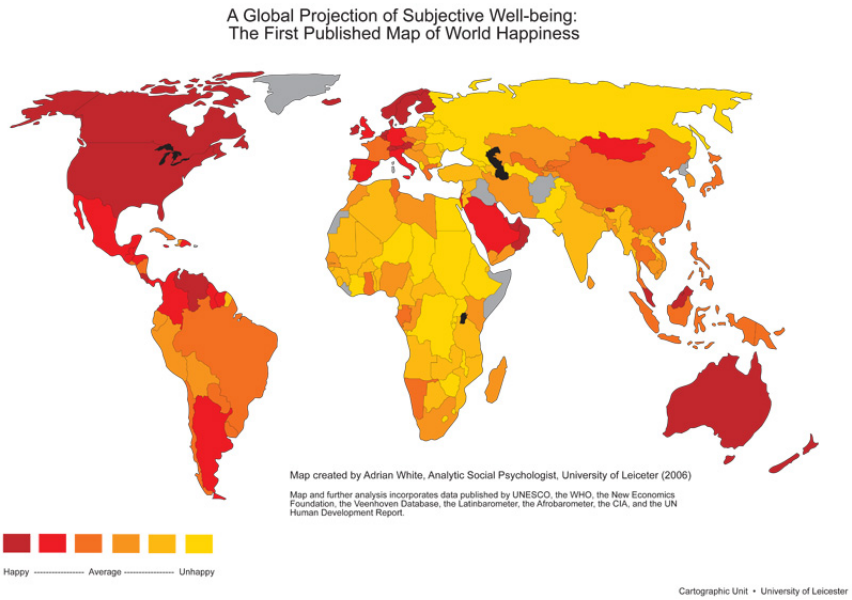

Figure 2: Map of subjective well-being. Source: White, 2007.

yield similar results. Also, they achieve higher level of happiness than other post-communist countries. Their EU membership and relatively good economic situation might preclude them to be the first post-communist countries to join the happy Europe, which would be good news for other countries with similar past as it could imply that as the situation in other post-communist countries improves, their level of well-being will increase as well. Past studies point out that to the fact that post-communist countries are a special case when it comes to well-being. They report relatively low levels of happiness. In many international rankings they stand out with strikingly low levels of happiness and life satisfaction. Lelkes (2006) even considers the gap between post-communist and Western European countries to be so prononuced that it has been called "the iron curtain of unhappiness".

What can this difference be attributed to?

It cannot be caused by inherent cultural differences or language issues concerning the word happiness or genetic factors. [12]Lelkes (2006) points out that a similar divide seems to exist when we use other measures, such as the Bradburn Affect-Balance Scale. Also, other surveys (World Values Surveys, Life in Transition Survey, Pew Global Attitudes, Gallup World Poll) point to the same

[12]See, for example, Duncan, 2005.

conclusion – post-communist countries are relatively unhappy.

3.1 Literature

The literature on the economics of happiness in post-communist countries is rather small. While there has been a growing interest in the economics of hapiness in the recent years, most of it is focused on developed countries. Powdthavee (2005) notes that while there are numerous studies on the topic of happiness, post-communist countries have been relatively underrepresented in comparison to other countries. He points out that judging by the literature on the economics of happiness, one might conclude that it only focuses on wealthy nations. This assertion is quite correct. Subjective well-being research has focused primarily on Western Europe and USA. One of the reasons for this assymetry is that data for these countries are more readily available. In fact, there is very little data which would help us assess the level of subjective well-being during communism. Sanfey and Teksoz (2007) note that the literature on transition countries is quite limited and is usually focused on one country at a time. It is attributed mainly to the scarcity of subjective data (Frey and Stutzer, 2002). Although there are a number of studies which focus on determinants of happiness in these countries they usually concentrate on a single country or on the whole group of transition countries. A number of papers analyse the correlates of happiness in a specific country. For instance, Namazie and Sanfey (2001) focus on Kyrgyzstan, one of the poorest transition countries, using a household survey carried out in 1993. Blanchflower and Freeman (1997) analyse Hungary and find that life satisfaction is on average lower than in the West.

Easterlin (2008) analyses empirical studies of trends in life satisfaction during transition and suggests that they give no consistent picture.

However, there is one finding in which the existing papers are quite consistent. Post-communist countries are a special case when it comes to well-being. As Inglehart and Klingemann (2010) note: "Virtually all societies that experienced communist rule show relatively low levels of subjective well-being, even when compared with societies at a much lower economic level." While it is easy to find examples of countries which are poor but happy, it is hard to find former communist states among them.

What is it about life after communism that causes such unhappiness? The relative unhappiness in Eastern Europe is likely to be related to the communist rule itself, the negative consequences of the transition process or, most likely,

both. The fall of communism directly led to economic instability which was characterized prompt fall in income levels, rising unemployment, increasing income inequality, and a worsening of the overall economic situation. We will address these issues in more detail.

3.2 Economic consequences of transition

In spite of serious problems and anomalies, the transition from communism has been hailed as an "unparalleled success story" (Kornai, 2006). It is unique in historical comparison because it was complex, peaceful and it achieved its goals with unprecedented speed. European Bank for Reconstruction and Development (EBRD) considers transition from a planned economy to a market economy to be "one of the most ambitious and important socioeconomic and political journeys in the last century." (EBRD, 2007).

By now, the countries of our interest have privatized the majority of their industrial enterprises. The sustained economic growth in the past dozen or so years suggests that economic transition has largely been a success. The economies in central and eastern Europe have been experiencing an above average growth and the per capita GDP in these countries significantly exceeds pretransition levels.

Having joined the EU in 2004, the countries entered a new stage of economic development. According to EBRD (2007): "legal, economic, political and social changes were so within 5 years EBRD will have withdrawn from the region, its work in fostering the transition to market economics having been achieved". However, some of the problems brought by communism and subsequent transition still remain present.

3.3 Measuring happiness

As an attitude that is, by definition, not accessible to public observation, subjective well-being can be determined by asking people how they feel. One way to measure it is through surveys, which may include single-item or multiple-item questions on how one views one's state of well-being.

In this thesis, we are going to use the terms of "life satisfaction" and "happiness" indiscriminately. To date, much of the economics literature assessing subjective wellbeing has tended to use measures interchangeably. The argument for doing so is that measures of well-being are highly correlated and have similar covariates.

In this thesis we are going to use various measures of happiness. In the interpretation of results, it is important to emphasise that although the various concepts of happiness and life satisfaction are very similar similar, they present differences.

The main disadvantage of this approach is that the data are not well suited to be used to evaluate change of happiness over time. We will therefore focus on direct comparision of various waves of a single survey and analyse other data only within context.

Our primary source of data is the Life in Transition Survey and World Values Survey. In some cases, mainly due to data unavailability, we also use other, albeit less extensive surveys.

Life in Transition[13]

The European Bank for Reconstruction and Development and the World Bank conducted a survey of representative samples of individuals in 28 post-communist. The purpose was to provide comparable and "comprehensive assessment of relationships among life satisfaction and living standards, poverty and inequality, trust in state institutions, satisfaction with public services, attitudes to a market economy and democracy and to provide valuable insights into how transition has a affected the lives of people across a region comprising 16 countries in Central and Eastern Europe" and other countries. There are 2 waves - the first wave was carried out in 2006, the second one in 2010. This makes it our most up-to-date data source.

This survey included the following question about life satisfaction.

> To what extent do you agree with the following statements?
> All things considered, I am satisfied with my life now.

Possible answers range from 1 ("strongly disagree") to 5 ("strongly agree").

World Values Survey[14]

The WVS has been implemented in six waves so far. Our countries of interest with the exception of Hungary which was included in the first wave start to make their appearance in wave 2, some very shortly after the start of the transition.

[13] Data can be downloaded from the EBRD website. http://www.ebrd.com/pages/research/publications/special/transitionII.shtml

[14] Data can be downloaded from the WVS website. http://www.wvsevsdb.com/wvs/WVSData.jsp

They are excluded from Wave 4 and the data from wave 6 are not available yet at the time of writing. We are therefore going to analyse mainly waves 2 (years 1989 to 1994), 3 (1994 to 1999) and 5 (2005-2007). Wave 1 was carried out in 1981-1984 and only provides data on Hungary.

For our purposes, the key question from the WVS questionnaire is the following:

> "All things considered, how satisfied are you with your life as a whole these days?"

Respondents could choose an answer from a scale of one ("dissatisfied") to ten ("satisfied"). The question differs in both wording and scale from the question in the LiTS, so that one should be extremely cautious about comparing the results.

Happiness during communism and early years of transition

Were people happier under communism? That's a difficult question to answer. If data on post-transition happiness are relatively scarce, when it comes to happiness during communism, we know even less.

The direct economic consequences of communism based on traditional measures of economic performance are better documented, however, the same cannot be said about data on subjective well-being. Little is known on subjective well-being during socialism as few surveys included questions about well-being. Before reform, the socialist ideology claimed that almost every member of the society was satisfied (Andorka, 1999). However, the author goes on to state that the increasing rate of alcoholism and suicides pointed to widespread dissatisfaction. These problems were not in line with the communist ideology. Surveys by Hankiss and et al. (1978)[15] concerning lifestyle and quality of life and two surveys of mental health by Kopp and Skrabaski from 1992 point to what Andorka called "widespread symptoms of anomie, alienation and general crisis of value and norms" (p. 147).

It is hard to collect happiness data for the communist period. Rather than relying on direct surveys asking respondents to directly state their level of hap-

[15] In: Andorka (1999)

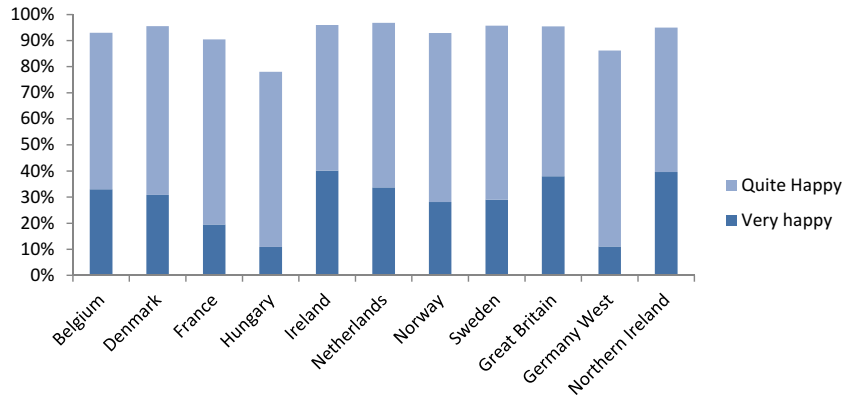

Figure 3: The percentage of respondents who are "quite happy" or "very happy". Source of data: World Values Survey.

piness or life satisfaction, we will try to infer happiness from other measures of well-being, such as physical manifestation of distress.

The only one of the countries of our interest surveyed while under a communist regime was Hungary. WVS carried out one such survey in as a part of the first wave of surveys, with 1434 respondents answering the question on happiness. The results are presented in Figure 3.

The figure shows the per cent of respondents in a given country who replied to the question „Taking all things together, would you say you are:" by saying they are either „quite happy" „very happy". Other possible options were "not very happy" and "not at all happy". The difference between Hungary and the rest of the countries is quite striking: only 10.9% of Hungarian respondents said they are „very happy". In contrast, in countries such as Belgium, Denmark, Ireland and Great Britain, the answers are quite consistent, with at least 30% of respondents considering themselves to be very happy. When looking at answers „very happy" and „quite happy" combined, the results are similar – Hungary seems to be less happy than Western European countries. The fact that Hungary ranked lower than other industrialized societies even in 1981, years before the end of communism, points to the fact that widespread unhappiness was already present and is not just the direct consequence of transition.

In 1990, when the next World Values survey was carried out in Hungary, the level of well-being dropped even lower. 67.9% of respondents said they were either very happy or quite happy, compared to 78% in 1982. The fall in the

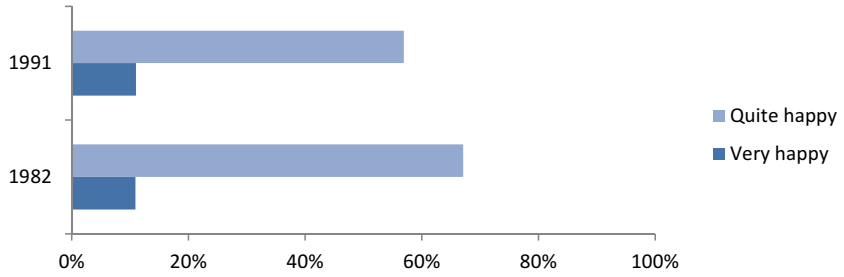

Figure 4: Happiness in Hungary - 1982 vs 1991. Source of data: World Values Survey.

level of happiness is evident from Figure 4.

Koesel (2004) considers the high fall in happiness to be is particularly surprising in presence of what she calls a "honeymoon effect", hypothesizing that a regime change should make citizens supportive and euphoric. Pacek (2009) also adds that a rise in general well-being is expected after a move from authoritanism and the introduction of basic rights and freedoms. However, the casuality may be reverse. Inglehart and Klingemann (2000) suggest that the sharp decline in well being caused rather than was followed the regime change.

The results of first wave of WVS in Tambov are also noteworthy even though the survey was carried out in a part of Russia rather in one of our countries of interest. It recorded 64% life satisfaction in 1981 and only 47% in 1995. This again confirms that while the level of life satisfaction was already low during communism, transition only served to decrease it.

Andorka (1999) also reports the results of a survey which points to feelings of insecurity in Hungary during communism. Respondents were asked to indicate how much freedom of choice and control they feel they have over their lives. The possible answers ranged from 1 to 10, where 10 mean they felt they have a lot of control. The mean of responses was 6.81. In the second wave of WVS, the corresponding mean was even lower - 6.52. Easterlin (2008) indicates that one could expect that the end of communism and growing freedoms would be accompanied by a higher score, however, this is not the case. This suggests that there was a growing uncertainty about the future.

Referring to a later survey by Hungarian household panel which asserts well-being by asking questions which relate to symptoms psychological problems such as feelings of having bad luck and feeling of anxiety and fear. 61% of respon-

Table 9.3: *Psychological problems, 1993 (%)*

		Percentage difference		
	(Total/Yes)	*Female–male*	*Old–young*	*Low–high education*
I often feel exhausted, depressed	(61)	14	19	–14
In most cases I feel I have no luck	(57)	4	18	–36
I worry a lot about my health	(41)	12	47	–15
I often have a strong heartbeat	(34)	13	33	–11
I am constantly upset and nervous	(31)	8	17	–17
I often have a bad headache	(30)	18	16	–13
I get very confused when I have to carry out different things in a short time	(29)	11	16	–20
I often find myself trembling all over	(21)	10	22	–12
I cannot get rid of my fears and anxieties	(20)	11	12	–15

Percent of Hungarian population with given psychological problems. Source: Andorka, 1999, p. 150.

dents admitted they often feel depressed, 31% said they are constantly upset or nervous and 34% and 30% said they often experience strong heartbeat and bad headache, respectively. There are significant gaps in happiness between males and females, old and young respondents and those with low and high education. Females seem to be more affected by the problems.The most intriguing finding is the gap between those with low and high education. Those with low education are much more likely to feel they do not have any luck.

Although the survey was only carried out after the end of communism, Andorka maintains that all of these problems were present during communism. They were only a manifestation of the old problems. The low level of happiness recorded straight after the end of communism precedes institutional changes. However, while in 1981, the inhabitants of both Hungary and Tambov region were noticeably unhappier than people living incountries with similar income levels, the ending of communism made them even less happy.

Figure 5 presents the percent of Hungarian population who responded positively to various indicators of uncertainty and anxiety during communism, in 1990 and in 1994. The results show that anxiety, uncertainty and loss of sense

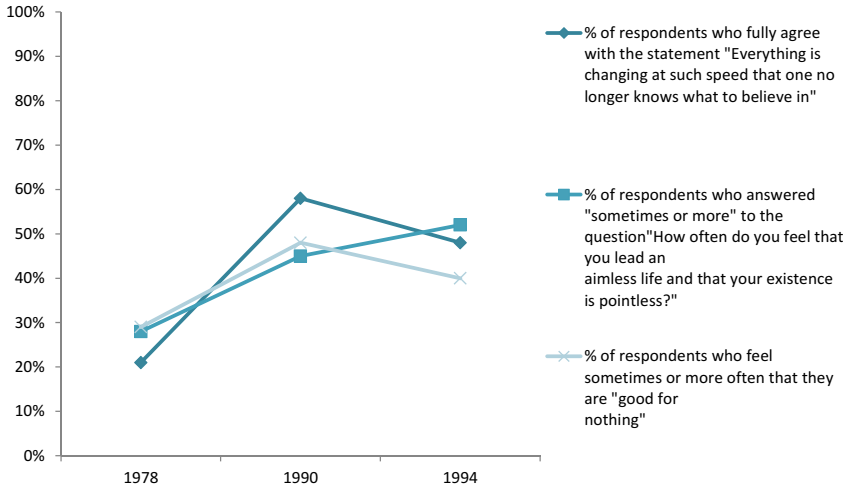

Figure 5: Indicators of uncertainty and anxiety. Source of data: Spéder et al., 1999, p. 485-486.

of purpose increased significantly after the fall of communism and even 9 years later did not return to previous levels. In 1978, only 1 in 5 respondents felt that everything is changing at such speed that they do not know what to believe in anymore. In 1990, the percentage of respondents who agreed to with this statement increased threefold. This reaction was not unexpected as the beginning of 1990s marked significant changes. By 1994, the percentage of respondents did not decrease by much. While the number will have fallen in the next decade, as any major change is associated with a certain degree of uncertainty, it will possibly still be higher than in the 1980s because of the permanent change of the political and economic system. Especially the older part of the population found it hard to adapt to the system different to the one they were used to.

Communism also affected people's preferences and desires. People living in a communist countries might have different expectations. This is relevant for our analysis because as Blanchfower and Freeman (1997) propose, there was an "attitudinal legacy"[16] of communism in the early years of transition. They maintain these preferences might still manifest themselves even after the fall of communism. More specifically, they discovered profound differences in the responses to questions about attitudes towards labor market inequality, job satisfaction and happiness between former communist countries and Western

[16]This phrase is used in the title of their 1997 paper.

countries.

They demonstrate that the citizens of ex-communist countries seem to express greater desire for egalitarianism and higher preference for state intervention in the job market and economy. On top of that, they tend to be less satisfied with their jobs.

The fall of communism significantly altered the life of citizens and hit some parts of the population more than the others. Gruen and Klasen (2005) assert that it remains to be seen whether the majority of the population in transition countries will be able to overcome the negative consequences and conclude that it may well be still far into the future.

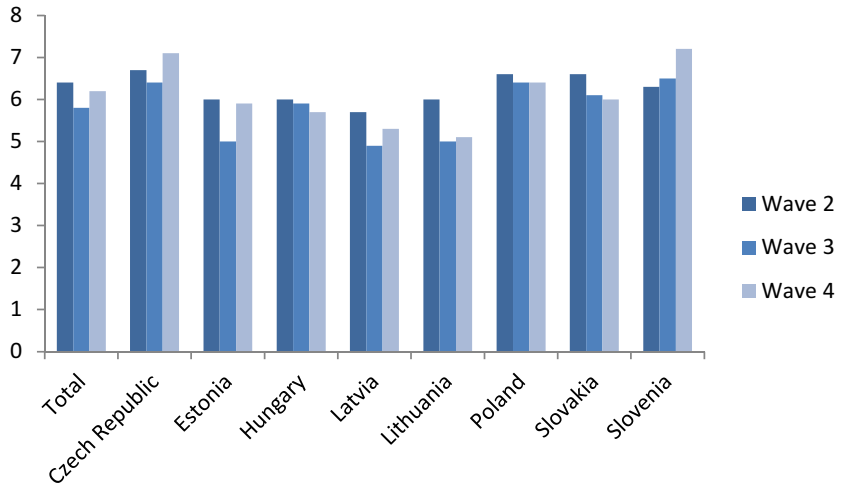

Figure 6: Changes in average level of life satisfaction. Waves 2, 3 and 4 of the World Values Survey.

4 Life satisfaction through time

We first examined how the life satisfaction changed in time using World Values Survey and Life in Transition Survey. These 2 surveys provide us with data for 5 different points in time. However, as we already mentioned, it is not advisable to compare different measures of happiness. We therefore analyze the respective surveys separately.

First, we plotted the results of waves 2, 3 and 4 of the WVS in Figure6. Wave 1 only includes Hungary and Wave 5 does not include all 8 countries of our interest either.[17]

What can be inferred from the data? Figure 6 gives a fairly consistent picture. We see that the life satisfaction follows a V-shaped pattern.In the second wave of WVS which took place in 1989-1993, the average life satisfaction was 6.4 out of 10. It ranged from 5.7 in Latvia to 6.7 in Czech Republic. However, by mid-1990s, life satisfaction plummeted in all countries except for Slovenia.

Guriev and Zhuravskaya (2009), Sanfey and Teksoz (2007) and Easterlin (2009) study the change of life satisfaction over time and its relationship to

[17] A comprehensive table summarising the participation of individual countries in each of the waves can be accessed at http://www.asep-sa.org/wvs/EVS-WVS_ParticipatingCountries.pdf

changes in GDP. These studies confirm our findings. Easterlin notes that such rapid declines in life satisfaction are very rare. Moreover, he shows that this fall coincides with the decline in income.

Indeed, the "transformational recession"[18] brought a major decline in both national and household income.

Guriev and Zhuravskaya show that the sensitivity of life satisfaction to a country's wealth is significantly larger in transition countries than in non-transition countries. The sudden fall of income is one of the possible explanations of the drop in life satisfaction. Guriev and Zhuravskaya (2009) conclude that life satisfaction in transition countries is strongly related to income.

This seems to contradict the Easterlin's paradox. However, it only applies to situations in which the income is rising. In the longer term, people adjust to the rise, start taking it for granted and therefore do not experience any rise in life satisfaction. However, the response to a fall in income significantly differs from the situation in which the income keeps rising. In general, people are loss averse[19], they react much starker to a loss of income than to an equivalent increase and the population of transition countries is no different. Lelkes (2002) asserts that the fall of income in mid-1990s had a major impact on subjective well being. The reasoning behind this can be illustrated on the same figure originally used by Easterlin in his previous paper (2001) in which he concluded that the recent rise in income had not brought any additional happiness.

Easterlin originally used Figure 7 to show that aspirations tend to rise with income and as people adapt to an increase in income, their life satisfaction does not change in the long term. However, aspirations are much less flexible downward. Let us consider an individual with income y_2 and a level of material aspirations equal to A_2. In case of a rise in income to y_3 and unchanged aspirations, the individual moves along the line from point 5 to point 6, his well-being rising to u_2.In reality, individuals typically move to point 7, because their aspirations rise along with income.

However, if the income falls from y_2 to y_m, aspirations remain at their initial level. In this case, happiness falls from u_m to u_1. As a result, when the income declined after the end of communism, people felt deprivation because their aspiration level remained the same or even increased, which in turn led to low satisfaction with life.

[18] An expression used by Kornai in his 1993 paper.

[19] A more detailed analysis of behaviour of individuals in case of fall of income can be found in Vendrik and Woltjer, 2007.)

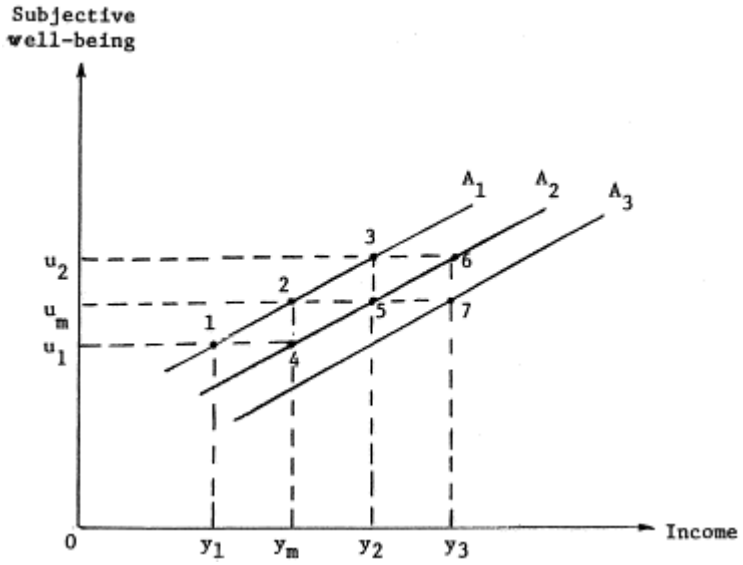

Figure 7: Subjective well being (u) as a function of income (y) and aspiration level(A). Source: Easterlin, 2001.

Frey and Stutzer (2002) present another explanation for the steep fall in life satisfaction, according to which higher life satisfaction before transition may been the result of an unawareness of the consumption standards in western countries. After transition, residents of post-communist countries suddenly had the opportunity to travel and access to foreign media, which made them realise how far their countries lagged behind.

Moving on to wave 4, we see that the satisfaction started to recover in all countries except for Slovakia and Hungary. Hungary experienced a significant fall in life satisfaction during the whole observation period and there was no rise despite the growth in per capita GDP.

Moving on to Life in Transition data, we see relatively large differences between countries (Figure 8). In 2006, Hungarian respondents report an average score of 2.6 out of 5, while Slovenians seemed to be much more satisfied with their lives - the average level of life satisfaction was 3.7. The difference between these two countries is even more striking if we consider the percentage of people either satisfied or very satisfied with their lives (Figure 9). By 2010, life satisfaction fell in most countries, possibly as a result of the crisis. In the next section, we will see that those who were affected by the crisis report significantly lower life satisfaction. As a matter of fact, EBRD (2011) considers this fall to be small

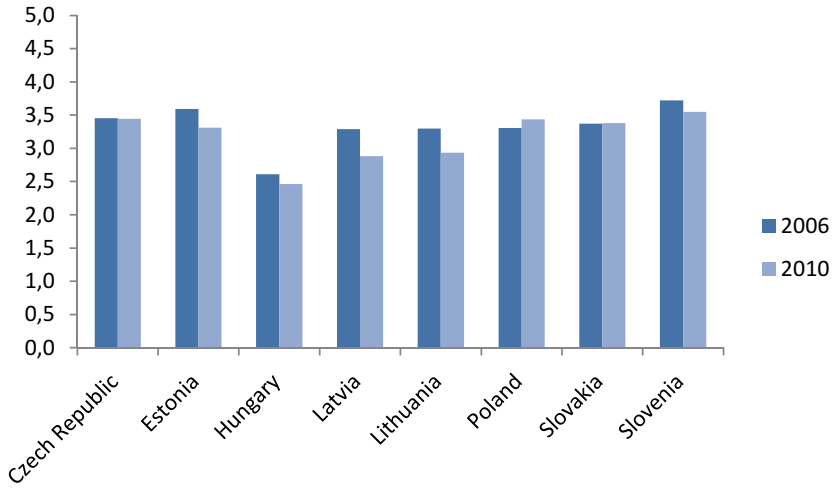

Figure 8: Average level of life satisfaction for LiTS 1 (2006) and LiTS 2 (2010)

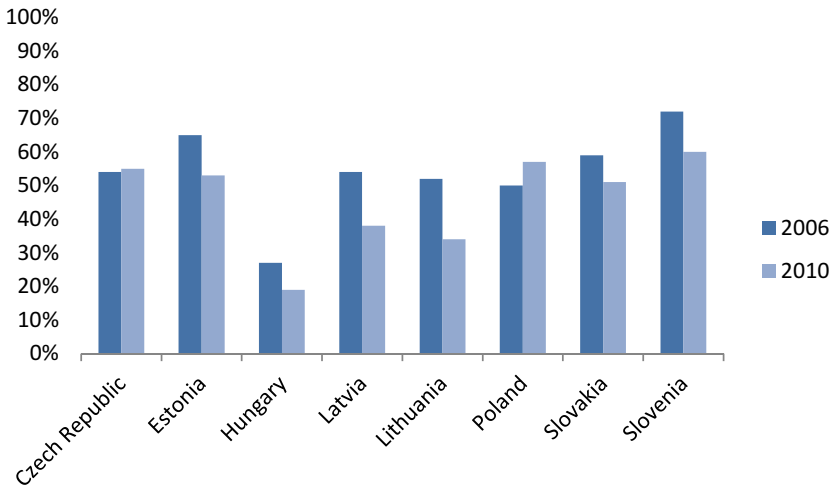

Figure 9: Percentage of people who report they are satisfied with their life. LiTS 2006, 2010.

and describes the results of the 2010 survey as "surprising but encouraging"[20], given that the previous wave was carried out during the economic boom.

[20]EBRD (2011, Chapter attitudes and values, p. 20) http://www.ebrd.com/downloads/research/surveys/LiTS2ec.pdf

5 Empirical part

5.1 Model

Our next objective was to analyse various determinants of life satisfaction in post-communist countries. The data set we use is the Life in Transition II survey. This survey covers a wide array of transition countries and includes a relatively large sample of respondents. For our 8 countries, we have 8616 observations in total. The data are also very recent, the survey was carried out in 2010, which is also the reason we chose this data set instead of World Values Survey, since the last wave of the WVS has not been published yet at the time of the writing of this thesis.

Life satisfaction in this case is determined by the response of the survey participant to the question:

> "To what extent are you satisfied with your life in general at the present time?"

with the possible responses ranging from strongly disagree (=1) to strongly agree (=5). For the purpose of our analysis, we excluded observations which did not fit our scale, that is, if the respondent refused to answer or answered "don't know". We hypothesize that self-reported well-being is a function of individual specific variables. The dependent variable is life satisfaction.

We will therefore estimate the following set of equations:

$$Satisfaction_i = f(x_i; \epsilon_i) \tag{1}$$

where Satisfaction$_i$ is a satisfaction score of an individual i, x$_i$ is a set of individual-specific characteristics and ϵ_i is a vector of idiosyncratic errors which captures unobserved characteristics and measurement errors. In line with previous literature, we include the a number of variables in our model as potential determinants of life satisfaction. The equation therefore takes the following form:

$$
\begin{aligned}
Satisfaction \;=\; & f(age,\ agesq,\ female,\ relative\,income,\ searching\,job,\\
& job\,satisfaction,\ democracy,\ market\,economy,\\
& university,\ student,\ health,\ badhealth,\ divorced,\\
& married,\ partner,\ religion,\ trust,\ trust\,government,\\
& crisis)
\end{aligned}
\tag{2}
$$

We include the age of the respondent; age squared to account for potential U-shaped relationship between age and satisfaction; a dummy variable for gender which equals 1 if the respondent is female and zero otherwise; the perceived standing of the respondent on the ladder of wealth where 1 indicates the 10% poorest households and 10 the 10% richest households, serving as a proxy of relative income; job satisfaction and a dummy variable for whether the respondent is looking for a job. Furthermore, we take into account preference for democracy and market economy, the education of the respondent, marriage, divorce, whether the respondent indicated he or she lives with a partner, state of health, religiousness, the level trust in people and government and the effect of crisis. Detailed description of each variable is included in Appendix. The table in appendix also shows descriptive statistics of each variable. Note that the means of the dummy variables correspond to the shares of these categories.

We are going to estimate the equations using ordered logit model.[21] Carbonell and Frijters (2004) point out that while sociologists and psychologists tend to treat happiness scores as cardinal, economists usually assume ordinality. We will estimate equation 1 by an ordered logit model. It is best to express the idea of the model introducing a latent variable y*. A respondent has to choose his or her answer to a survey question from a set of predetermined possibilities, that is, from a scale of 1 to 5 in our case. Using these answers, we want to make an inference about his or her level of satisfaction. y*, the true level of satisfaction, is therefore not measurable. What we observe is an ordered variable y which takes values of 1 to 5 for every individual i. The continuous latent variable y* has various threshold points. The value of y_i therefore depends or whether a particular threshold has been crossed. In general, we have:

$$
y_i = k\ if\ \kappa_{k-1}, < y_i* < \kappa_k \tag{3}
$$

[21] Menard, Scott: Applied Logistic Regression analysis (2002)

where κ_k are the thresholds, k is on a scale of 1 to N,$\kappa_0 = -\infty$ and $\kappa_N = \infty$. For our 5 values, there are 4 different thresholds, or cutoffs.

$$\begin{aligned} y_i &= 1 \, if \, y_i* < \kappa_1 \\ y_i &= 2 \, if \, \kappa_1 < y_i* < \kappa_2 \\ y_i &= 3 \, if \, \kappa_2 < y_i* < \kappa_3 \\ y_i &= 4 \, if \, \kappa_3 < y_i* < \kappa_4 \\ y_i &= 5 \, if \, \kappa_4 < y_i* < \kappa_5 \end{aligned} \tag{4}$$

The model says that the respondent answers 1 if his unobserved level of life satisfaction is below κ_1, 2 if it is between κ_1 and κ_2 and so on. We assume that ϵ_i has logistic distribution. We thus get an an ordered logit model. In our model, the unobserved latent variable is supposed to be determined by a series of observed exogenous variables.

$$y_i* = x'_i\beta + \epsilon_i \tag{5}$$

We therefore need to estimate β. Note that there in no constant term because there is no formal identified value for the mean level of life satisfaction. [22]

However, the coefficients do not have the usual meaning. The coefficients along with cutoff points can be used to estimate the probability that y will take on a particular value.

The probability that alternative k is chosen therefore equals the probability that the latent variable y_i* is between $\kappa_{k-1}$and κ_k. For our case of k=5:

$$\begin{aligned} Pr(y_i = 1) &= \frac{1}{exp(x'_i\beta - \kappa_1)} \\ Pr(y_i = 2) &= \frac{1}{exp(x'_i\beta - \kappa_2)} - \frac{1}{exp(x'_i\beta - \kappa_1)} \\ Pr(y_i = 3) &= \frac{1}{exp(x'_i\beta - \kappa_3)} - \frac{1}{exp(x'_i\beta - \kappa_2)} \\ Pr(y_i = 4) &= \frac{1}{exp(x'_i\beta - \kappa_4)} - \frac{1}{exp(x'_i\beta - \kappa_3)} \\ Pr(y_i = 5) &= 1 - \frac{1}{exp(x'_i\beta - \kappa_4)} \end{aligned} \tag{6}$$

[22]Lubrano,M.:Happiness econometrics. 2011. Accessed at http://www.gogetpapers.com/Explore/Introducing_Happiness_0_Lectures/

However, even though the influence of an individual exogenous variable on probability $\Pr(y_i = 1)$ and $P((y_i = 5)$ is uniquely determined by the sign of k, it does not always determine the direction of the effect for the intermediate outcomes (Wooldridge, 2002). We need to be cautious about direct interpretation of regression coefficient as it is not as straightforward as in OLS. [23] In order to do determine the effect of exogenous variables on happiness, we will compare 3 methods: ordered logit, ordered probit and robust OLS. Ordered probit is very similar to ordered logistic regression. We will therefore not describe it in detail, but refer to textbooks on econometrics such as Wooldridge (2002). We will use robust OLS even though the assumptions of the models are violated, however, we will use it as a benchmark for results of other two regressions rather than a tool for the determination of regression coefficients.

To evaluate individual regressions, Akaike criterion will be used. Lower Akaike criterion implies that the corresponding model is more accurate.

5.2 Econometric issues with life satisfaction

Reliability and validity

Di Tella and MacCulloch (2006) maintain that happiness data are rather appealing as they require very little information processing in comparison with some different fields of economics. However, this apparent advantage also shows to be associated with weaknesses such as ordinality and subjectivity. Also, one of the possible concerns is that happiness cannot be compared across individuals because of the difficulty to set a common scale. It is very well possible that someone who states his level of life satisfaction is 3 is in reality more satisfied than someone who answers with a 4. Also, the difference between a 2 and a 3 may not be the same as between a 4 and a 5. However, Frey and Stutzer (2006) point out that since happiness data are mostly used for studies which investigate various determinants of happiness, what interests us is the relative level of happiness, not the absolute one. They assert that self-reported happiness data are suitable for this purpose. They conclude that the subjective data we are going to use for econometric analysis can be treated ordinally since the purpose of our analysis is investigation of the determinants of life satisfaction rather than comparison of level of life satisfaction in absolute terms. We do not need life satisfaction to be cardinally measurable. Moreover, Frey and Stutzer argue that

[23] Detailed explanation i.e. in Soderbom (2010)

ordinal and cardinal treatments of life satisfaction generate quantitatively very similar results. This implies that reported life satisfaction presents a sufficient approximation of individual utility.

A significant issue with data on life satisfaction is that they are subject to non-sampling bias. A number of issues might arise. Survey respondents might exaggerate and overstate their level of life satisfaction, whether consciously or not[24], they might be affected by a spell of bad mood or be influenced by nice weather, and so on.

One way of validating the reported life satisfaction data is by showing they are correlated with other factors. Kahneman and Krueger (2006) note that the validity of subjective measures of well-being can be partly assessed by analysing the correlation between these subjective measures and other characteristics. Life satisfaction questions have been found to correlate well with a variety of measures. Dabalen and Paul (2011) analyse these data and report that higher life satisfaction is strongly correlated with household lives better nowadays than around 1989 (correlation of 0.56) and satisfied with the present state of the economy (0.52). Positive evaluations of one's relative position, such as answers that one is doing better than his or her parents (correlation of 0.38), high school classmates (0.45) or colleagues (0.44) are also highly correlated with life satisfaction. Happiness also exhibits positive correlation with other non-survey measures. Cohen et al. (2003) suggest that individuals who experience stress and therefore report lower life satisfaction scores are more likely to catch a cold. Measures of reported happiness are also positively correlated with assessments of the one's happiness by friends and family, duration of the so-called Duchenne smiles and physiological measures such as blood-pressure (Franco, 2011).[25]

Missing observations

In numerous cases, we found that we have missing observations, either due to respondents refusing to answer or admitting they do not know the answer. We recoded these missing observations to be zero. Concerns regarding potential bias are in place. However, Dabalen and Paul (2011) examine LiTS data file, analyse missing observations by country and other observable characteristics and find them to be random. We will therefore assume that missing observations do not account for any bias in our estimation.

[24] For example, they might answer their level of satisfaction is higher than it really is because they do not want to admit to the interviewer that they are unhappy.

[25] Franc

Endogeneity

We also need to address endogeneity issues. Appleton and Song (2008) note that studies of life satisfaction which use panel data point to differences in coefficients from those obtained from cross section. Also, we must be careful in the interpretation of regression results and not to confuse correlation with causation. For example, people who are inherently more happy may also be more likely to get married. Similarly, a positive correlation between income and life satisfaction does not imply that mean that an increase in income will be accompanied by rise in individual life satisfaction, it only implies that there is a relation between these two variables. In the analysis of the regression, we will therefore try to refer to previous studies and use them as a benchmark.

Bias

Our data might be subject to order bias.[26]. Smith (1986) shows that small changes in the ordering of questions on the U.S. General Social Survey led to large changes in reported happiness. For instance, if the questionnaire includes a question which makes the respondents to think about something that they may not have considered otherwise, then the order of questions are presented can change the results. Paul and Ranzani (2010) suggest that happiness questions should be asked at the beginning of a survey in order to minimize order bias.

As any economic measurements, any answer might be biased by idiosyncratic, unobserved events, as well as by unobserved personality traits and correlated measurement errors. Also, samples in transition countries are biased in favor of including more of those with low incomes and women. This might be due to sampling methodology[27]. The selection of respondents was done in two stages. In the first stage, there was a random selection of households. In the next stage, respondents were randomly chosen from each of the already selected households. As a result, about 60% of the respondents in our group of countries are women. This is likely to be the result of the fact that women are more likely to stay at home as they look after children and household. Household members who were away from home on a permanent basis were excluded from the sample.

[26] E.g. Feber (1952) analyses order bias in a mail survey.

[27] More details in Life in Transition Annex: Sampling methodology. http://www.ebrd.com/downloads/research/surveys/LiTS2eh.pdf

5.3 Detailed analysis of determinants of life satisfaction for all countries

The coefficients of our regression are reported in Table 1.

Detailed description of individual variables will follow. The number of observations is 8616. P-values are in parentheses under respective coefficients, where *** symbolizes significance at the 1% level, ** at 5% and * at 10%. Leamer (1978) notes that for large samples, there is the danger that even slight deviations from the null hypothesis will lead a rejection of the test. Considering our sample size of more than 8600 observations, we will mostly use the 1% significance level throughout our analysis.

Looking at models' corresponding Aikake information criterion (AIC), in case of ordered logit, its value equals 21,387.57 . In case of ordered probit, AIC equals 2,1421.11 which is quite similar and the value is the highest for robust OLS (22,466.33). We can therefore infer that ordered logit is the best model closely followed by ordered probit, seeing as its AIC is only a little higher. It is the highest in case of robust OLS. The pseudo R-squared value of our regressions is 0.1215 for ordered logit and 0.1202 in case of ordered probit. It is not very high in absolute terms, which may indicate that we do cannot explain life satisfaction on individual level very well, however, similar results have been achieved by equivalent studies. [28]

We will focus on the interpreting the direction of effect of each exogenous variable which is found to be statistically significant. As we noted, a certain degree of caution is necessary in interpretation of coefficients of both ordered logistic and ordered probit regression. However, we note that the signs of coefficients in case of both ordered logit and probit are the same as in case of robust OLS. Thus, we will interpret the signs of these coefficients in a usual way. As Sanfey and Teksoz (2007) describe in their analysis, a positive and statistically significant coefficient on an explanatory variable will indicate the variable has a positive association with life satisfaction, meaning that it increases the probability of being in the highest category (satisfaction = 5) and decreases the probability of recording the lowest one (satisfaction = 1).

We can use the set of equations 6 to derive the predicted probabilities that an individual with a particular profile has given levels of satisfaction. Table 2 reports the probabilities for each category when all exogenous variables are set to their mean values.

[28] Hayo, B.:Happiness in Transition: An Empirical Study on Eastern Europe. 2007

Variable	Ordered logit	Ordered probit	Robust OLS
age	-0.0437***	-0.0236***	-0.0188***
	-0.0000000312	-0.000000142	-0.000000647
agesq	0.000499***	0.000268***	0.000218***
	(0)	-0.00000000041	-0.00000000233
female	0.0753*	0.0428*	0.0406**
	-0.0713	-0.0747	-0.0408
relative_income	0.265***	0.150***	0.125***
	(0)	(0)	(0)
searching_job	-0.316***	-0.178***	-0.166***
	-0.000000154	-0.000000267	-0.0000000731
job_satisfaction	0.884***	0.491***	0.408***
	(0)	(0)	(0)
democracy	0.190***	0.109***	0.0903***
	-0.0000466	-0.0000433	-0.0000633
market_economy	0.283***	0.169***	0.132***
	-0.0000000466	-0.00000001	-0.0000000409
university	0.0218	0.0127	-0.000737
	-0.699	-0.692	-0.977
student	0.488***	0.265***	0.213***
	(0)	-0.000000000189	-0.000000000254
health	0.299***	0.175***	0.145***
	-0.0000000019	-0.000000000929	-0.0000000014
badhealth	-0.456***	-0.263***	-0.239***
	(0)	(0)	(0)
divorced	-0.348***	-0.208***	-0.185***
	-0.00000139	-0.000000503	-0.000000351
married	-0.127	-0.0608	-0.0532
	-0.114	-0.182	-0.173
partner	0.223***	0.104**	0.0929**
	-0.00463	-0.0203	-0.0156
religion	0.138***	0.0730***	0.0630***
	-0.00423	-0.00848	-0.00615
trust	0.426***	0.245***	0.199***
	(0)	(0)	(0)
trust_government	0.358***	0.196***	0.143***
	(0)	(0)	-0.00000000291
crisis	-0.905***	-0.522***	-0.451***
	(0)	(0)	(0)

Table 1: Ordered logit, ordered probit and robust OLS

Pr(y=1):	0.0483
Pr(y=2):	0.1606
Pr(y=3):	0.3482
Pr(y=4):	0.4057
Pr(y=5):	0.0372

Table 2: Probabilities for each of category of life satisfaction when the exogenous variables are set to their mean values

For illustrative purposes, we predicted the probabilities for a 24-year old male student. Let us assume that he lives in a household with an above average income (8), has a strong preference for democracy and market economy, considers himself to be healthy, generally trusts other people but not the government and has not been affected by the crisis. According to our model, the probability that this particular student will either agree or strongly agree that he is satisfied is 62% and 25%, respectively. The probability that he is neither satisfied nor dissatisfied is less than 10% and the probability that he is unsatisfied equals only 3%. This suggest this respondent is most likely to report that his level of satisfaction is 4 out of 5.

5.3.1 Age

We find that satisfaction declines with age. For all three models, the coefficients of age are statistically significant at the 1% significance level. The trend between age and life satisfaction seems to be approximately linear, as is shown in Table 10. We have fitted a line with R^2 of 0.614. We have also included the square of age to take into account possible U-shaped relationship between life satisfaction and age. It seems that life satisfaction decreases with age until a certain point where it starts increasing. Indeed, the positive sign on age squared and statistical significance at the 1% level indicates that happiness does increase with higher age, however, it seems that this point is reached later than other studies suggest. Blanchflower and Oswald (2006) analysed data on 500 thousand Americans and Western Europeans and find that reported well-being is U-shaped in age and that the convex structure of the curve is similar across examined countries. They report that life satisfaction levels among Europeans reaches its minimum at the age of 44.1 for men and 42.6 for women. Landeghem (2008) reports that happiness starts increasing in the fifties.

In our case, while we have found that life satisfaction shows a U-shape pattern when graphed against age, it seems that life satisfaction starts increasing

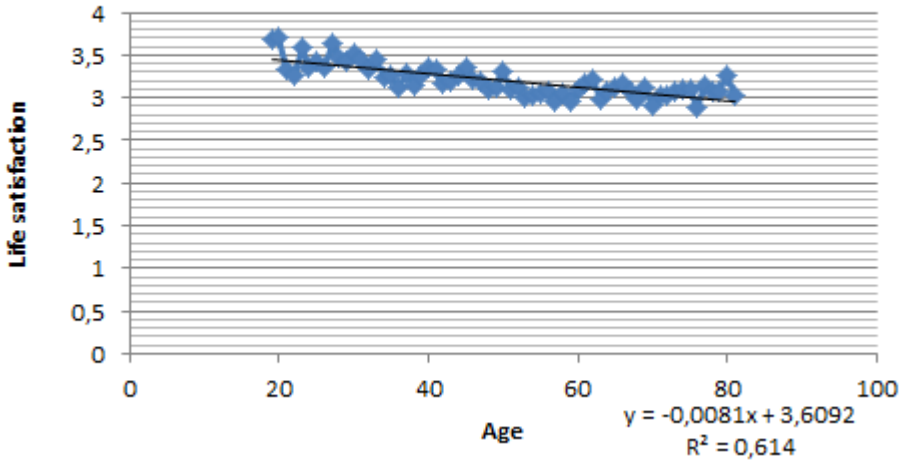

Figure 10: The relationship between age and life satisfaction. Source: LiTS II survey, own calculations.

in the sixties. Sanfey and Teksoz (2005) analyse life satisfaction in transition countries and arrive at a similar conclusion, pointing out that the decline in satisfaction continues into the fifties, while the minimum point is usually reached earlier in nontransition countries. It seems that people aged between 30 and 60 report lower subjective well-being than those who are under 30 years or over 60. In contrast, Guriev and Zhuravskaya (2009) compare transition countries with non transition countries with similar levels of income and conclude that happiness decreases monotonically with age, as shown in Figure 11. Nevertheless, after controlling for individual specific variables, they arrive at the usual U-shaped pattern.

We have therefore found a slight U-shaped relationship between age and satisfaction. One can think of many explanations as to why satisfaction starts declining at a certain age. Teens and young adults tend to have a lot of hopes for the future, but when they enter middle age, they find themselves among the burden of responsibilities. The lower satisfaction of middle-aged respondents in post-communist countries might also be explained by the fact that people who were already adults when the regime changed might have had some difficulties

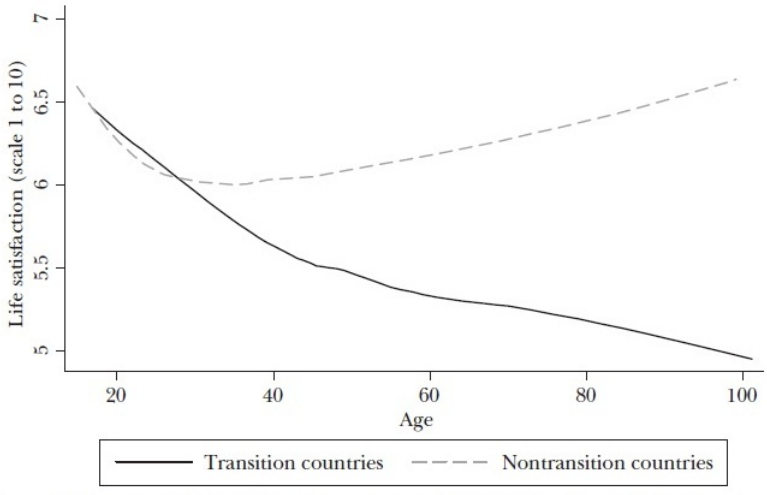

Figure 11: Age and Life Satisfaction in Transition Countries and Nontransition Countries with per Capita Income Comparable to Transition Countries. Taken from:Sanfey and Teksoz (2005), In: Journal of Economic Perspectives - Volume 23, Number 2 - Spring 2009, p. 151

adapting to the new situation.[29] Cerami (2010) analyses Russian population and his findings indicate that citizens in the age group 45 - 59 are have more strongly been hit by unemployment due to the restructuring of the economy. However, there does not seem to be a consensus as to what causes higher level of life satisfaction in later life. A pessimistic explanation is that unhappier people die earlier, on the other hand, Landeghem (2008) hypothetises that higher level of satisfaction in later age suggests that individuals learn to adapt to their strengths and weaknesses and focus on appreciating life instead of thinking about missed opportunities.

5.3.2 Gender

In our study, we used a dummy variable which equals one if the respondent is female and 0 if male. The effect of gender on life satisfaction does not seem to be statistically significant at the 1% level. In ordered probit and logit model, gender is statistically significant only at the 10% level. The regression coefficient is positive in all three models, which would suggest that the relationship between gender and life satisfaction is similar to other studies which generally report that

[29] Evidence for this in other transition countries is presented in Rose and Carnaghan (1995)

women are happier than men.

Frey and Stutzer (1999) analyse Western European countries and find that women report significantly higher happiness levels than men. We only found a very weak link between gender and satisfaction. In our sample, the average reported life satisfaction is 3.1883 for men and 3.1896 for women. We must note that there seems to be a selection bias issue with our data. As we have already noted, there is a significant majority of females in our sample. About 60% of the respondents in our group of countries are women.

However, Sanfey and Teksoz (2005) have arrived at a similar conclusion. They used data from World Values survey to show that males are less happy than females in both transition and non-transition countries, however, they find that the correlation is much weaker in the transition sample. This result can be party explained by the fact that, in many transition countries, the relative status of women appears to have worsened during transition.

5.3.3 Income

We will consider both relative and absolute income. As a measure of relative income, we use reported ranking on a ten-step ladder from poorest to richest. Our data includes a question on perceived position on the wealth ladder. Respondents were asked to think of a ten-step ladder, with the poorest households on the bottom rung and the richest on the top and estimate their position on the ladder. The relationship between relative income and life statisfactio is positive and significant at the 1% level. This does not come as a surprise as we failed to find a study which would disprove this relationship, regardless of the country examined. As Peiro (2006) asserts: "In most countries and for most income levels, richer individuals declare a higher life satisfaction." (p. 12)

How does perceived relative income compare to actual relative income? Guvet and Soversen (2007) claim that they are closely related. However, our data does not seem to exhibit this characteristic. Interestingly, out of our sample of 8616 respondents, only 59 respondents think that their household is in the top 20% of all households in terms of income. This means that less than 1 in 100 of all respondents believe they are richer than 80 in 100 households. Such discrepancy cannot be attributed solely to selection bias, seeing as we observe the same phenomenon in the group of poorer households. We can therefore assume that the perceived rank differs from real rank of households. Since members of richer households also tend to socialise with individuals with higher income,

they use them as a reference group. The situation is similar in the bottom 20% group. Most of the answers are clustered around the middle.

In any case, the variable relative_income is highly significant, which suggest that households who perceive themselves to be richer tend to be more satisfied with life. We have grouped these responses into three categories: "low" for top 30%, "medium" for medium , and "high relative to these, being on either the middle or high rungs has a strong effect on happiness, independently of equivalized household expenditure.

However, they also conclude that perceptions about relative income are more important than actual relative income in explaining individual well-being.

We do not have any data regarding absolute income of individuals. However, in LiTS I, there is a question asking the respondents to state the minimum amount of money that their household would need to make ends meet at the end of each month.[30] Paul and Ranzani (2008) use the expenditure level of each household as a proxy for the income level of the household. After dividing the sample population in each country into three groups based on their expenditure level, average life satisfaction of rich and poor can be compared on the country level (Figure 12). For each country, the share of respondents who are either satisfied or very satisfied with life is larger in the top consumption group than in the bottom one. Interestingly, the difference between the rich and poor group varies greatly. In Slovenia, this difference is rather small, while it is largest in Poland.

5.3.4 Unemployment

Before the transition, there was mandatory labour force participation, unemployment was therefore non-existent. The widespread unemployment which followed the tranformation was an entirely new phenomenon. Most studies on data from Western Europe find a negative relationship between unemployment and happiness. The link between unemployment and happiness in transition countries is examined by Blanchflower and Oswald (1997). They find effect of unemployment in these countries is similar to what other studies examining Western Europe find - unemployment seems to significantly decrease happiness. Our data seem to confirm this effect. Voluntarily unemployed people indicate a statistically highly significant lower level of life satisfaction. The survey did not include the exact question about unemployment. There is one question inquir-

[30] The complete questionnaire can be accessed at http://www.ebrd.com/downloads/research/economics/litsques.pdf

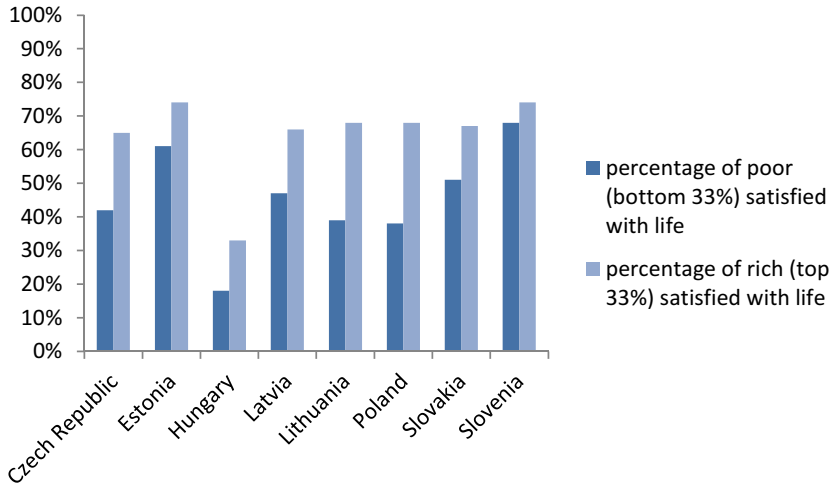

Figure 12: Percentage of poor and rich satisfied with life. Source of data: LiTS I.

ing whether the respondent worked for income in the past year. Overall, about 55% of the respondents answered positively. However, it cannot be assumed that those who answered otherwise fall into the unemployed category as this group also includes students or voluntarily unemployed. We find that being a student is positively correlated with life satisfaction. The relationship is highly significant. Using these data in our regression, we did not find any conclusive relationship. Instead, we created a dummy variable which takes the value of 1 if the respondent said he or she is currently looking for a job, excluding those who said they are looking for a second job. We used this variable as a proxy for unemployment. We have found that it is negatively correlated with life satisfaction at the 1% level of significance.

Unemployment is therefore a significant source of dissatisfaction. Besides the obvious effect of reduction or loss of income, Paul (2001) maintains than unemployment also degrades human skills and causes social isolation Frey and Stutzer (1999) also confirm that the employed are more satisfied than unemployed even after controlling for their level of income. However, unemployment does not affect only those without a job and their families, but a much larger part of the population (Perovic and Golem, 2010). Also, unemployment increases welfare expenditures. Frey and Stutzer (2002) propose that unemployment may cause the employed to feel bad about the fate of those unemployed. Di Tella quan-

tify the effect of unemployment using happiness data for the United States and Western Europe and maintain that a one percentage point rise in the rate of unemployment must be compensated by about $ 165 (in 1985 dollars) in additional per capita income. In this context, we would like to include a quote of the former US president Gerald Ford, who pursued a policy to lower the inflation while raising the unemployment and famously said: "After all, unemployment affects only 8 per cent of the people while inflation affects 100 per cent" (Watson, p. 188). In reality, unemployment has a more far-reaching effect. In case of widespread unemployment, many people are afraid that they will lose their job. According to Perovic and Golem (2010, p. 7): "The main fear of the employed is that they will become unemployed."

5.3.5 Democracy

Easterlin (2000) states that in general, people do not usually include political circumstances when asked about their sources of well-being. Instead, they mention factors that primarily occupy their thought and time, such as work, family or health. However, as Frey and Stutzer (1999) show on findings from Switzerland that democracy has a significant positive effect on life satisfaction. In particular, they focus on direct democracy. Based on their survey of 6000 people in Switzerland in which they compared different regions, they assert that the more democratic the country, the more satisfied the people. A feeling of control over one's life could directly contribute to individual well-being. The reasoning behind this is intuitive - people like to be in control, or at least, they like thinking they are in control of their surroundings. Stossel (1993) assert that if people think of themselves as victims and believe their life is out of their control, they live with less joy. This may be why people in authoritarian countries rate lower on the happiness scale.

In all three models we have found a strong positive correlation between the variable representing positive attitude towards democracy and individual life satisfaction. The coefficient is positive at the 1% level of significance. However, this does not imply that democracy in general increases life satisfaction as we could possibly get analogical results under any system. We hypothetise that in any political system, the proponents of the current system will be overall more satisfied than the opponents. In contrast, the proponents of an authoritarian government are more likely to be less satisfied.

How has the new democratic regime influence life satisfaction? We tried to

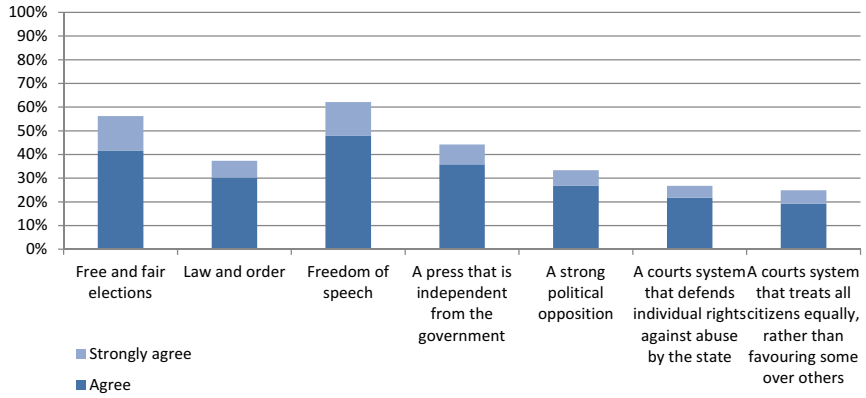

Figure 13: Aspects of democracy and the percentage of respondents from the selected group of post-communist countries who believe that the individual aspects are present in their country. Source of data: LiTS II.

examine this question to determine whether there is something inherent in the system of in well-function democracies that positively influences individual life satisfaction. Political factors directly influence peoples' lives. A more democratic system is more likely to produce outcomes which are in line with the p of a large part of the population. As a result, Dorn et all (2006) argue that a greater exposure to democracy will contribute to individual well-being.

However, in our group of post-communist countries, a significant number of the respondents believe that some important features of a stable democracy are missing. We analysed the extent of presence of some of the components of a well-functioning democracy. These include: free and fair elections, the rule of law, freedom of expression, sound justice system, strong political opposition. We use data from Life in Transition survey II. The respondents were asked the question „To what extent do you agree that the following exist in our country?". We focused on positive answers, that is, „agree" or „strongly agree". Other possible answers were „neither disagree nor agree", „disagree" and „strongly disagree". The results are presented in Figure 13.

For comparison purposes, we include the answers of respondents from 3 Western European countries - France, Germany and United Kingdom. The results are presented in Figure 14.

The difference between these two groups of countries is quite striking. While in Western Europe, 32.5% of the respondents are fully convinced that the

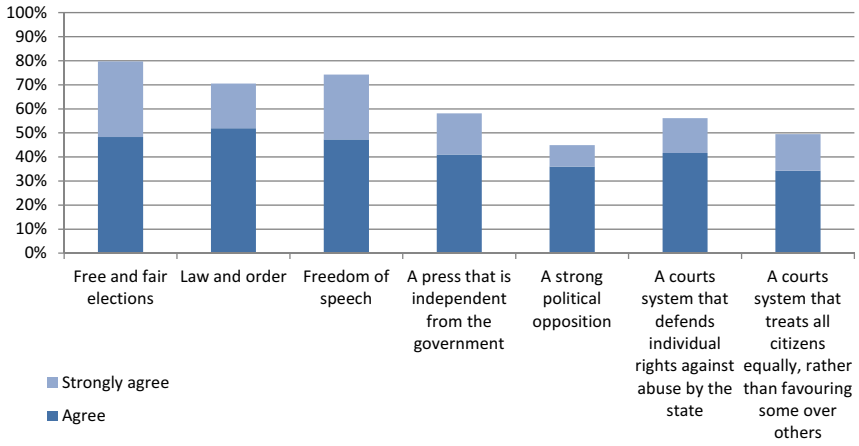

Figure 14: Aspects of democracy and the percentage of respondents from selected Western European countries who believe that the individual aspects are present in their country. Source of data: LiTS II.

elections in their respective countries are free and fair, in our group of post-communist countries, this number is only 14.5%. We find similar difference in the question of law and order. Respondents in post-communist countries also exhibit lower belief in the freedom of expression and an extraordinarily low belief in the independence of court system. Only about 1 in 4 respondents in post-communist countries think that the present court system defends individual rights against abuse by the state and treats citizens equally. In Western Europe, these numbers are 55.7% and 49.2%, respectively.

In the post-communist sample, only 1 in 2 respondents think elections in their country are free and fair elections, compared to about 4 in 5 for Western Europe.

Overall, the relationship between democracy and satisfaction is not clear. Inglehart and Welzel (2005) suggest that general life satisfaction has strong positive effect on democratic stability. Pacek (2009) points out that increase in democratic rating of Hungary did not coincide with higher reported satisfaction. Inglehart suggest that introduction of democracy in former communist countries might have indirectly lowered life satisfaction. He explains that people living in countries with newly democratic systems might be less satisfied than before because of overly optimistic expectations which failed to be by the new regime, resulting in a feeling of disappointment.

5.3.6 Education

We have used 2 variables: loweducation – for respondents who do not have any formal education and those who only have primary education. The second group, university, is for those who have at least bachelor's degree. We have not found a significant link between the level of education and life satisfaction. In contrast, Veenhoven (1996) finds a high positive correlation between satisfaction and education in low-income countries. However, other literature reports that the change of the system might have left many people who had high education but their skills were suddenly obsolete to and were therefore left frustrated.

5.3.7 Health

Reported ill health has adverse effects on life satisfaction. In all three models, the coefficient of bad health is negative and significant at the 1% significance level. We can conclude that having bad or very bad health substantially lowers well-being. Conversely, those who rated their health as good or very good report higher level of satisfaction. These results are perfectly intuitive and in line with the existing studies. Studies point to health as one of the main sources of happiness and satisfaction (Veenhoven, 1991). There might be an element of reverse causality - those who are happy with their lives might be more immune against diseases as a result. However, it seems plausible that the direction of causality is largely the other way. Apart from these direct effects of illness, bad health may also lead to economic hardship.

5.3.8 Marriage

We have not found a conclusive evidence that married people are more satisfied with life as the coefficient is not significant at the usual level of significance. However, being divorced indicates lower level of life satisfaction. This result is significant at the 1% level. This result is also in line with many contributions (see, for example, Argyle and Martin, 1991).

5.3.9 Religion

We also studied the relationship of religion and life satisfaction. As Lelkes (2002) points out, religion influences both economic behaviour such as employment and social behaviour such as marriage. The collapse of communism brought higher religious freedom. Even though people were free to practice religion as they saw

fit during communism, there were numerous constraints which seriously limited the freedom of religion. Also, the churches were returned a part of their property which was nationalized.

Lelkes (2002) measured religion as regular churchgoing and found it to be positively associated with life satisfaction. Hayo (2004) also suggests that exercising religious belief has positive impact on life satisfaction.

We found a positive and statistically significant relationship betwen religious involvement and life satisfaction. This might be explained by several factors. Ellison (1991) demonstrates that religious faith makes traumatic events easier to overcome. Hayo (2004) emphasises that individuals who are involved in religious activities tend to be less affected by economic change. Apart from this, he hypothesises that the positive effect of religion on happiness is caused by the joy about the regime change rather than by the religious beliefs themselves seeing as during communism, the resistance was often organised within church. Lelkes, however, tests this hypothesis and finds that the religious did not become happier as a result of increased ideological freedom.

5.3.10 Trust

We include two kinds of trust - trust in people and trust in government. Mlcoch (2005) defines trust as an interpersonal relationship between two or more actors. This relationship expresses the scope in which the actors can rely on each other. A high level of trust has a positive implications for market mechanism.

As indicators of social capital, we include the share of people stating that they agree with the statement that other people can be trusted. Those who trust other people also exhibit higher levels of life satisfaction. However, the level of trust in post-communist countries is rather low. This deficit of trust is partly a communist legacy. In a time where people had to watch what they say and anyone could betray them, it was natural to be suspicious. People in post-communist societies find it hard to trust other people. Overly cautious attitudes that are a result of these unpleasant experiences are still present. However, it takes time for trust to be built. Mlcoch (2005) talks about the deficit of trust in Czech society and maintains that it is the main reason why there is no consensus regarding Czech pension reform. He points out that Czech citizens trust neither state institutions nor private pension funds.

5.4 Analysis of individual countries

Next, we analysed the relationship between exogenous variables and life satisfaction for individual countries using ordered logit model. Table 3 reports the results of the regressions. Rather than analysing specific features of each country, we will focus on the results which are common to several countries. In the interpretation of the variables, we will concentrate on the statistically significant effects.

Age is statistically significant at the 5% level in half of the countries, while age squared is significant in one more country at the same level of significance. Gender seems to be significant only in Slovakia. We can assert that both relative income and job satisfaction display strong association with life satisfaction. These two variables are significant at the 1% level in each country. We have also found a link between unemployment and life satisfaction. In general, it seems that supporters of democracy and market economy are more satisfied, however, this effect is not noticeable in every country. University education does not seem to be an important determinant of life satisfaction in either of the countries. Aside from 2 countries, being married does not seem to influence life satisfaction significantly. Living with a partner is related to life satisfaction in 3 of the countries. Surprisingly, even though both health and badhealth are significant for some countries, this effect does not extend to all countries, even if we considered the 10% significance level. Both trust and trust in government are significant at the 5% level in 7 out of 8 countries. In all countries, the negative effect of crisis is strongly associated with life satisfaction. Interestingly, religion is significant at the 5% level only in one country.

The pseudo R^2 values of our regressions range from 0,0754 (Slovenia) to 0,1465 (Hungary). This supports the assertion that even thought the determinants of life across countries tend to be similar, their scope varies accross countries . Overall, only 3 of the selected determinants were found to be significantly associated with happiness in each of the countries examined.

Variable	Czech Republic	Estonia	Latvia	Lithuania	Hungary	Poland	Slovakia	Slovenia
age	-0.0628*	-0.0524**	-0.0885***	-0.0384*	-0.0686***	-0.0428**	-0.0245	-0.0207
agesq	0.000697**	0.000647***	0.00101***	0.000384*	0.000819***	0.000397**	0.0003	0.0002
female	0.0865	0.15	0.102	-0.009	-0.0722	0.132	0.256**	0.105
relative income	0.172***	0.273***	0.380***	0.247***	0.361***	0.208***	0.166***	0.252***
searching job	-0.0205	-0.688***	-0.561***	-0.452**	-0.377*	-0.421***	-0.395**	-0.258
job satisfaction	0.873***	0.758***	0.705***	0.944***	1.009***	0.971***	1.199***	0.668***
democracy	0.196	0.211	0.499***	0.0829	0.244*	0.119	0.139	0.027
marketeconomy	0.505***	0.580***	0.105	0.0726	0.297*	0.487***	0.0634	0.136
university	0.257	-0.0002	-0.0764	-0.042	0.0849	0.221	0.129	-0.154
student	0.822***	0.187	0.493***	0.411*	0.722***	0.247	0.520**	0.804***
health	0.234	0.275*	0.308**	0.0952	0.300**	0.226*	0.268*	0.251*
badhealth	-0.762***	-0.669***	-0.600***	-0.563***	-0.265	-0.363**	-0.329	-0.0391
divorced	0.0012	-0.209	-0.261	-0.437**	0.0343	-0.323	-0.395*	-0.4
married	-0.195	-0.446**	-0.183	-0.196	0.0302	-0.481**	-0.239	0.053
partner	0.555**	0.25	0.189	0.0314	0.238	0.825***	0.590**	-0.122
religion	0.254	-0.282*	-0.15	0.0622	0.111	0.118	0.368**	-0.0763
trust	0.310**	0.301**	0.342**	0.322**	0.576***	0.384***	0.203	0.535***
trustgovernment	0.593***	0.183	0.615***	0.497**	0.512***	0.583***	0.432**	0.674***
crisis	-0.909***	-0.651***	-0.725***	-0.983***	-1.194***	-0.521***	-0.870***	-0.551***
Observations	996	991	1000	998	1047	1601	1000	983
Pseudo R^2	0.125	0.118	0.1313	0.0982	0.1465	0.1316		0.1172

Table 3: Ordered logit model for life satisfaction. Estimates of coefficients in ordered logit models for life satisfaction. * ,** and *** denote significance at the 10%, 5% and 1% significance level, respectively.

6 Conclusion

In this paper, we examined evolution and determinants of life satisfaction in selected post-communist countries. The transition from communism to capitalism not only meant transition from a central planned to a free market economy, but it also had an impact on individual life satisfaction. Overall, people in transition countries appear to report significantly lower life satisfaction compared to their counterparts in Western countries.

By using data from surveys conducted between 1982 and 2010, we examined how life satisfaction changed in time. Surveys from the 1980s suggest that current unhappiness is partly a communist legacy. After the end of communism, life satisfaction appears to have followed the course of GDP, first falling steeply and subsequently recovering. Even though present life satisfaction in our group of countries is still rather low and even fell during the economic crisis, the expectations for the future are far from pessimistic. Having reached its lowest point in mid 1990s, life satisfaction appears to be rising on average. We hypothetize that this part of post-communist Europe is most likely to be the first to join the "happy part" of the European Union.

Next, we investigated the determinants of life satisfaction in our range of transition countries using individual level data from the second wave of Life in Transition Survey which took place in 2010. Using life satisfaction as a dependent variable, we examined how our range of selected determinants influence it, using ordered logit, ordered logit and robust OLS. Comparing our results to past studies, we find that in many respects, the patterns in data for our group of post-communist countries are similar to those in Western countries.

The relationship between satisfaction and age cohort exhibits the expected U-shaped pattern. However, we have found that the rise in life satisfaction seems to occur later than in Western countries. Opposite to many studies on happiness, we do not find women to be significantly more satisfied than men. As expected, satisfaction is found to be positively correlated with good health and religious activity, and negatively with bad health. We found a strong evidence that life satisfaction is positively associated with job satisfaction. Those looking for a job are less satisfied.

We also find that a higher relative position on an income ladder has a positive influence on one's life satisfaction. This is consistent with most findings in the existing literature. Although we have failed to find a conclusive evidence that marriage is associated with higher life satisfaction, those living with a

partner do appear to be more satisfied. Still, our result differs from findings in many studies which conclude that married people are happier. However, our analysis confirmed that divorced respondents report lower levels of satisfaction. Interestingly, university education and life satisfaction do not seem to be related. Social capital such as trust including trust in government is associated with higher satisfaction. Also, our findings suggest that people who are in favour of market economy and democracy are more satisfied. Citizens who have felt the impact of the crisis tend to be less satisfied.

Turning to analysis of determinants in individual countries, we find significant regional variation in reported life-satisfaction across Central-Eastern Europe. Surprisingly, not even the standard positive association between good health and life satisfaction holds in each post-communist country. However, there are three variables which were consistently significant in each of the countries - job satisfaction, relative income and the crisis.

In conclusion, we believe that the study of subjective data on well-being can be useful for economists, especially when it comes to examining fast-changing post-communist countries. Any policy implications drawn from this study should be made carefully. However, we believe that our findings carry a few policy implications. Firstly, carefully selected policies could increase well being of citizens by helping them fulfill their personal aspirations. This can be done by increasing the human capital of citizens and making it easier for them enter the labour market. Older citizens with obsolete skills who found it hard to find their place in the new economy are particularly vulnerable. Also, public policies can also contribute to the improvement of recently established democratic institutions and help increase confidence of people in them through measures combating distrust. In order to do this, policy makers should try and build uncorrupt courts, police and effective bureaucracy. This could increase the social capital and subsequently also welfare.

As a future research question, we imagine that it would be interesting to undertake a detailed analysis of individual countries, should another wave of Life in Transition Survey take place. At the time of the writing of this thesis, only data from 2006 and 2010 were available. Since the 2010 data were affected by the crisis, the next wave could provide a better insight on future long-term evolution of life satisfaction in post-communist countries.

Explanatory variable	Corresponding question from the survey	Detailed description	Mean	Standart deviation
Satisfaction	All things considered, I am satisfied with my life now	Answers are on a scale of 1 (strongly disagree) to 5 (strongly agree), 0 if the respondent answered "don't know" or refused to answer.	3,189067	1,057434
Age		Age of the respondent	50,84796	16,26965
agesq		Age squared	2850,185	1705,778
female			0,6030641	0,489291
relative_income	Please imagine a ten-step ladder where on the bottom, the first step, stand the poorest 10% people in our country, and on the highest step, the tenth, stand the richest 10% of people in our country. On which step of the ten is your household today?	Answers are on a scale of 1 to 10, 0 if the respondent answered "don't know" or refused to answer.	4,42305	1,734662
searching_job	Are you actively looking for a job at this moment?	1 if the respondent indicated he or she is looking for a job	0,1514624	0,35852
job_satisfaction	All things considered, I am satisfied with my job as a whole.	1 if the respondent answered "agree" or "strongly agree", 0 otherwise	0,3476091	0,476239
market_economy	With which one of the following statements do you agree most?	1 if the respondent answered " A market economy is preferable to any other form of economic system.", 0 otherwise.	0,4344243	0,49571
democracy	With which one of the following statements do you agree most?	1 if the respondent answered "Democracy is preferable to any other form of political system.", 0 otherwise.	0,2824977	0,45024
university	What is the highest level of education you already completed?	1 if the respondent answered bachelor's degree, master's degree or PhD, 0 otherwise.	0,174675	0,379711
student	During the last 12 months, have you been a student or apprentice in formal education (full time/part time)?	1 if the respondent answered yes, 0 otherwise.	0,0990019	0,298682

Figure 15: Detailed description of variables, part 1 of 2. Source of data: LiTS II.

Explanatory variable	Corresponding question from the survey	Detailed description	Mean	Standart deviation
health	How would you assess your health?	1 if the respondent answered "good" or "very good", 0 otherwise.	0,5063835	0,499988
badhealth	How would you assess your health?	1 if the respondent answered "bad" and or "very bad", 0 otherwise.	0,1393918	0,346375
partner	Do you live together with a spouse or a long-term partner?	1 if the answer was yes, 0 otherwise.	0,1081708	0,310614
married	What is your present marital status?	1 if the respondent answered "married", 0 otherwise.	0,5179898	0,499705
divorced	What is your present marital status?	1 if the respondent answered "divorced", 0 otherwise.	0,5733519	0,494619
religion	Here is a list of voluntary organizations. For each one, please indicate, whether you are an active member, an inactive member, or not a member of that type of organization	1 if the respondent is an active or passive member, zero otherwise.	0,233519	0,423094
trust	Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people? Please answer on a scale of 1 to 5, where 1 means that you have complete distrust and 5 means that you have complete trust.	1 if the respondent answered some trust or complete trust, 0 otherwise.	0,299675	0,458142
trust_government	To what extent do you trust the following institutions?	1 if the respondent indicated he or she trusts the government to a certain degree, 0 otherwise.	0,2111188	0,408126
crisis	"As you know, an economic crisis is affecting the whole world and our country. How much, if at all, has this crisis affected your household in the past two years?"	1 for "a great deal" or "a fair amount", 0 otherwise.	0,4156221	0,492858

Figure 16: Detailed description of variables, part 2 of 2. Source of data: LiTS II.

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