Doctoral (PhD) Thesis

LIFE SATISFACTION AND THE CYCLICAL COMPONENT OF GDP

Thomas WIESE

Supervisor: József GÁLL

University of Debrecen

Doctoral School of Economics

Debrecen, 2014

A doktori értekezés betétlapja

LIFE SATISFACTION AND THE CYCLICAL COMPONENT OF GDP

Értekezés a doktori (PhD) fokozat megszerzése érdekében
Közgazdaságtudományok tudományágban

Írta: **WIESE Thomas Rudolf Gerhard** okleveles közgazdàsz

Készült a Debreceni Egyetem Közgazdaságtudományi Doktori Iskolája
(Versenyképesség, Globalizáció és Regionalitás programja) keretében

Témavezető: Dr. Gáll József

A doktori szigorlati bizottság:

elnök: Dr. ……
tagok: Dr. ……
Dr. ……
Dr. ……

A doktori szigorlat időpontja: 20… . …… … .

Az értekezés bírálói:

Dr. ….....
Dr. ……..
Dr. ….....

A bírálóbizottság:

elnök: Dr. ….....
tagok: Dr. ……..
Dr. ……..
Dr. ……..
Dr. ……..

Az értekezés védésének időpontja: 20… . …… … .

For Àron

ACKNOWLEDGEMENTS

I would like to express my gratitude to all those people who have been accompanied and supported my work during the last years.

First and foremost, I would like to thank my supervisor Dr Jozsef Gáll for his many insightful comments, his precise approach to research and his encouragements. I am most grateful to him for showing enthusiasm in my work, for believing in my capacity to conduct good research and for giving me the opportunity and the freedom to pursue my research interest. Working with the professors of the University of Debrecen as well as the Corvinus University has been a privilege. Especially their open minded attitude regarding novel and promising research areas is remarkable. Besides, I am especially thankful to my former colleague Dr Nikolay Hristov as he introduced me to econometric analyses. Many of the ideas behind the chapters of this dissertation come from discussions I have had with them and others.

Also I would like to thank colleagues for the honor of sharing an office with them over the years. Special thanks go to George Seel who proof read my publications and this thesis.

My family has been an important source of support throughout this journey: my wife Dr Katalin Wiese has always managed to strike the delicate balance between giving me the freedom of thought and the encouragement needed during my occasional loss of morale during the journey to my PhD. While travelling around the world she understood that I needed to meet firstly, Professor Paul Frijters in Brisbane, Australia; secondly, Richard Easterlin at the UCLA in Los Angeles, US; thirdly, Justin Wolfers at the Princeton University in Philadelphia, US; and lastly, Ruut Veenhoven and Alois Stutzer at the Erasmus University in Rotterdam, Holland. Further, she shared with me the love for our son Àron who developed in tandem with the work of this thesis: both of us made our first steps - Àron learned to walk on the world and I learned to walk on the stage called science.

I am thankful to the rest of my family, especially my parents Dr Gerhard Wiese who saw in me the economist when I just saw a psychologist, and my mother Gisela Wiese for her love and support. Special thanks also to my brother Ulrich Wiese who made his contribution with his assistance to the graphical presentations. I would also like to thank my mother-in-

law Balázs Rezsöné and my father-in-law Balázs Rezsö for making me feel at home away from home and supporting my progress with the more basic things in life: Hortobágy utca was always a haven from the stresses of life, with good food and wholesome rest.
Last but not least I would like to thank my friends from Germany (especially Adrian Wiebe, Arnim Bleier and Christian Ostler) for pretending, over the last years, that life at home was not all that great. Together with my wife and child they have provided me with a constant reminder that there is more to life than regression analysis and impact factor journal publications.

Köszönöm szépen mindenkinek!
Tausendfacher Dank an Alle!

Debrecen, May 12th, 2014

Thomas Wiese

TABLE OF CONTENTS

Appendices

LIST OF FIGURES

LIST OF TABLES

LIST OF TEXTBOXES

LIST OF ABBREVIATIONS

EPL .....Employment Protection Legislation

EZ..... Eurozone

GDP .....Gross Domestic Product

GIPS.....Greece, Italy, Portugal and Spain

GNH.....Gross National Happiness

GNP ..... Gross National Product

HDI ..... Human Development Index

LSA ..... Life Satisfaction Approach

MRI..... Magnetic Resonance Imaging

NHI .....National Happiness Indicator

OLS..... Ordinary Least Squares

SWB ..... Subjective Well-Being

UB .....Unemployment Benefits

Motto: *"How the structure of society … should be changed*

In order to make human life as satisfying as possible?"

- Einstein (1949)

Motivation of Research

I am and I was always curious. Simple answers never could satisfy my thirst for knowledge. Thus, as long as the solution did not convince me I quickly asked further questions or brought up some form of a remark starting with "That is a good point, but…!"

This was especially true when I started to study economics and the "more is better" hypothesis was discussed. I could not believe that GDP should be such an important measure for the progress of humanity because I felt that material possessions would not be the answer to the most fundamental human needs. This mind-set was shaped by the study of Erich Fromm`s ideas of "Having" and "Being" and a certain children's audio book about a recent Lotto millionaire whose life was turned upside-down due to his wealth - his last resort is to donate his wealth to regain normality.

When I encountered happiness research in my third year of university studies I saw the possibility to find answers for the deep rooted questions that economic science was previously not able to provide explanations for. Hence, I tried everything to write my bachelor thesis about the topic. At that time I was teaching at the department of macroeconomics at the University of Augsburg under the direction of Professor Maußner. My direct superior Sabine Missgunst offered to be the supervisor for the thesis which was intended to be an econometric study written in English. However, after I had already done my research the cooperation ended in tears as Ms Missgunst refused to accept the study as well as an English written text on grounds which until now are not understood. Even though I could not get my degree from the macroeconomics department I did not give up and in the end I found Professor Giegler from the sociological department who accepted my topic. As I had worked hard on this thesis I was rewarded with very good feedback. Nevertheless, I was not satisfied yet – I wanted to get to know more and was still curious about what the field can offer me. Thus, I tried to write my master thesis about the topic and contacted Bruno Frey from the ETH Zurich. He promised to be an external opponent of my

thesis; however, according to the rules I needed a second "formal" Professor from my university. But after Professor Giegler retired no other Professor was willing to accept my topic – I even discussed it with the Catholic priest who gave the business ethics seminar. I was deeply hurt because I had to let go of the great opportunity to work together with Bruno Frey plus my unanswered questions were still inside me. I decided to finish my degree as soon as possible to be free from administrative burdens and narrow minded superiors. I took a random topic and finished my master thesis within 3 months while staying at the University of Debrecen as an exchange student.

The minute I handed in my thesis the financial crisis reached Greece. I witnessed its "default" and the way European institution had to react. My response was to analyse the events from the front row and hence, I applied for a stagiare position at the European Commission. Besides my theoretical obsession with happiness research, my practical passion with monetary and competition policy could only be satisfied there: The Directorate General for Competition presented countless options to engage in firstly, cartel or merger cases which were discussed in meetings or video conferences; secondly, I could attended every week several discussions in embassies, the European Parliament or the European Council; thirdly, the euro crisis with its political complexities was sweeping over Brussels and I was part of conferences hosted, for example, by DG ECFIN with speakers from the ECB, and Deutsche Bank chief economists Thomas Mayer as well as Professor Hans-Werner Sinn.

During that time I felt the crisis and the impact it will have on the economies of Europe but I also felt that I was not prepared to analyze its influence on its population. My unfinished questions about happiness research and the possibility to work on this topic in connection with the European crisis created the desire to do a PhD. Dr Sigér Fruzsina whom I know from my Erasmus year in Finland and who organized my first stay at the University of Debrecen helped me to get into contact with Dr Gàll Jozsef, my later supervisor. I cannot be enough grateful for his openness to engage with me in the controversial topic of happiness research. As I had got so frustrated before I felt relieved that I finally had the chance to conduct the research I wanted to.

The first semester was more or less blocked for my own research as I was conducting four different courses as well as having to deal with around 100 students. Thereafter I took a holiday semester which gave me the opportunity to get a lot of reading done but also the chance to meet several experts in the field while traveling around the world: I met Professor Easterlin and his team twice in Los Angeles and we elaborated in detail on how I should redefine my research question and approach as well as where the happiness and economics literature is heading. Further, I met Professor Wolfers in Princeton University and we discussed the same topics. The fundamental differences in their theories became obvious to me and I saw clearly that my approach would be a great supplement. In Australia at the University of Queensland I met by chance Professor Paul Frijters: I had an appointment with Professor Clem Tisdell, an expert on biodiversity and discounting theories (one of his papers gave me the model for my master thesis which ended up as my first publication). When I told him that I was working on happiness studies he introduced me to Paul who had his office on the same floor. As it was a Friday evening Paul invited me to join in with some of his colleagues to go to the university pub. In this atmosphere we could discuss the current developments in Europe as well as happiness research and my plans. His sharp mind as well as his proficiency in the topic gave me a new focus on certain aspects and I received very valuable insights through him.

After this 8 month trip I had my research question "field tested" and my mind was focused on the tasks ahead: collect the right data, use the appropriate methodology and hope for workable results. It was not easy but I had enough time as I already had the teaching material prepared for my lectures. At the end of the third semester two babies were born – I had the results for my first impact factor publication and for the first time my son Àron saw the light of the day. However, this did not mean that I could relax as both of them needed attention. My son needed to be nursed and my results were looking forward to be published. In this regard I want to mention Professor Hámori Balàzs who assessed my paper as part of his enlightening course "Behavioural Economics" and who guided me to the journal Acta Oeconomica. The total review process took over 9 months which was a difficult time for a young researcher, not knowing what his work is worth. During this time I visited a macroeconomics course at the Magyar Nemzeti Bank conducted by LSE Professor Gianluca

Benigno with whom I could discuss the crisis in the Eurozone. Also, during a conference I met Professor István Benczes and he arranged for me to teach an intensive course at the Corvinus University. After one of my classes I met Professor Kornai János and had the special opportunity to discuss current developments in Hungary as well as happiness research. Additionally, I was able to attend the conference "Advances in happiness research" at the Erasmus University in Rotterdam. There, I met Professor Ruut Veenhoven and Professor Alois Stutzer and they gave me very good ideas for improving my results; for example, Ruut sent me the access to a dataset with individual life satisfaction data. Hence, I was capable to work on my approach further and finished two additional publications. Consequently, I gave two presentations at the following Kutatàsi Fòrum and received very constructive feedback: firstly, Dr Czeglédi Pál´s outstanding analytical perception and his constructive criticism made me see the shortcomings of my approach and inspired new ideas for future research. Secondly, Professor Szanyi Miklós gave me guidance in connection with the scope of a PhD as he advised me to finish the PhD as soon as possible and not get lost on the way.

After being exposed to so many good comments and such excellent surroundings for research my curiosity and my thirst for knowledge is partly satisfied but each puzzle solved gives ample opportunity to research further.

1 Introduction

The greatest happiness for the greatest number of citizens seems to be a sound goal for public policy. For example the "pursuit of happiness"[1] has been the aim of many of us. Before 1950 it was exclusively philosophers and theologians who focused on the question of how to live a good life. However, for more than 60 years the mainstream social sciences have been researching the topic. To obtain quantifiable results, data about people's well-being was gathered in countless surveys which asked about individuals' life satisfaction, feelings and other states of mind. These social, cognitive and emotional factors are very important for the new branch of economics called behavioral economics. This is necessary because "economics is a science of thinking in terms of models joined to the art of choosing models which are relevant to the contemporary world" (Keynes 1938). In behavioral economics life satisfaction data is seen as a certain utility notion and consequently the effects of economic situations can be analyzed in this new framework. It is important to note that the rationality of human beings, expressed in the concept of the "homo oeconomicus", is challenged.

It has been stated that higher income levels have not resulted in increased happiness measures. For example, the United States of America (US) has witnessed a massive increase in Gross Domestic Product (GDP), particularly since 1960. This has meant that the average household can enjoy the benefits of a fridge, a telephone and a personal car. However, happiness levels have remained the same throughout the period. This paradox challenges the main assumptions of the discipline of economics.

Consequently, many researchers have investigated the impact of GDP on happiness. In the vast literature available, however, what has not been attempted is an empirical examination of the effect of a deviation from the trend growth of GDP (cyclical component of GDP) on happiness. In other words, the research supposes that people react on the difference between real and average level of GDP growth. If real GDP growth is lower citizens

[1] Coined by the United States Declaration of Independence

become disappointed because they had higher expectations. The implication would be that reported levels of life satisfaction could fall even if the economy is growing. If, nonetheless, the growth of GDP exceeds the expected level people will be positively surprised and the happiness index will rise. Member countries of the Eurozone (EZ) have been selected and analyzed to test the hypothesis. Their relevance for the contemporary economic and political debate and the availability of consistent data from Eurostat, the OECD and the European Commission's Eurobarometer report has driven the selection process. Econometrical methods like the Hodrick-Prescott filter and Ordinary Least Squares (OLS) analysis have been used. Interesting results have emerged in connection with Mediterranean countries, notably Portugal, Italy, Greece and Spain.

Following this, further research questions opened up and the theoretical and practical examination of European welfare systems was necessary. Social welfare systems have been the moral solution to the negative side effects brought about by capitalism. They have been able to mitigate problematic issues such as the unequal distribution of wealth, or risks associated with labor market outcomes. European states have been providing more and more social help to their citizens, starting with Bismarck's first social insurance systems. However, the central 'buzz-word' in contemporary economic discussions, not only in the EZ but around the world, is "austerity", which means cuts in social spending. As one of the largest elements in government costs, social expenditures such as unemployment benefits or public pensions are the most likely to be subjected to reductions in such a situation. In the news we see protestors in Madrid, Athens and many other places clashing with police and fighting over how the government budget should be divided and whether certain reductions in public spending should be rethought. International pressures transmitted via globalization have raised commercial competition to a new level and sovereign nations might miss out on the opportunities presented by the worldwide trade in goods and services. Voters, in particular, are reluctant to accept structural changes which might enable growth in the medium run but hurt the entitlements of certain groups in the short run. In several countries politicians have prolonged necessary reforms with fiscal stimulus and in return accepted higher debt levels. They have enacted protective measures to avoid global

competition in their home markets. If a government circumvents necessary reforms markets may not be willing to finance government debt if it is associated with unsustainable rates. A death spiral can start which might lead to the nation defaulting on its liabilities.

The contemporary discussions and the future economic prospects of the EZ demand broader analysis: for example, should Mediterranean countries like Greece undergo several years of tough austerity, high unemployment and negative growth until they regain competitiveness or should they reintroduce their own currency, default on national debt and be able to make a new start?

Hence, these important considerations triggered the following three groups of initial research questions of the dissertation:

1) Does an association between Eurozone member countries citizens' life satisfaction and the cyclical component of GDP exist? How does aggregated life satisfaction of Eurozone member countries citizen's react on a deviation from the trend growth of GDP?

2) What is the role of youth unemployment, equity and poverty in the context of individual life satisfaction and the cyclical component of GDP? Do differences in the social welfare systems explain the variations of the extent how aggregated life satisfaction of Eurozone member countries citizen's react on a deviation from the trend growth of GDP?

3) What are the implications for the design and future of the Eurozone member countries from the previous results? What are the practical propositions of the found correlations in the current political and socio-economic discussion?

To answer these research questions the thesis will be structured in the following way:

Firstly, the stage will be set by introducing the field. Thus, the question why happiness studies are an important branch of economics will be discussed. The shortcomings of the standard view of economics and alternative concepts like GDP growth or the Human Development Index (HDI) will be presented. Besides the recent psychological discoveries in connection with happiness, well-being and life satisfaction are offered. Thus, the first

chapter will put special focus on how life satisfaction can be seen as a form of utility and how studies are conducted. Research methods including survey data are presented. Certain shortcomings of this approach will be elaborated, for instance the possible bias in subjectively collected data. This is negatively correlated with the reliability of the results and thus gives ample room to question the conduct of the research. Consequently, this will not be ignored and will be adequately addressed.

Secondly, the main findings in connection with my research from the past as well as from the recent literature will be presented. The correlation of happiness with economic variables such as income, inflation and unemployment are shown, especially in comparison with the standard view of economics. Further, the political effects of happiness are elaborated – especially how the current political performance influences the well-being of the nation. In this context the influence of the constitutional setting is discussed and the positive impact of direct democracy is shown. The Life Satisfaction Approach (LSA) is also introduced and its ability to value public goods is shown. In addition, findings from related fields are presented such as the impact of socio-economic and personality factors, which have to be discussed as it is important to control for those variables in econometric surveys.

Thirdly, my own investigation will be presented and empirical results relating to the relationship of the cyclical component of GDP and life satisfaction will be highlighted. The chapter will analyze empirically the relationship between a deviation in the trend of seasonally adjusted GDP growth and life satisfaction in EZ member countries based on data from the European Commission's Eurobarometer report and the OECD. As already mentioned, previous studies indicate a paradox: rising income has not led to increases in long term levels of life satisfaction. Therefore, the hypothesis whether citizens react on the cyclical component of GDP will be tested. To the best of my knowledge this approach is new to the literature. This adds a novel way of tackling the question of why economic prosperity has had little or no influence on life satisfaction levels. I argue that country-wide differences in the relationship of trend GDP growth and life satisfaction between EZ members exist. Portugal, Italy, Greece and Spain give evidence for a significantly positive relationship. For other euro member countries the hypothesis does not hold. This suggests

that two different groups exist and if everything else is held constant, economic growth strategies should vary. Hence, I will discuss possible economic and policy implications.

Fourthly, social welfare systems especially in times of globalization will be investigated. The most cited theoretical framework is Esping-Andersen's work on three ideal welfare types which are conservative, liberal and social-democratic ones. In addition, the Mediterranean or Southern welfare model will be presented and its role as a separate group or as a subgroup of the Continental model will be debated. Following this the Southern model and its relationship to life satisfaction adaptation to trend growth will be remodeled. In the context of the previously mentioned results, certain welfare state characteristics, such as the ability to create sufficient equity and the flexibility of labor markets will be analyzed. The main hypothesis is that in countries where the social safety net is rather weak the population is more dependent on economic variables such as rising income. Further econometric regressions analyzing data of individuals will be utilized.

Fifthly, implications for individuals and governments will be debated. Popular literature takes advantage of the hype around well-being with books about how to become happy. Thus, I will summarize some suggestions from happiness scholars for individuals. Additionally, political and economic consequences will be discussed. In particular, the question of whether governments should maximize Gross National Happiness (GNH) will be debated as countries like Bhutan try to accomplish this. Consequently, the question of whether a certain policy can be a common practice for all governments will be analyzed. This will be answered with the example of whether taxes should be used to redistribute wealth and to lower the negative externalities of work.

Sixthly, the current situation in the EZ will be presented. The aim of this part of the dissertation is to answer the question, what are the implications for the planning and future of the EZ member countries from the previous results? The underlying cause of the malaise is that certain member countries have lost competitiveness and for this reason, have to realign their prices either internally or externally to be able to support themselves. These two situations are judged in a ceteris paribus analysis in the context of my results.

Furthermore, I will review the obtained findings in the discussion chapter and mention future research possibilities. Finally, a conclusion is offered: I will answer my research questions and sum up.

2 Theoretical and conventional framework

Even though the purpose of this thesis is not to give an extensive introduction to the happiness and economics field, an overview of the literature will be given. It is worth noting that the thesis follows the argumentation of the main scholars in the field, especially Frey and Stutzer (2002a). With over 2000 citations this work is one of the best and most widely accepted reviews in the young discipline. Consequently this part of the thesis reports their analysis and findings plus the work of Veenhoven (1991), Diener et al. (1999), Van Praag et al. (1999) and Easterlin (2000) as all of them give an excellent introduction to the field, particularly regarding the measurement of happiness and its integration into economic science. For shorter introductions Frey and Stutzer (2002b) as well as Wiese (2014b) are advised.[2] Notably, this introduction to the topic does not include any of my own ideas as this thesis should be seen as a research work focusing on my novel approach and the interesting results I found. That's why many important aspects are just discussed briefly however the issues related with my own research are elaborated extensively.

Firstly, the base from which happiness and economics operates will be introduced and the question why it is an important part of economics will be discussed. The limitations of conventional economics, especially to measure welfare will be reviewed. In stark contrast, the current psychological findings in connection with happiness studies will be offered. I will put special focus in my analysis on how life satisfaction can be seen as a form of utility and how research is conducted. Research methods including survey data will be presented. I will elaborate the shortcomings of this approach, for instance the possible bias in subjectively collected data. As this is negatively correlated with the reliability of the results orthodox economists consider happiness and economics as "unscientific". Consequently, I will not disregard this view, but address it with the best possible explanations as to why it is still meaningful to conduct this kind of research.

[2] I also used these publications for his courses "Happiness and Economics" which I conducted at the University of Debrecen and at the Corvinus University of Budapest.

2.1 Why Happiness and Economics

This section will debate the question of why happiness and economics is an important part of the literature and how happiness correlates with what economists call utility. First of all, it is important to note that happiness is a goal in itself; the Greek philosopher Aristotle even claimed that it is the ultimate goal. Numerous other objectives are merely secondary goals as they follow a different end. For example, money is not wanted for itself – it is the purchasing power it gives the owner which is desired. For a brief illustration of the philosophy of happiness see textbox 1.

Textbox 1: Philosophy of Happiness

In ancient times Aristotle was one of the most important philosophers. He claimed that *eudaimonia*, a synonym for happiness, was the supreme good of human thought and action. His argument was that eudaimonia is a goal in itself. Eudaimonia is not only about feeling good - for Aristotle virtue is also essential, even though he fails to elaborate why (Kraut 2012).

In the Christian Middle Ages many clerics focused on connectedness with God because they believed that it is in God that the greatest happiness humans can obtain lies: "for God has created us to him and our heart is restless until it rests in God" (Augustine 2006:28).

However the modern philosophers see things differently: Schopenhauer proclaims that the world is "full of suffering. All happiness is an illusion" (Schopenhauer 1818:33). His pessimism was inspired by Buddhism. What is interesting is that mathematically it does not make a difference whether a utility function tries to maximize pleasure or minimize the pain – the best possible action set would be the same. Hence, a positive or negative view on life would result in the same lifestyle in theory.

Bentham (1789), the founder of utilitarianism, believed in the greatest-happiness-principle which was already mentioned in the introduction: this means wishing for the greatest happiness for the greatest number. Thus, an action is morally justifiable if it leads to a greater good for society in quantitative terms.

The current debates are centered on happiness research but positive thinking in several ways is also present as bookstores are full of self-help literature from authors like Oprah Winfrey and the Dalai Lama. However, academics like Marcuse (1949) bring some new ideas to the table such as the belief in the short life of happiness and the impossibility of everlasting well-being. Furthermore, Haidt (2006:315) claims that if "we rely on balanced

wisdom - old and new, eastern and western, liberal and conservative - we can choose directions in our life that lead to satisfaction, happiness and a sense of purpose." Hence, everything is important, from being religious and spending money but neither should be held to too dogmatically. Besides, Nozick (1974) proved with a thought experiment that most people do not consider hedonistic pleasure as the ultimate goal of their lives. People would not enter a machine which would guarantee to provide them with these amusements. Similarly to Aristotle, Richard Layard states that it is our aim to find the greatest happiness for everybody (2005). He also claims that even though people become externally wealthier they agonize internally as GDP has grown excessively but clinical depression has increased 10 times in the last 100 years (Lyubomirsky 2008).

The founding fathers of economics thought about well-being quite differently than how contemporary mainstream economic textbooks explain it: for example, Adam Smith (1776) claimed that after some point further increases in wealth are rather useless. Additionally John Stuart Mill (1863) was convinced that liberty was the most important goal despite the existence of other aims like wealth or income. Mill also argued that citizens should take into account the implications of their actions on society.

However, another question should also be addressed: is subjective well-being in the sense of cheerfulness the right definition for happiness, or should the idea of the meaningful life prevail? Above and beyond all theoretical considerations individuals have the obligation to decide for themselves what interpretation of happiness they want to follow in their lives: on the one hand the maximization of happy experiences could prevail or on the other hand individuals could focus on the pursuit of a meaningful life. I think that the concept of life satisfaction takes best care of these issues as it can be up to the individual to decide. Some might decide in favor of hedonic pleasure, while others that eudaimonia in the sense of virtue, personal growth or religious connectedness with God are their guiding principles (Waterman 1993). In life satisfaction surveys individuals rate their life based on what seems important for them.

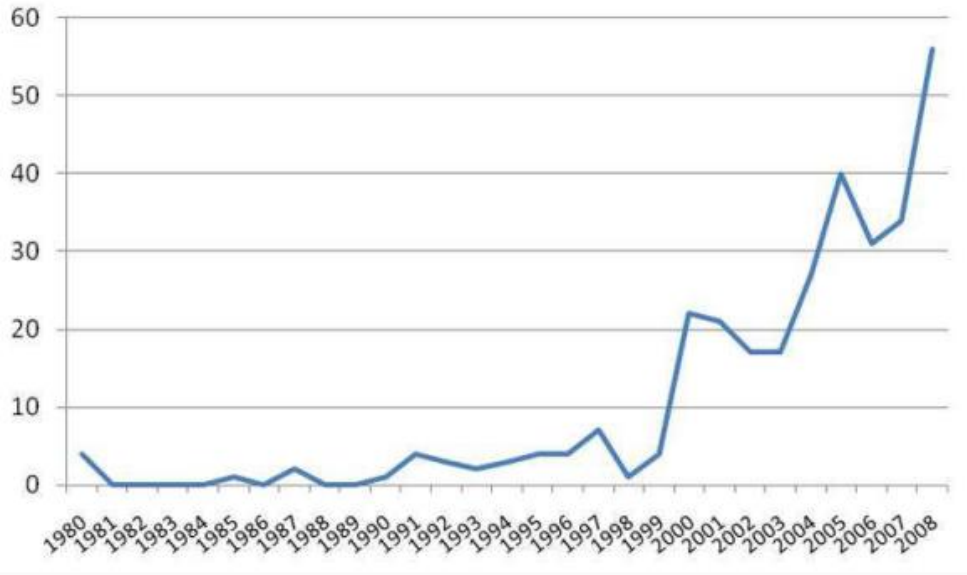
It is important to remember that most political decisions are problematic in the sense that they bring disadvantages for one group and advantages for another. Pareto improvements (Pareto 1971) are mostly impossible and certain tradeoffs have to be considered. For example, quantitative easing might cause higher inflation on the one hand, but on the other hand unemployment could be reduced. Further, the building of an airport on the one hand will have advantages for a vast population as air journeys can limit the inconvenience of traveling. On the other hand the noise and air pollution will cause problems for the people close to the runway. Political decision makers will find it difficult to weigh the loss of one group against the gains of another with the regular toolbox of economic science.

Standard economic models work with the belief in a "homo oeconomicus" model (Persky 1995). The "Economic human" is a concept that is based on the rationality and the self-interest of actors who have the ability to judge the actions they take to move towards defined ends. Even though most economists work with the assumption of a "homo oeconomicus", there are many problems with the concept, as empirical surveys and logical arguments criticize its premises. Thus, standard economic models must be critically reviewed due to the shortcomings of the "homo oeconomicus" assumption. Happiness and economics is one possible alternative. A summary of problems with the concept of a "homo oeconomicus" can be found in textbox 4 which is displayed in the sections 2.2.2.

In addition, standard economic textbooks write that the individual considers work as a burden and utility is increased by more leisure time (Friedman 1957). However, we will see in the following chapters that many studies indicate that the unemployed suffer from being out of work, thus many scholars claim that a redundant person feels pain from being out of work.

See in figure 1 a graph plotting the number of published journal articles with "happiness", "subjective well-being" or "life satisfaction" in the title according to the time frame from 1980 until 2008. We can see that with the start of the new millennium the publication rate grew in an exponential fashion. This visualizes the current trend of science as well as the increasing acceptance of happiness studies in the literature.

Figure 1: Number of Journal Articles on Happiness Studies 1980-2008



Source: Chapple 2009:8.

2.2 Well-being, Happiness and Life Satisfaction

Happiness and economics can help to analyze the impact of economic conditions further. With this standard views like the "homo oeconomicus" assumption can be challenged or findings can be validated. This is especially interesting as the "mantra" of economics seems to be "more is better". However, psychologists claim that individuals follow rather a "hedonic treadmill" (Diener et al. 2006:305) which maintains a certain set–point: it does not matter how fast you run on a treadmill – you stay at the same spot. Similarly, it does not matter how high your consumption level is – you will feel equally satisfied. Consequently, it seems worthwhile investigating how psychologists have viewed the subject.

2.2.1 The Approach in Psychology

In the literature subjective well-being (SWB) is the most commonly used term for happiness and it was defined by Diener et al. (1999) as a cognitive and affective evaluation of the life someone leads. According to Szondy (2004:53-72) SWB consists of firstly, life satisfaction, secondly, high positive affectivity and thirdly, low negative affectivity. Therefore, life satisfaction is simply the cognitive component of SWB and excludes positive and negative emotions. Professor Easterlin explained the concept to me the following way: imagine you are flying to a vacation as you just have been promoted. On the plane the stewardess offers you a cup of coffee. In anticipation of a well flavored drink you take a first sip – and it tastes horrible. At this moment you most likely would feel that your happiness level is plummeting as you would have to digest the disgusting coffee. However, if I would ask you in that exact moment a survey question like "How satisfied are you with your life as a whole?" you would take into account the promotion or the vacation instead of the terrible coffee. Thus, even though your happiness level would drop your life satisfaction level would not. Moods and emotions are called affective but rational evaluation is labeled as cognition. Therefore, in economic analysis life satisfaction data is used to avoid interference of short lived emotional factors. Therefore, my empirical studies only use life satisfaction data and I use the term exclusively in connection with my research. However, in the discussions or general summaries life satisfaction, subjective or reported well-being and happiness are used interchangeably. Unlike the approach of economists, psychologists like Kahneman, Diener and Schwarz (2003) consider income and other economic conditions such as inflation and employment status as just one of five factors which influence happiness. The other determinants are: firstly, personal factors such as extroversion, neuroticism, self-esteem and optimism. For example on average people report higher values of happiness if they are outgoing, not subject to big mood swings, think highly of themselves and look positively to the future; secondly, socio-democratic factors such as education, marital status, age and gender seem to play a role. In the chapter "Impact of personality and demographic factors" the thesis will go into detail on these

influences; thirdly, contextual and situational factors such as living and working conditions, but also close relationships with friends and spouses are considered. The impact of the individual health circumstances are included as well. Fourthly, institutional factors such as political participation rights or the freedom created by the constitution affect citizens. These aspects have been broadly examined in the past and will be discussed in the chapter "Political Effects on Happiness". Additionally, many studies point to the fact that cultural aspects might play a major role in the determination of happiness. For instance, Inglehart and Welzel (2005) emphasize that countries should be grouped according to cultural aspects. Hence, some scholars claim that country comparisons are not fruitful and analysis should be done country by country. For example, Frey and Stutzer (2002a:136) state that "it is questionable whether large-scale international comparisons of happiness should be undertaken at all" because the comparability of indexes can be easily questioned. In conclusion, my analysis is merely done on a country by country basis. Given the nature of the human brain and the way "reality" is constructed it is clear that also happiness is created in the mind. Depending on the cultural and social surrounding a person grows up or lives in, different psychological mechanisms are defined. Kahneman et al. (2003) discuss four types:

Firstly, the *adaptation* to a certain well-being level is mentioned. The well-known and often discussed concept of the "Set-Point" or "Baseline" theory describes this. Find a deeper explanation in textbox 2.

Textbox 2: Set-Point Theory and the Hedonic Treadmill

Brickman and Campbell (1971) stated that individuals have a set-point level of happiness which is at least 50% determined by genes (Lykken – Tellegen 1996). This means that people tend to be always in the same mood and external influences just temporarily alter happiness levels (Stambor 2007). One component of this is the Hedonic Treadmill model (Eysenck 1990) which describes the useless endeavor to get ahead when being inside a treadmill – it does not matter how fast someone is running he will always stay in one spot. Similarly, it is impossible to reach greater happiness if, due to adaptation effects, all efforts are in vain.

Diener et al. (2006) found evidence that most people are generally in a good temper and that set-points may exist even though those might fluctuate within a certain range.

Furthermore, Fujita and Diener (2005) give evidence that the life satisfaction set-point does not change over the life span of most people; however, the subjective well-being set-point is more complicated as it depends on the individual's capability to adapt to certain life changes such as, for example, a disability. Headey and Wearing (1989) claim that people who live a more extroverted life and are open to new experiences are more likely to change their set point than others.

Secondly, in psychology *aspiration* levels have become familiar concepts since being discussed by both Irwin (1944) and, more recently, by Frederick and Loewenstein (1999). Individual expectations create levels of desire. The personal satisfaction depends on whether the level is attained or over/under-achieved. For a student the same result can trigger different feelings according to his or her expectations beforehand. On the one hand if his aspiration was to get a good grade but he only receives an average one he will feel discouraged. On the other hand he will feel pleased with the same objective result if he was just hoping to pass the test. It is also noteworthy that previous and present achievements alter the aspiration level. The danger is that since realignment continues to occur, individual satisfaction is trapped in a treadmill: it does not matter how hard you try in the long run you will always stay rather close to your own aspirations.

Thirdly, humans are social animals and for this reason *social comparison* is extremely important (Suls – Wills 1991). "To keep up with the Joneses" is the English saying which describes the social norm in Western cultures to stay on the same level as your neighbors. The idea is that a benchmark is created by relevant others around you, especially your spouse, friends and other peers. I will discuss in further chapters the importance of this phenomenon not only for material possessions but also for similar processes taking place in respect to employment status.

Lastly, many people disregard their ability to surmount negative experiences by *coping*. Brickman et al.'s (1978) famous paper about the capacity of disabled people to manage their situation and especially to restore their initial satisfaction levels is remarkable. A short time after the dreadful accident paraplegics returned to their original level of well-being. Hence, economic disaster and the resulting hardship are psychologically manageable.

2.2.2 Utility Theory

We have seen how psychologists think about happiness. In stark contrast standard economic textbooks claim that humans are considered rational and narrowly self-interested actors with the only goal to maximize their personal utility function (Veblen 1900). The conventional view is that individual utility is only influenced by material goods, services and leisure time. See in textbox 3 the historic milestones of utility theory. The question whether utility is cardinal or ordinal is discussed in detail. Also, the concept of preferences is touched. Besides, the reservation of some standard economists about how to measure utility and the restriction on the observation of choices is examined.

Textbox 3: Milestones of Utility Theory

Jeremy Bentham (1789) and other utilitarians (Edgeworth 1881) were committed to the idea that utility can be measured cardinally by a device which they called the "hedonometer". For instance, nowadays the measurement of brain waves could be used, and objectivity would be ensured as the data is calculated based on an external rule. For example, Kahneman (1999) recommends a similar approach. As these methods were not available in the 1930s the main stream of economists converted to the view that utility can only be measured on an ordinal scale - Lionel Robbins (1932) was particularly influential in this shift. Also, Hicks (1939) was confident that observed choice is the only way to discover individual utility empirically. He termed this "decision utility" as if option A is preferred over option B.

After the end of the Second World War ordinal utility was the only idea which prevailed in the literature and they called it the *new welfare economics*. The reason why it became the standard view in economics was firstly that satisfaction levels are naturally difficult to measure and from an ordinal view even impossible. Secondly, for certain economic models cardinal utility is not needed: Hicks (1934) and Allen (1938) showed that ordinal utility is enough to explain demand functions. Further, Samuelson (1938) claimed that utility is rather close to a concept of preferences; it may even be identical. Consequently, choices express preferences and can be easily empirically observed without asking about emotions. The founding fathers of contemporary preference theory are Houthakker (1950) and Uzawa (1960): after certain axioms are in line with preferences there is a demand function which is consistent and able to maximize choices in the most efficient way. Becker (1962) went even further: he proved without modeling utility at all that a price increase will force the demand to decrease.

Besides, von Neumann and Morgenstern (1947) laid down the theoretical foundations of Expected Utility Theory in their famous book "Theory of Games and Economic Behavior". The definitions of certain axioms about preferences are designed there. These are especially important for the "homo oeconomicus" specifications.

Consequently, contemporary economic research neglects other sciences like psychology and its empirical measurable results. Sen (1986:18) argued that this positivistic view which is very popular in economics "may be due to a mixture of an obsessive concern with observables and a peculiar belief that choice (...) is the only human aspect that can be observed." However, cardinal utility is used in cost benefit analysis. One interesting example is how time or biological assets can be evaluated which is discussed for instance in Wiese (2013). Overall the field is changing: for example, Lindbeck and Nyberg (2006) have modeled altruism specifically they investigated the behavior of parents and their children. In their model the utility function of the children is depended positively on consumption and negatively on effort. Additionally, the authors have designed a special indication for shame which shows social norm violation and more precisely to get unemployed. The utility function of the parents is depended on consumption plus an extra component: Parental utility is lifted by the utility of their children. Lindbeck and Nyberg call it "parental altruism" (Lindbeck – Nyberg 2006:1482). It is expressed mathematically to add a fraction of the children`s utility to the benefits of the utility from consumption. This example shows the various possibilities economists have when designing their models. Altruism as well as shame can be expressed in mathematical models. Another example can be Loewenstein (1999) who tried to integrate meaning into utility functions and Frank (1985) who experimented with status. In a nutshell, utility models can be changed and the criticism can be overcome.

This standard view is disputed by several scholars and some of them favor happiness as an approximation for utility. The reasons for this are fourfold:

Firstly, Tibor Scitovsky (1976) claimed in his book *The Joyless Economy* that it is impossible to purchase certain enjoyments in life: for example, how can somebody buy a good work environment, close friends or self-actualization. These "goods" are not exchanged on markets and have no price tag. Scitovsky argues that satisfaction comes not from a high level of consumption but rather from intrinsic motivation and changes in the comfort level. Further, Frank (1985, 1999) tries to incorporate social comparison into economics. He argues that relative income or consumption is the central factor in determining well-being – absolute levels are of inferior importance.

Secondly, individuals' observed choices are a puzzle for economists as they seem to be inconsistent with the rational and narrowly self-interested actor model. For instance,

volunteering, voting and other social activities seem to be inefficient in the classical economic model but can be empirically observed. Besides, Wiese (2013) gives examples of how individuals discount future outcomes in an ineffective and sometimes unreliable way. A rather high discount rate is applied in the short run versus a rather small discount rate in the long run.

Thirdly, the idea that individuals always maximize their personal utility function seems questionable. Nisbett and Ross (1980:223) write that "people do not know what makes them happy and what makes them unhappy." Even though this might go too far it is important to note that preference and subjective utility is not always the same, as people do not choose according to their individual utility function. Frey and Stutzer (2002a) dispute several explanations, including the previously cited social comparison. These *contextual influences* are mostly ignored in certain decisions, for example before moving into a better neighborhood people should take into account that their satisfaction with their possessions might be influenced by their new neighbors. Further, individuals are not well equipped in *predicting their own future taste*. As previously mentioned, adaptation or coping strategies are usual cognitive computations of the human mind. This holds true in cases of higher income as well as when losing both legs (Brickman et al. 1978). Even though people return almost to the same level of their earlier life satisfaction score most of us would not take this into account. Furthermore, humans are subject to several *cognition biases* which lead to wrong decisions. For instance, Kahneman and Tversky (1979) found that people are more negatively moved by losses than positively moved by gains, even if both are the same size. Another study of Kahneman and Varey (1991) showed that people disregard the duration of pleasure or pain. They are able to demonstrate that the "peak" and the end are the most memorable moments. The duration is not well represented in the individual evaluation. An additional example is given by Thaler (1980) who established that people become attached to their own belongings: an object like a car is preferred over one with the same qualities simply because it was owned for some time. Additionally, Meyer (1975) showed that the majority of workers think that they are performing at least as well as the top 20% of their company. It is obvious that they are too optimistic in evaluating their own work

performance. The same is true for drivers. Additionally, most couples have delusions about their marriage and believe the relationship will stay happily ever after – even though divorce rates are higher than 50% (Frey – Eichenberger 2001).

Hence, several shortcomings of the original models can be witnessed. A summary of problems with the concept of a "homo oeconomicus" can be found in textbox 4.

Textbox 4: Shortcomings of the "Homo Oeconomicus" Assumption

Mill (1874:38) first coined the term of the economic man by characterizing "him solely as a being who desires to possess wealth, and who is capable of judging the comparative efficacy of means for obtaining that end." As mentioned before, von Neumann and Morgenstern (1947) laid down the theoretical fundamentals about the definitions of certain axioms so preferences are designed.

Critics mention that the model does not take real human nature into account: for example, anthropologists consider that ancient societies' economies were not based on the market but rather on an exchange of goods by kindness. This is called a gift economy (Polanyi 1944, Mauss 1924, Godelier 1999). Furthermore, famous economists like Thorstein Veblen (1899), John Maynard Keynes (1960) and Herbert Simon (1978) claimed that the hypothesis that humans should have perfect knowledge about everything is false. Austrian economists argue that uncertainty and bounded rationality hinder full awareness and they prefer the homo agens model.

Kahneman and Tversky (1979) showed that investors do not consider the expected utility of their choices – they rely instead on the expected rewards or losses. Later, Tversky (1995) empirically found that investors seem to be extremely risk-averse if it comes to avoiding small deficits but they show signs of indifference if large losses are evaluated. Thus their behavior is not rational. Many more examples are found in several experiments conducted by behavioral economists. Schneider et al. (2010:8) summaries the results of current research by highlighting that "people's actions are often guided by risk aversion [and their] preferences are not stable". They also claim that "the possession of a good increases the value assigned to it, in absolute terms the negative impact of a loss is greater than the positive impact of a similar gain [and that] people tend to prefer the status quo, do not always maximize their utility [and] frequently act altruistically" (Schneider et al. 2010:8).

Further criticism comes from Bruno Frey (1997) who states that extrinsic motivation is stressed too much as it cannot explain certain behaviors like suicide bombing and art. He also points to the negative effects of a society relying solely on rewards and punishments as it "crowds out" intrinsic motivation.

Lastly, the homo oeconomicus model does not take into account problems of inconsistency in behavior. Humans have to make decisions about immediate goals and long-term objectives e.g. eating fast food in comparison with being healthy. Additionally, individuals are often caught between choices of whether to follow private aspirations or what is best for society (Frey – Stutzer 2002a).

Consequently, the concept that individuals always maximize their personal utility function can be dismissed and another approach seems viable. The discipline is changing due to these factors and many recent publications take into account several previously dismissed variables: for example, some discuss emotions (Elster 1998), intrinsic motivation (Osterloh – Frey 2000, 2004, 2006), altruism, reciprocity, and cooperation (Schwarze – Winkelmann 2005, Fehr – Gächter 1998, 2000, Fehr – Schmidt 2003, Gächter 2007), status (Frank 1985, 1999, de Botton 2004) and social recognition (Brennan – Pettit 2004). Furthermore, many studies have shown that human preferences are not always stable (for example Allais 1953 or Ellsberg 1961) and that a "projection bias" (Loewenstein et al. 2003) hinders actors as they attempt to maximize their experienced utility.

2.3 Measurement Techniques

We have seen that the standard economic theory claims that it is impossible to measure cardinal utility and that interpersonal comparisons of utility are not feasible. Therefore, happiness research is challenged as an "unscientific" concept because it does violate these assumptions. For example, survey measurements of life satisfaction can be biased because of cognitive errors or situational interferences. Even though 'science is what scientists do' it is important to distinguish and analyze the methods by which happiness can be measured: Firstly, physiological and neurobiological indicators are discussed in the literature. Magnetic resonance imaging (MRI) can display brain structures and functional magnetic resonance imaging (fMRI) can show brain areas which are active in a given moment. This can help to measure the influence of certain outcomes and it helps to understand what is going on in the brain. Due to the cost and the need to conduct experiments in unnatural surroundings the technology is rather unpractical. However, the Japanese company "Neurowear" already sells everyday products which can measure a person's mood by reading the magnetic changes in the brain (Neurowear 2014). If connected to a smart phone with mobile internet connection it collects your feeling and your location and creates maps

according to this data. If the development of these kinds of devices keeps on growing future research possibilities will be multiplied.

Secondly, the nonverbal and social behavior of individuals can be observed. Nevertheless, certain activities which are usually associated with happy individuals can also be witnessed in unhappy ones and therefore the indicator might be misleading (Frey – Stutzer 2002a). For instance, smiling, being active or pleasant and sociable is typically associated with a good mood; however, upset people also do these things. In contrast, some actions are associated with unhappiness although the majority of depressed people do not do those acts: an extreme example is suicide. Even though most suicide committers are dissatisfied most unhappy people do not attempt any.

Another option is to conduct surveys which are answered by individuals directly. If it is too difficult to observe the level of satisfaction of a person from outside, simply asking him or her seems a viable approach. For several decades data has been collected about people's well-being: numerous surveys asked about individuals' life satisfaction, including the World Value Survey for the United States (US) or the Eurobarometer survey for the European Union (EU). A usual life satisfaction survey might ask a respondent: "How satisfied are you with your life as a whole?" Answers are collected according to a 10 point scale where 10 is the highest satisfaction score. For further surveys and their exact questions appendix A displays several versions in table 9.

If subjective well-being scores are compared globally we see that developed countries range in the top of the ratings with Australia and selected European countries leading the ranking. In table 1 the overall satisfaction with life in various countries can be found. Notably, OECD countries report very high values except for Spain, Portugal and Italy. Their results are similar than the ones of Central European and former Soviet Union countries. Central and South American countries show rather high values of life satisfaction despite their low income levels. To have a better understanding of the measure typical results for selected sample individuals are given in the appendix B.

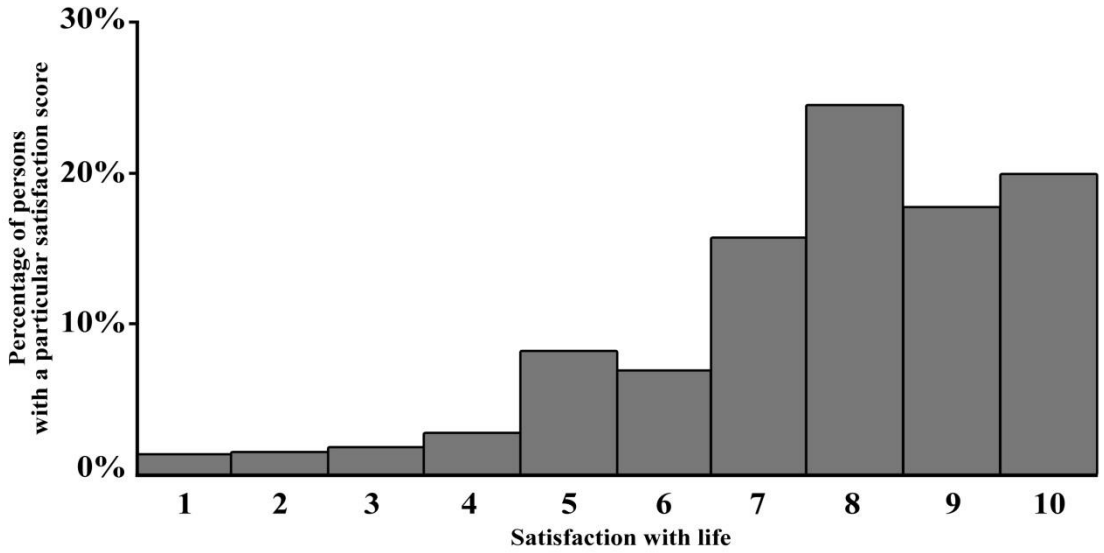
Table 1: Overall Satisfaction with Life: Data for Selected Countries

	Average Satisfaction with Life	*Year*		*Average Satisfaction with Life*	*Year*
Africa			**Former Soviet Union Countries**		
Nigeria	4.78	2008	Azerbaijan	5.28	2008
South Africa	7.40	2009	Estonia	5.68	2011
			Lithuania	5.72	2013
			Latvia	5.77	2013
Central and South America			Georgia	4.26	2008
			Russia	5.50	2009
Argentina	7.14	2008	Armenia	5.03	2008
Mexico	7.76	2007	Belarus	5.46	2008
Brazil	7.52	2007	Ukraine	5.30	2007
Chile	6.45	2007			
Venezuela	7.80	2009			
Peru	5.98	2007	**OECD Countries**		
Uruguay	6.72	2007			
			Denmark	8.32	2013
			Switzerland	8.13	2010
Asia			Canada	9.01	2007
			Ireland	6.55	2013
Philippines	5.47	2007	Sweden	7.77	2013
China	6.40	2009	Netherlands	7.65	2013
South Korea	6.31	2007	Finland	7.26	2013
India	5.51	2007	U.S.	6.96	2010
Bangladesh	5.25	2008	Norway	7.94	2010
			Belgium	7.21	2013
			Australia	7.88	2008
Central Europe			Britain	7.26	2013
			Italy	5.39	2013
Poland	6.01	2013	Spain	5.75	2013
Czech Republic	6.34	2013	Germany	6.96	2013
Turkey	5.86	2013	Portugal	4.01	2013
Slovakia	5.77	2013	Iceland	8.17	2013
Hungary	4.80	2013	France	6.32	2013
Romania	4.68	2013	Japan	6.14	2013
Bulgaria	4.04	2013	Austria	6.65	2013

Source: Erasmus University Rotterdam (2013).

See in figure 2 an example from US data in which the distribution of a typical life satisfaction survey can be seen. The histogram shows the percentage of persons with a particular satisfaction score. It can be seen that US citizens state rather high scores as around 80% report higher scores than 6 which is the norm for most of the countries.

Figure 2: Satisfaction with Life in the US



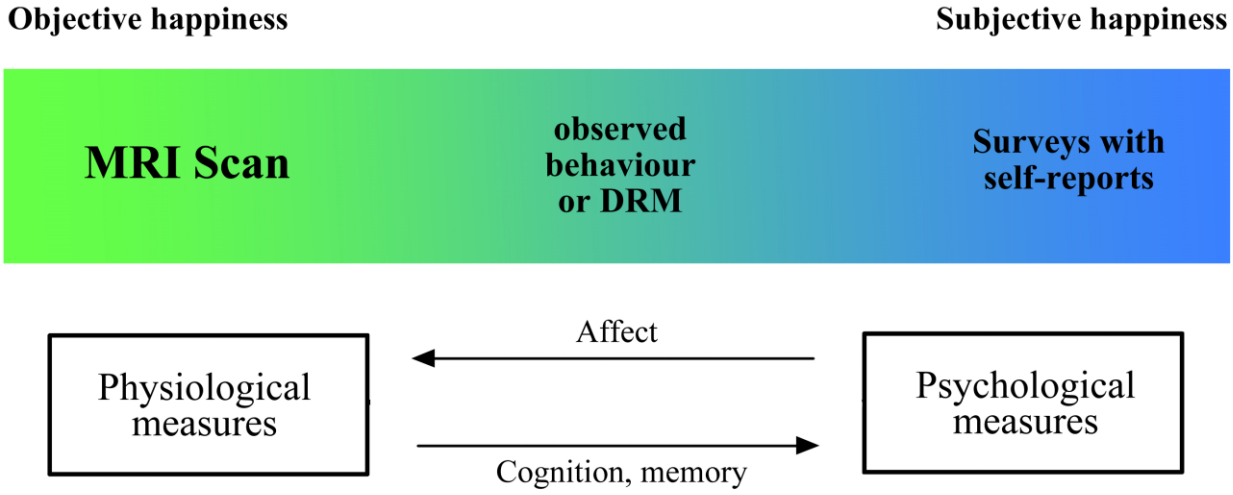
Source: Frey – Stutzer 2002a:5. Data taken from World Values Survey 1995 – 1997.

Furthermore, the Day Reconstruction Method (DRM) developed by Kahneman et al (2004) and the experienced sampling method (Larson – Csikszentmihalyi 1983) are a middle way between the extremes of objective and subjective measurements. At random moments people are asked to report their satisfaction level and their current occupation several times during one day over an extended period. Afterwards, correlations between the satisfaction and the actions of the test subjects can be assessed. Another method is that every day at the same time in the evening survey participants report specific questions about their day. I contributed to this kind of surveys and hence I have personal experience of the method. After the test period a detailed report about the personal determinates of happiness (relationship with family members and friends, influence of work or hobbies, etc.) were

offered. These kinds of long term and repeated questionnaires are able to deliver more objective outcomes than a one-time survey.

The difference between objective and subjective happiness is displayed in figure 3. The different measurement approaches on the different color range can be observed. We see physiological techniques like MRI brain scans are more objective than psychological measures like self-reported surveys. As said before, observed behavior or DRM are in-between those. On the one side, affect and short lived emotions have a strong impact on happiness and the physiology of the body. On the other side, life satisfaction is associated by a cognitive process and memory is important.

Figure 3: Objective and Subjective Happiness



Additionally, Blanchflower and Oswald (2000) suggested that the reported well-being function should have the following form:

$$W = H[U(Y,t)] + \mu \quad (1)$$

W represents the reported well-being score which has values ranging from 1 (“very unsatisfied”) and 10 (“exceptionally satisfied”). The respondent’s personal utility function

is captured in U. It is hidden to others and depends on the determinants of happiness Y. However, these determinants can change over time t due to aspiration and adaptation effects. H is the function which captures the connection between true utility and reported well-being. For example, the reported level of satisfaction can be different depending on cultural background and other influences. μ offers all kind of variances which occur because humans are biased as regards how they report well-being.

To find determinants of happiness certain indicators have to be observed. However, these indicators have to be in line with statistical standards (Dielman 2001): firstly, reliability has to be ensured. This means that the respondents' answers are not biased by random effects. Secondly, the validity of the answers has to be safeguarded, which means that replies reflect the respondents' true inner feelings. Thirdly, the guarantee that consistency is maintained is important. This means that one index should be in line with the other indexes. Lastly, the comparability between nations should be ensured. However, because of a certain cultural bias happiness indexes perform rather badly on this criterion (Diener et al. 1995). For instance, Americans report higher well-being due to a social custom that it is desirable to be in a good mood. In contrast, Japanese are more reserved when asked if they are really satisfied. In this context Crowne and Marlone (1964) have established a "social desirability scale" of a nation and try to exclude the bias generated by social norms.

Frey and Stutzer (2002a:10-26) claim that "people are capable of consistently evaluating their own state of well-being" and that answers to these questions are "the best indicator of happiness". Van Praag and Frijters (1999:427) also share this belief and state that "it is empirically possible for most individuals to evaluate their life as a whole". Further, many problems can be overcome if the research design takes into account the shortcomings which can occur with happiness measures. Furthermore, if the underlying model can access a suitably large data set then econometric techniques can minimize the impact of unsystematic errors.

It is also important to mention that life satisfaction measures should not be compared to an impossible to attain ideal but should be compared with other alternative theories. Therefore, the next chapter will investigate the applicability of other concepts like GDP or the HDI.

We can already conclude that the allegation that happiness research is unscientific can be set aside and we can see the importance of an expansion of the field of economics, given its current shortcomings.

2.4 Alternative Concepts

The imperative of growth which is frequently advocated by politicians and analysts of the current situation is based on the belief that the national product, either GDP or the Gross National Product (GNP) as a measure of economic activity, is the best way to compare levels of the development of nations. In 1948 the United Nations (UN) introduced the *System of National Accounts* (SNA) and thereafter the economic performance across the world could be assessed. Up to date, GDP as a production (or activity) measure is still the only sharp and fast tool.[3] The approach accepts as a truth that in equilibrium the market price of goods and services matches the marginal utility of the consumers. Consequently, aggregation will lead to the total value of utility. However, Frey and Stutzer (2002a) elaborate the many significant issues this approach encounters:

Firstly, Sen (1979) argues that a higher level of GNP does not always create higher welfare levels and Slesnick (1998) shows that the underlying microeconomic assumptions are rather weak. But most importantly, marginal utility is seriously undervalued in national accounts. Scitovsky (1976:141) explains it in detail:

> "A $1000 income in the national accounts shows that someone performed work whose discomfort, if any, he valued at less than $1000, and that the services he rendered were worth more than $1000 to someone else. But the sum of the worker's and the consumer's net gains could equally well be a small fraction or a large multiple of the $1000 that changed hands, and there is no way to tell which it is. The size of the national income or national product gives no indication of the size of

[3] The Material Product System was used parallel to the SNA system in the former Soviet Union, China and the Eastern Bloc up until 1993 (Arvay 1994).

> the net benefit, even if the existence of that income proves that there is a net benefit."

Secondly, national accounts disregard activities which are not exchanged on markets, especially social activities and shadow market activities. This can also be illustrated at the example of biodiversity which can be seen in textbox 5. The only exception is government consumption which is measured by its costs and not by its surplus for society (Frey – Stutzer 2002a). However, this is also not necessarily positive because it disregards to measure the real value of the services provided by the government.

Thirdly, the national account is raised by "regrettables" (Frey – Stutzer 2002a:38) like accidents, maintenance and defense expenditures. Even though a medical accident destroys utility hospital bills improve the GDP.

Fourthly, as already mentioned relative income is very important for well-being and hence should be consider. However, national accounts neglect distribution effects: whether one person gains all the profit or the profits are equally distributed is missing from the analysis. Usually economists care solely about efficiency and not about equity. According to the Kaldor-Hicks criterion (Hicks 1939, Kaldor 1939) possible interpersonal compensation justifies action where overall gains exceed the losses. Consequently, distributional effects would count as secondary or would be ignored. Indeed this can be legitimated if the decision maker also controls the tax system since taxes can be used to redistribute income to achieve equity for instance corrective taxes or a Pigovian tax can be used (Mankiw 2001:210). Of course it is problematic if the decision maker has no power to redistribute the inequity arising. Indeed, this is especially important for the distribution of long-term intergenerational investments (Lind 1999:39).

Due to these limitations of GDP or GNP certain extensions like household production, leisure, pollution, social detriments, distributional effects, the shadow economy and voluntary services are discussed:

Firstly, household production can easily add between 25% and 50% to the national income. A study with German housewives has shown that outsourcing all the activities to private companies would amount to an income of over 100.000 US dollar a year per housewife

(Free Republic 2006). Cooking, cleaning and taking care of children are important parts of national welfare.

Secondly, leisure time can even add more: Offer (2001:7) calculates that leisure accounts for even more welfare than household production - GDP figures would be around 150% higher if both leisure and household production were added.

Thirdly, other non-market goods like biodiversity, pollution or social factors should be included in the aggregation of human welfare. In particular, sustainability issues should be considered in the evaluation of human progress and development. See in textbox 5 the example of biodiversity as an economic good, why it is necessary for human welfare and how it is valued.

Textbox 5: Biodiversity

Economics is "the science which studies human behavior as a relationship between ends and scarce means which have alternative uses" (Robbinson 1932:15). This definition captures much of modern economics. Consequently, economic goods need to satisfy human needs, have to be finite and have alternative uses.

Biodiversity satisfies human needs in various ways: it can ensure resilience against the risks of specialization for our food supply: vermin and illnesses are a dangerous threat (Baumgärtner – Becker 2008:2). Besides, biodiversity is important for our ecosystem to regulate the climate and water cycles. Scientists nowadays try to investigate the role of biodiversity according to the ecosystem. They are interested in questions such as how far can biodiversity be pushed while still maintaining the effectiveness of the ecosystem. As long as research is going on, it is fatal to reduce biodiversity: The argument, that there is enough biodiversity is dangerous since science is not able to give exact figure about the magnitude of its size. Notably, after the reduction of biodiversity the system would either collapses or the same argument will lead to a further decline (Yale University 2009). In any case variability does not harm the ecosystem (Hooper et al. 2005:24, Loreau et al. 2001:807). In a nutshell, biodiversity does not only satisfy human needs it is also necessary for human survival (Munasinghe 1992:228).

To assess the welfare provided by biodiversity the focus has to be on its functional and non-functional value. The *functional value* summarizes the different kinds of practical usage in consumption and production. Ecotourism can directly enhance human life. For instance in 2009 the World Tourism Organization estimated that tourism generated revenues of 880 billion US dollar (World Tourism Organisation 2010). Certain areas like the national parks in Kenya and Yellowstone National Park in the US profit from the

richness of their natural resources. Costa Rica has also promoted its ecotourism and in 2000 1 million tourists spent around 1 billion US dollar to experience it (Daily – Ellison 2002). Moreover, a diverse ecosystem can supply various functions and processes which are necessary for nature, human production and health (Daily 1997). Constanza et al. (1997:1) estimated that the mean value of global ecosystem services was 33 trillion US dollar annually. In comparison with 18 trillion US dollar of global GDP at that time it is remarkable that nature produces more for humans than humans produce for themselves. Michael Toman (1998:57) noted that the estimate of 33 trillion US dollar is "a serious underestimate of infinity": Naturally humans cannot live without oxygen and life would be much harder with no ozone layer. Only a diverse ecosystem can support the functioning of the atmosphere. Besides, biodiversity contributes to ecosystems, agriculture, climatic conditions especially by maintaining the water supply and the cleaning of the air as well as the soil (Munasinghe 1992).These examples show the importance of the indirect value of biodiversity. Moreover, even if biodiversity would not have any value at the moment it still could enhance human lives directly and indirectly in the future. This is called "option value" (Baumgärtner – Becker 2008:11).

The *non- functional value* is independent from any purpose. Humans justify the existence and conservation of biodiversity based on an intrinsic value or on the responsibility to conserve nature for future generations due to ethical, moral or spiritual reasons (Baumgärtner – Becker 2008:10). For example, some people do not collect certain flowers because they want to leave nature unchanged so other people can enjoy it in the same way. Watson et al. (1995:13) call this "emphasize value". Equally important is altruism for following generations. In addition to some kind of personal saving for one's own later use the objective is that successive generations can benefit from biodiversity (Pommerehne 1987). Besides, the amount of aid which is given to certain kind of organizations to protect endangered animals can be a measure of the value of biodiversity. For instance the panda or the Siberian tiger are well funded (Pearce – Turner 1990). Just to know that some species exist motivates people to pay.

Several market failures are at work when considering biodiversity in the economic progress of society. The most noteworthy is that the evaluation of biodiversity mostly reflects its direct value. The market price for nature is far below its social price, which should include the overall economic value with regard to intra- and intergenerational use (Lerch 1998:299). Therefore, the private costs for nature are below the social costs and the private surplus is above the social one. As a result the usage of nature is too intensive and simultaneously biodiversity is declining. For example, on the one hand the private benefits of transforming rain forest into farmland are rather low, but private costs are even lower. On the other hand the social costs are rather high due to climate change and possible ecosystem implications. Therefore the private gains of the destruction of rain forests are inefficient due to the high social costs. To a certain degree the decline of biodiversity is inefficient.

Fourthly, Daly and Cobb (1989) discuss the effects on the national account of the distribution of wealth and income. The most debated issue nowadays is that the real wages of the population are decreasing but the wealth of the top 1% is reaching new highs. The Occupy Movement is one reaction of the general population towards the common injustices in the economic system (New York Times 2014).

Fifthly, the contribution of the shadow economy to real welfare is deliberated: its size varies according to countries but according to a world bank study it is highest in African states (up to 75 of GDP) followed by Asian and South American nations (above 40% of GDP). In the European Union it can be as high as 30% in Southern European countries as well as in Hungary (Schneider et al. 2010). See in appendix C a table of the size of the shadow economy in OECD countries.

Lastly, the contribution of the voluntary sector to national accounts is shown: helping out your neighbor or others in your community can create a friendly atmosphere and creates additional welfare. For example, to be engaged as a basketball coach can contribute not only to the health and the well-being of the team but also can train new skills and satisfies the needs of the person who offers a helping hand.

As a solution to this inadequate approximation of human welfare by GDP or GNP the inclusion of several social indicators like life expectancy at birth, participation in secondary education and access to safe water has been discussed in the literature. The assumption is that the provision of certain goods or services is fundamental for well-being. Some of these data can be accessed in the World Bank datasets or by the World Development Indicators.

Besides, the *Index of Social Progress* (Estes 1988) compromises a large dataset of 36 determinates or Zeckhauser and Shepard (1976) use the *quality-adjusted life years* indicator to evaluate welfare in one measure. The second takes into account how many years a person has left to live while being in good health. Furthermore, the historians Fogel (1993) and Komlos (1994) even consider the average height of a person to implicitly measure social progress. Despite those, the most famous additional indicator to measure the level of a society is the HDI. It is used by the World Bank and it uses three equally weighted categories: the first category is about wealth consideration. Per capita income is used as a

measure to decide whether the standard of living is adequate. The second category is about health factors. The HDI measure is using life expectancy at birth as an indicator to predict whether a long and healthy life is likely. The last category determines educational circumstances. Participation rates in schools and adult literacy rates reflect how well knowledge is possible to be obtained. In an international comparison European countries rank high on this measure. This is in line with high reported well-being figures of these countries. Find in appendix D selected European countries ranked according to their HDI level. The Netherlands, Germany, Finland and France outperform Italy, Spain, Greece and especially Portugal even though all European countries take top places on this measure compared with the worlds average (United Nations 2012). However, it is clear that the HDI is not enough to measure a countries level of development. To have an overview of a country's level of human development more information and indicators are required.

Sen (1980) presented a way to measure human well-being according to how one manages life and what alternative options he or she has available. Consequently, "doings" and "beings" are in the center of life satisfaction. This is in contrast to the "having" character of all the other indicators which only fosters the so-called "marketing society" (Fromm 1976) which is only concerned with "having" instead of "being". The big disadvantage of all these indicators is that certain core issues of human needs are not addressed. Providing many hospital beds, many years of schooling and a high probability for a long life are essential but do not necessarily improve the subjective well-being of humans. Hence, these indicators exclude important elements of human welfare.

In a nutshell, we have seen that happiness studies are needed for the analysis of human welfare and for this reason it is important for the economic discipline. I went into detail on how it is measured and how other disciplines like psychology study it. We have seen the fundamental differences in the way happiness researchers approach the topic in comparison with standard economists: Usually, economists are highly skeptical about what people say and that's why economists usually just observe choices. However, happiness scholars put special emphasis on self-reported measures which constitutes a deep conceptual difference. In addition, alternative concepts have been investigated, especially GDP and its

shortcomings in the measurement of human welfare. Several extensions have been mentioned – however, none of them is a satisfactory approximation of the social welfare function. In conclusion, we can say that happiness research is not "unscientific". Additionally we can see the necessity that the field of economics should be expanded due to the limitations mentioned above.

3 Selected Findings within the Literature

As my own research focuses on income effects over time among European countries, the thesis will focus extensively on publications in connection with this and only briefly mention the main findings of related fields like unemployment or inflation. The work is guided by the detailed overview done by Powdthavee (2011) and Frey and Stutzer (2002a). For those interested in further publications Veenhoven (1991), Diener et al. (1999), Van Praag et al. (1999) and Easterlin (2000) can be recommended as well as Wiese (2014b). Even though the main research question is on the relationship between life satisfaction and the cyclical component of GDP such a broad overview can be seen as an extra value for the dissertation. Life satisfaction is affected by several factors. Some of those complement each other to a certain extend by each being a necessity condition of life satisfaction. But other factors can be regarded to some extent as substitutes which make the selection process of one particular factor difficult. Find in textbox 6 a general review of socio democratic and personal factors and their correlation with happiness. The influence of personality and socio-demographic factors is usually not in the focus of economic research. However, their indirect effect on happiness has to be considered and as they can be integrated into the research conduct.

Textbox 6: Socio Democratic and Personal Factors

Personality is generally the domain of psychology, and socio-economic influences such as ethnicity or gender the territory of sociologists. Even though the study of these factors is necessary in these fields of science they have also an indirect importance for economics: on the one hand, economic conditions can influence these conditions. For instance, in economic boom times the likelihood of getting married seems to be higher as well as the general level of optimism. Further, individuals think that in prosperous times their personal control over their own life seems to be greater (Frey – Stutzer 2002a). On the other hand, it is vital for my econometric analysis to know the impact of these factors on economic estimates. The danger of an "estimation bias" is reduced if in a multiple regression analysis these factors are built in. In general, these are important control variables. Firstly, personality factors are introduced. Thereafter, demographic influences on happiness are presented.

Personality factors are best described on the one hand by the rule of genetics and on the other hand by cognitive manipulation on the part of the actor. The first can be seen as an inborn tendency to be either happy or unhappy despite what is going on in the outside world. Headey and Wearing (1989) described this phenomenon in their "dynamic equilibrium theory" which is in line with the Set-Point theory mentioned earlier. In line with this, empirical observations have shown that the same person seems to assign similar satisfaction levels to different domains of life, for instance work and family satisfaction.

Scheier and Carver (1985) revealed that optimists put more effort into their work because they expect a positive outcome in comparison with pessimists. As a direct result the outcome of both groups differ and optimists are consequently happier. Further, Taylor and Brown (1988) were even able to show that unrealistic *optimism* leads to higher satisfaction with life. It seems that having a positive outlook on life enhances the way people deal with negative events.

Lucas et al. (2001) report that *extrovert* persons value returns – especially awards – more positively. Besides, an extrovert seeks social interactions which are usually seen as more enjoyable than being on your own. However, Diener et al. (1992) claimed that even if an extrovert has few chances to meet others (limited interactions at the workplace, living in a single household or in an isolated region) he/she will report on average higher happiness levels than introverted persons.

Kwan et al. (1997) compared the influence of *self-esteem* and *harmony* on life satisfaction in the US and Hong Kong. His findings show an interesting cultural difference: while in Western individualistic cultures self-esteem is strong and positively correlated with well-being, in collectivist cultures harmony is more important. We can see from this that culture and society play an important role in the determinants of happiness.

Next, socio-demographic factors are discussed. The approach differs from the idea that personality factors matter as it seeks to explain variations of satisfaction levels due to the effects of age, sex, marital status or ethnicity.

Research shows that young and old individuals are happier than middle aged ones. This is in contrast with the popular believe of the depressed and grumpy grandpa. Oswald (1997) and Blanchflower and Oswald (2000) report that the relationship is U-shaped with the lowest happiness score around age 40: before and after this age people tend to be happier. Explanations for this are that old people have lower expectations (Stroebe – Stroebe 1987), their aspirations are closer to reality (Campbell et al. 1976) and they know how to deal with negative experiences (Carstensen 1995, Lawton 1996). Additionally, the mid-life crisis is a well-known phenomenon in psychology. The explanation might be that certain life goals are given up as they become unattainable and therefore aspiration levels are easier to reach after this. However, the causation can be questioned as satisfied people could live longer and bias the sample for greater happiness in higher *ages*.

On *gender* issues, Inglehart (1990) and White (1992) report that women seem to be slightly more satisfied than men. It is documented that on average men show more aggressive behavior and more substance abuse (Nolen et al. 1999). However, Kessler et al. (1994) claim that women are more prone to anxiety disorders. A better explanation comes from Wood et al. (1989): gender roles assign a higher emotional capacity to women than to men. Thus, on average the intensity of feelings differ and females enjoy more positive emotions but also suffer more negative reactions. Despite this, Blanchflower and Oswald (2000) claim that the reported life satisfaction of US women has aligned with the lower level of men since 1970. This is puzzling as this era has witnessed the rise of women's rights and a higher participation in the work force. One possible explanation is that lower levels of discrimination lead to higher aspiration levels which are harder to obtain.

This section discusses *ethnicity* and whether racial differences among happiness levels exist. Scholars found evidence that in the US (Campbell et al. 1976) as well as in South Africa (Moller 1989) black people are less satisfied than white ones. However, the reason is not the race but the lower status in society due to less education and worse employment status with lower income. Blanchflower and Oswald (2000) found that that since the 1970s the reported level of well-being of Afro-Americans has risen due to diminishing discrimination which is in contrast to the findings in women.

This paragraph deals with the effects of *health* on happiness. The previously mentioned study by Brickman et al. (1978:921) claimed that paraplegics were not "nearly as unhappy as might be expected". Thus, people tend to adapt to limitations due to bad health but probably not fully. It seems especially important what people are focused on; for instance Larsen (1992) showed that neurotic individuals remember symptoms of bad conditions better than others and for this reason report lower satisfaction levels. As mentioned before, personality factors influence self-reported happiness levels – but they also influence self-reported health ratings and so the impact of observed health measurements shows less correlation due to adaptation and copying effects.

The importance of having close relationships has been already stated by Aristotle because he called humans "social animals" (Kraut 2012). Diener et al. (2000) showed that people who are married report higher satisfaction levels than others and both sexes benefit similarly even if the impact of other factors are controlled. This is in line with the findings of Lee et al. (1991) that married couples have a longer life span and better health conditions. However, Veenhoven (1989) raises doubts about the causality as he indicates that a selection effect might bias results: happy people get married and that's why statistically, married people are happier. Nevertheless, Mastekaasa (1995) has proven that this selection effect is weak and the positive impulses from *marriage* prevail. Argyle (1999) explained that the positive effect on the well-being of couples comes from each person's higher self-esteem, the better possibilities for adequate recreation and the supportive environment. Additionally, married couples are less lonely than others. Despite this, Lee et al. (1991) showed that the "happiness gap" between married people and others is declining. This is due to the fact that social norms are changing, especially as regards

whether marriage is a precondition for living together or raising children. Additionally, Blanchflower and Oswald (2000) showed that well-being and the first marriage is very positively connected but further marriages do not increase happiness on the same magnitude.

Also important are the effects of *intelligence* and *education* on happiness: both seem to have no significant relationship with reported well-being. Adaptation and aspiration levels keep people in check. For example Clark and Oswald (1994) stated that highly educated individuals suffer more from unemployment than others. This might be due to their higher expectations.

It is also interesting to differentiate the role of *religion*. In general it is positively related with happiness. Ellison (1991) mentions the importance of meaning and reason a religion can offer, especially with the promise of an afterlife. Jarvis and Northcott (1987) mentioned also the good effects on health of living a 'pure' life. The community spirit is strong in certain faiths and this can offer effective coping strategies. Hence, life satisfaction is positively influenced by religious activity. However, it is still not clear whether different religions have different effects on the individual.

In a nutshell, ethnicity and intelligence seem to have no influence on life satisfaction. Age is correlated in a U-shape fashion in which the middle years are the least satisfying ones. Women, the religious, the healthy and married people seem to be better off. For further reading on the topic see Argyle (1999), Diener et al. (1999), Kahneman et al (1999), DeNeve and Cooper (1998) and Veenhoven (1997).

3.1 Income Factors

The standard economic literature and, primarily, neoclassical economics state that increased income will enhance utility but marginal utility is diminishing. Higher earnings lead to more consumption possibilities and this directly correlates with raised utility levels. This is the universal law of economic theory. It applies on the individual and the country level as well as over time (Veblen 1900, Campus 1987, Aspromourgos 1986, Weintraub 2007).

However, Brickman et al. (1978) found empirically that lottery winners were only slightly happier after one year. The average winner rated his/her life satisfaction as 4.0 on a 5 point scale in comparison with a 3.8 score for the control group which had substantially less wealth. Possible explanations are firstly, winners had less valuable social interactions as many quit their jobs. Secondly, tensions in their social networks arose as people asked them

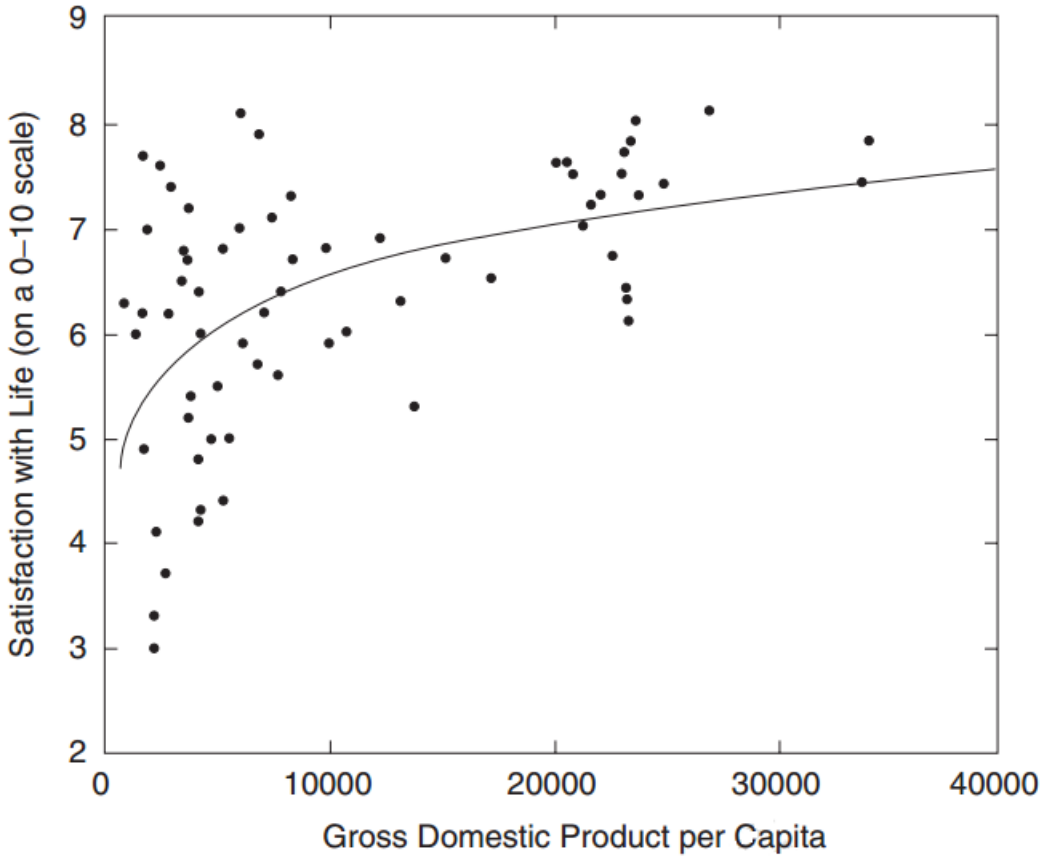
for money. Furthermore, Richard Easterlin (1974) claimed that money does not buy happiness: for countries with enough wealth to meet basic needs, further GDP increases do not contribute to satisfaction with life. This is called the "Easterlin-paradox". Other scholars, mainly Betsey Stevenson and Justin Wolfers (2008, 2013), stated that there is a clear link between higher income and increased life satisfaction for individuals as well as for countries. To put this controversy into perspective, I present results of happiness research in connection with income.

In the literature the subject has been analyzed in three dimensions: firstly, the relative income of different countries; secondly, the relative income of one country over time, and lastly, the relative income of one country at one point in time. Consequently, this section focuses on three questions: firstly, are rich countries better off than poorer ones? Secondly, does a rise in income over time result in a higher life satisfaction rating? Thirdly, is a rich person more satisfied than a poor person? Thereafter, important research publications in connection with my own analysis are highlighted: Even though growth and its connection with life satisfaction levels in European countries have been analyzed there are substantial differences of my own approach and to the best of my knowledge it is new to the literature. My approach adds a new way of tackling the question of why economic prosperity has had little or no influence on life satisfaction levels.

On a country scale a positive relationship between higher income and happiness has been observed. Richer countries are happier than poorer ones. However, Layard (2005) states that after a certain threshold of around 15,000 US dollar yearly salary per capita is reached, additional earnings have no, or only limited effects on life satisfaction. Therefore, a curvilinear correlation is proposed and can be seen in figure 4: Satisfaction with life as a function of GDP per capita is shown. The dots stand for countries with specific GDP per capita and average life satisfaction scores. Besides, Diener and Seligman (2004) argued that rich countries have advantages not only because of their higher purchasing power but also because they have more stable democracies, more secure human rights, smaller differences in the distribution of wealth in society, and better food, education and health conditions in general. Likewise, it is a myth that the inhabitants of poorer countries can live a better life

because it is more natural and less stressful. Higher income offers opportunities to choose this kind of lifestyle as well (Frey - Stutzer 2002a:76).

Figure 4: Plotted Life Satisfaction and GDP per Capita of Various Countries



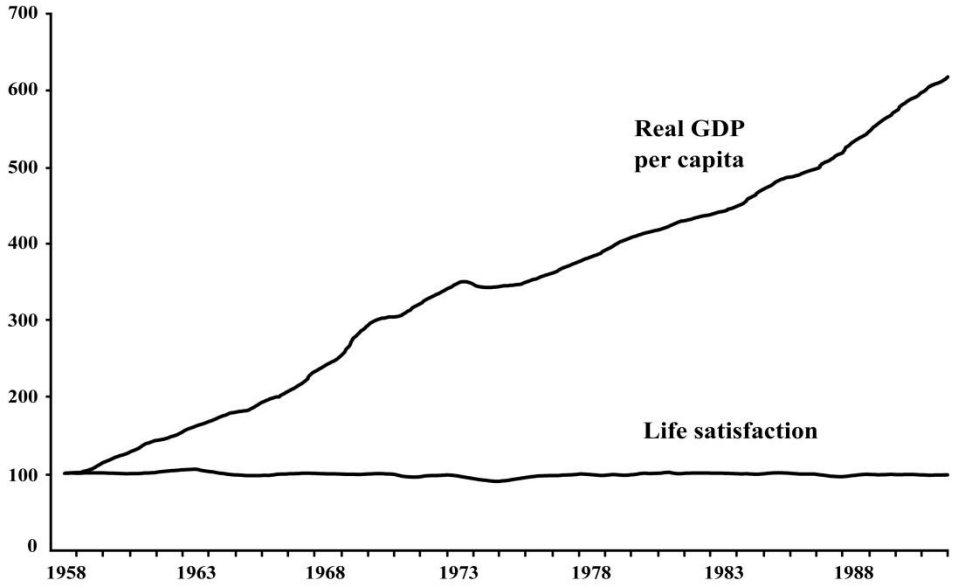
Source: Diener and Seligman (2004:12)

For further reading on the relationship between happiness and income between countries see Diener et al. (1995), Veenhoven (1991), Clark et al. (2008), Frey (2008), Easterlin et al. (2010) and Stevenson and Wolfers (2008, 2013).

Next, the thesis focuses on income and happiness on an intra-country basis over time. In the literature it has been claimed that rising GDP does not automatically increase well-being. For instance, figure 5 shows how life satisfaction and income per capita in Japan (both plotted on the vertical axis) have developed in the period between 1958 and 1991

(displayed on the horizontal axis). The rise in income per capita of an incredible 600 per cent reflects the households' higher purchasing power: in 1991 the standard of living had reached such a high level that the average person was able to afford many things which had not been invented in 1958. Despite this tremendous increase in material possessions average life satisfaction had decreased slightly.

Figure 5: Life Satisfaction and Income per Capita in Japan between 1958 and 1991



Source: Frey – Stutzer (2002a:9).
Notes: Life satisfaction and income per capita in Japan are both plotted on the vertical axis and the time frame from 1958 to 1991 is displayed on the horizontal axis.

In countries like the United States, the United Kingdom and Belgium comparable findings have been investigated (e.g., Blanchflower - Oswald 2000, Lane 1998:462, Myers 2000:61). It is possible that citizens have become accustomed to their new standard of living and their 'aspiration level' has changed. It is common knowledge that satisfaction needs alteration and vanishes with the same level of consumption. This has staggering consequences: firstly, the same level of consumption will not satisfy over time; secondly, more opportunities create more complex aspirations and threaten well-being (Frey – Stutzer 2002a).

This is in line with a recent publication of Easterlin (2013) in which he highlights the insufficiency of growth policies. In his study Easterlin analyzes 17 rich developed, 9 poor developing and 11 transition countries. He uses an ordinary least squares (OLS) regression with GDP and life satisfaction data. He applies a regression based on equation 2:

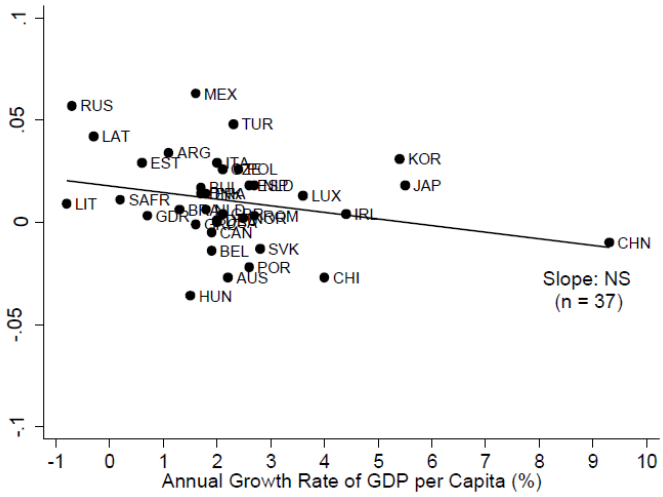
$$LS_t = \alpha_1 + \alpha_2 * GDP_t + \mu \quad (2)$$

His results for the whole group are given in equation 3 with t- statistics in parentheses. The overall R^2 was 0.069.

$$\begin{matrix} LS = & 0.018 & - & 0.003 * GDP \\ & (3.07) & & (-1.61) \end{matrix} \quad (3)$$

Based on these results he states: "For all 37 countries taken together, with time series ranging from 12 to 34 years in length, there is no significant relation between the improvement in life satisfaction and the rate of economic growth" (Easterlin 2013:6). See in figure 6 the growth rate of life satisfaction and real GDP per capita of his analysis. Notably, his approach is similar to the approach of the main study of this thesis and I will highlight the similarity of the research conduct as well as the novelty of my own approach in chapter 4 "The Cyclical Component of GDP and Life Satisfaction".

Figure 6: Growth Rate of Life Satisfaction and Real GDP per Capita



Source: Easterlin (2013:41).
Notes: Life satisfaction changes plotted on the vertical axis and annual growth rate of GDP per capita (%) is displayed on the horizontal axis.

The thesis continues by introducing the relationship between income and individual happiness levels within a country. Di Tella et al. (1999) showed that income and life satisfaction correlate: a greater proportion of individuals from the upper income quartile rated themselves as "quite happy" than those from the lowest quartile. Richer individuals have more opportunities as they are able to afford more goods and hence, enjoy higher status in materialistic societies. Besides, several scholars state that at low levels of income, well-being is strongly increased by a rise in income. Beyond a certain limit the effect diminishes. Therefore, the relationship between life satisfaction and income is viewed as "curvilinear" (Frey - Stutzer 2002a:83). Moreover, variation in income can explain only a small part of the differences in life satisfaction. For example, Easterlin (2001:468) showed that the simple correlation is only 0.20. Other factors such as unemployment or health seem to be more important. Personality factors such as how material goods are valued also seem to matter: Sirgy (1997) showed that those who focus on material things are less satisfied with life. At this point is it important to note that a general rise in income does not necessarily improve life satisfaction levels. Especially in developed countries it is questionable whether raising everybody's income would have an impact on reported life satisfaction levels. The reason is that in comparison to others the individual's situation has not improved. This status effect of nominal income is viewed as a "rat race" and has quite negative consequences on life in general.

Empirical studies tried to capture adaptation and comparison mechanisms. In table 2 I present several formulations from Rafeal Di Tella and MacCulloch (2004), Luttmer (2004) and Dynan and Ravina (2007). Further examples can be found in Stutzer (2004) and Vendrick and Woltjer (2007).

In order to model the concavity of the relationship between income and well-being all functions use the log-linear form of income. Additionally every function captures the analogy between own income and reference income as a ratio. They all use comparable methods to outline the reference point, although with small variations.

Table 2: Well-Being Functions from the Happiness Literature

Source	Happiness Function
DiTella and MacCulloch (2004)	$SWB_i t = c_o ln(y_t) + c_1 ln(y_{t-1}) + \ldots\ c_T\ ln(y_T) + b_0 ln(S_t) + b_1 ln(S_{t-1}) + \ldots\ b_T ln(S_T) + dX_{it} + f_i + n_t + \mu_{it}$
	y_{it} is income and S_{it} is status. X_{it} are controls, f_i are fixed effects and n_t are wave effects.
Luttmer (2004)	$SWB_i = Y_{pt}^* c_1 + X_{it}\, c_2 + X_p d + wave_t\, c_4 + d_s + \mu_{ist}$
	Y_{pt}^* is reference income. X_{it} is a vector of personal characteristics including personal income. X_p is a vector of regional characteristics and d is a vector of state dummies.
Dynan and Ravina (2007)	$SWB_i t = c_o + c_1 \ln(y_{it}) + c_2 \ln(y^r_{it}) + c_3\, X_{it} + \mu$
	y_i is individual income and y^r_i is the difference between average earning within a person's education-occupation-state-year and the average earnings within a person's state-year. X_{it} are controls.

Additionally, others' income can have bad effects on society as envy can grow. Stutzer (2004) claims that the external effect of luxury goods like expensive watches and yachts can be regarded as negative for life satisfaction: firstly, luxuries do not give the owner any additional pleasure because he or she adapts to his or her property and his or her status in the long run. Secondly, luxuries make less wealthy individuals envious and reduce their life satisfaction. Thirdly, luxuries waste resources. However, Clark and Oswald (1996) were able to show that people do not compare themselves with others who are way out of their social circle. The characteristics of the reference group are gender, education and work.

In this context the theory of Abraham Maslow`s (1954) hierarchy of needs should be mentioned. He claimed that physiological needs like food, water or sex are the most fundamental desires; just after they are satisfied other topics become important. Obviously, purchasing power can aid these wishes. After basic survival needs are fulfilled safety concerns are demanded. It is clear that income can help to satisfy these needs. However, whether additional income supports the satisfaction of higher parts of the pyramid depends

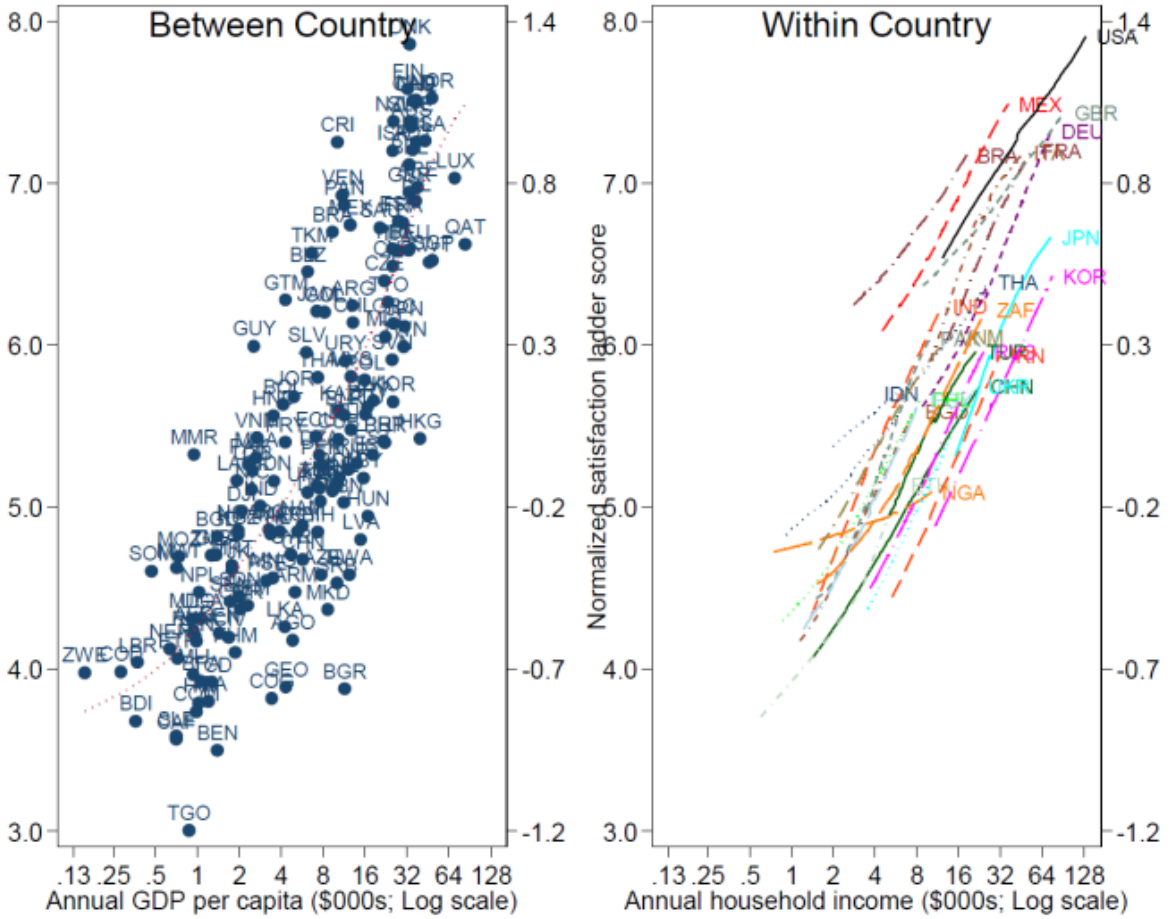
on the society: to belong to a certain social group can be aided by more wealth only if wealth is seen as a status good. Notably, once physiological, safety and belonging needs are satisfied they do not need further consideration. This is not true for the higher needs like self-esteem and self-actualization. Naturally, higher income can boost someone`s self-esteem but it is not a necessity for it. The same is true for self-actualization: famous artists lived in very poor circumstances but managed to accomplish things 99% of the richest people nowadays cannot. In the time of Goethe, van Gogh and Mozart the circumstances were comparable with the conditions the poorest segments of our current societies have to live in. Despite this they could create lasting value and with this satisfied their most profound needs.

As mentioned before, Stevenson and Wolfers (2008, 2013) challenge the 'Easterlin-paradox' as they found econometric evidence for the hypothesis that increases in income would raise self-reported life satisfaction, on a country scale as well as for individuals. In a recent paper by Sacks, Stevenson and Wolfers (2013) their previous results are summarized: they believe that rich countries report high levels of life satisfaction and the relationship between well-being and the logarithmic form of income is mostly linear – on a country level as well as on an individual level. That means that even if personal income or country wide GDP measures reach high levels the relationship does not become flat and additional gains will further improve reported well-being. For example, similar percentage increases in GDP will generate a similar percentage rise in well-being (Sacks et al. 2013). Several studies show this with data from the Gallup World Poll which is one of the most wide ranging cross-national studies of happiness (it is used for example by Deaton 2008, Stevenson – Wolfers 2008, Sacks et al. 2010, Inglehart 2008, Hagerty – Veenhoven 2003).

The results of Sacks et al. (2013) are summarized in figure 7. The left panel depicts average life satisfaction data as well as GDP per capita data ranging from 2005 to 2011 from several countries. We can see that a country with higher GDP per capita scores higher on the satisfaction score. As the fitted regression line is more or less linear but the income is in a log scale, Sacks et al. (2013) state that similar percentage increases in GDP will generate similar variations in well-being.

Next, the right panel correlates average well-being and GDP data *within* the world's most populous 25 countries. We can see linear "income ladders" which slope upwards. They describe how the average citizen of a country would be influenced by changes in his/her income. The upward slope indicates that richer individuals feel better.

Figure 7: Relationship between Income and Life Satisfaction



Source: Sacks et al. (2013:6).
Notes: In the left panel life satisfaction is plotted on the vertical axis and annual GDP per capita depicted as a log scale is displayed on the horizontal axis. In the right panel the normalized satisfaction ladder score is plotted on the vertical axis and annual household income depicted as a log scale is displayed on the horizontal axis.

However, Wolfers and Stevenson admit in a New York Times (2008) interview that their "time-series evidence is fragile". Further, they just look at a short time frame and disregard the adaptation effects which might play a role in a long term comparison. Last but not least, their theory cannot clarify why some countries' life satisfaction data has remained unchanged even though GDP has risen over a long time. Interestingly, the approach of Easterlin and Stevenson/Wolfers differs in many ways for example the first uses growth rates while the second GDP levels. Besides, they even work with different datasets and different data series. Hence, their contradictory results can easily be influenced by these differences and shows the limitation of econometric research in general.

For further reading on the general relationship between happiness and income I suggest for instance Ahuvia and Friedman (1998), Diener and Biswas-Diener (2000), Furnham and Argyle (1998) and Layard et al. (2010).

3.2 Employment Status

The standard view of unemployment in economics, and particularly in the New Classical Macroeconomics, is that the loss of income must be balanced against the additional amount of leisure time. Further, in a neoclassical sense involuntary unemployment cannot exist if the labor market works perfectly (Taylor 2008). However, other theories, such as New Keynesian Macroeconomics, claim that the unemployed suffer. The academic debate can benefit from happiness studies: for example Di Tella et al. (2003) found that the unemployed are quite negatively affected by the loss of their jobs - even if this was controlled for income effects: their study reveals that the mere fact of not having a job leads to a reduction in life satisfaction of 0.33 points on a four point scale. Clark and Oswald (1994:655) claimed that "joblessness depressed well-being more than any other single characteristic, including important negative ones such as divorce and separation."

Similar results have been observed by other researchers for specific countries: Scandinavian countries have been studied by Darity and Goldsmith (1996), Björklund and Eriksson (1998) and Korpi (1997). Further evidence for the United Kingdom and the

United States is provided by Blanchflower and Oswald (2000); Germany is covered by Winkelmann and Winkelmann (1998) and Russia by Ravallion and Lokshin (2001). All these studies show that unemployment has a negative effect on life satisfaction. Additionally, it seems that being without a job depresses to a far greater extent those who are male, highly educated and middle-aged (Clark - Oswald 1994, Clark et al. 2006).

Even though the negative relationship between unemployment and happiness seems well established the causation can be questioned: for example, unhappy people might be less effective co-workers and hence lose their jobs. Although unsatisfied workers perform worse than satisfied ones, Winkelmann and Winkelmann (1998) showed with the help of longitudinal studies that the main causation runs from unemployment to life satisfaction. Psychological and social factors seem to be the reason for the large drop in life satisfaction.

Di Tella et al. (2003) found that even people with a job are distressed by the general unemployment level in their country. They stated that a 1% point increase in the unemployment rate reduces life satisfaction by 0.028 units on a four-point scale. Workers might worry about the negative consequences for society and the economy. Consequently, the overall effect on society of a 1% point rise in unemployment rate can be calculated:

$$0.33 \times 0.01 + 0.028 = 0.0313 \tag{4}$$

However, such calculations have to be viewed with caution as various side-effects may affect the evaluation of satisfaction. As one has seen, the reference group is an important notion in regard to life satisfaction. For instance, the social norm of having a job might be weakened if many people lose their jobs. As self-esteem can be maintained due to the fact that it is more likely a general phenomenon than one's own fault, a stabilization effect occurs (Clark 2003).

3.3 Inflation Rates

A general increase in the price level is called inflation. According to theoretical economists an anticipated increase does not bring with it any problems as adjustment can be planned beforehand. However, if inflation comes as a "shock" costs occur in the form of misallocations and prediction errors. Fischer (1981) and Lucas (1981) estimated the loss of national income to be only between 0.3 percent and 0.45 percent if yearly inflation is as high as 10 percent. The conclusion would be that inflationary policies should be considered as a tool to stimulate the economy and tackle unemployment. On the contrary, most economists and central bankers believe that a low and predictable inflation rate (e. g., around 2 percent per year) is important so that economic actors can behave rationally. The picture changes if citizens are asked for their opinions, as a far-reaching study undertaken by Shiller (1997) has shown: the responses from German, American and Brazilian citizens have concentrated on the likely dangerous side effects of inflation such as the loss of purchasing power. They did not balance it with other possible positive effects e. g. higher nominal income or easier debt servicing costs. Many see great danger if the exchange rate falls as a result of inflation because the fear of political and economic chaos as well as a loss in national prestige grows.

Similarly, happiness researchers found out that inflation has adverse effects on life satisfaction. Di Tella et al. (2001) stated that if inflation increases by 1 percentage point life satisfaction is reduced by 0.01 units on a 4 point scale. Even though the effect is significant it is rather small.

The trade-off between unemployment and inflation, described, for example, in the Philips curve, can also be analyzed. Di Tella et al. (2001) stated that "the estimates suggest that people would trade off a 1-percentage-point increase in the unemployment rate for a 1.7-percentage-point increase in the inflation rate." Consequently, the "Misery index" (Welsch 2007) is mistaken in calculating unemployment and inflation with equal weight.

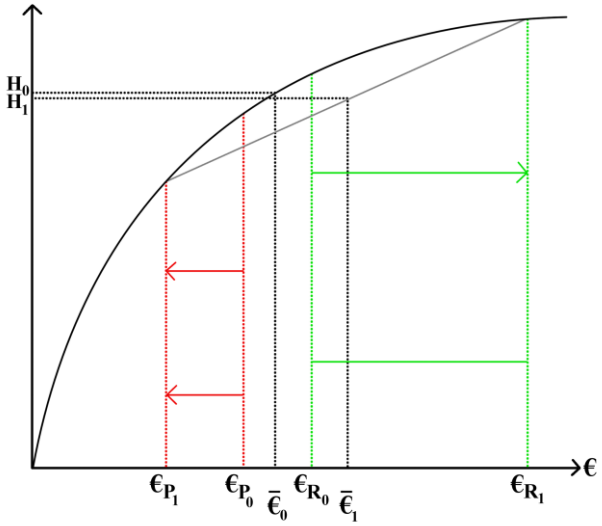
3.4 Inequality Measures

Deaton (2005) showed that the efficiency of markets leads to distributions of wealth which are intolerable for the majority of the citizens. For this reason, Alesina and La Ferrara (2005) conclude that redistribution of wealth is necessary.

It is rather complex business to study effects of inequality on happiness because of several side effects. But one correlation seems to be clear: higher inequality deteriorates health and income conditions and this will negatively impact life satisfaction (Helliwell 2003).

See in figure 8 that overall life satisfaction can fall due to increasing inequality even if income is increasing. The horizontal axis shows income (€) and the vertical axis shows life satisfaction (H). The same concave utility function for two individuals (P, R) with different starting income ($€_{P0}$, $€_{R0}$) is given. The average life satisfaction (H_0) is presented. After an outside shock the income of the poorer one drops ($€_{P1}$) and the income of the richer one raises ($€_{R1}$). Hence, the inequality in the system is rising. Notably, the overall income grew because the loss of the poor is more than compensated by the gain of the rich. In total, average life satisfaction drops (H_1) due to the concavity of utility.

Figure 8: Inequality, Economic Growth and Falling Average Life Satisfaction



Notes: Life satisfaction is plotted on the vertical axis and income is displayed on the horizontal axis.

3.5 Political Considerations

We have seen the effect of economic factors, namely, income, unemployment and inflation. However, to find out the connection with the current changes in Europe especially in the EZ it is important to investigate the relationship between happiness and politics. Political decisions are central factors which impact our daily lives. For example, the lowest ever reported level of well-being was recorded in the Dominican Republic in 1962: after political instability and a coups d'état the country fell into social and administrative turmoil. As a result the average life satisfaction score was just 1.6 on 10 point scale (Frey 2008).

The relationship of politics and happiness is analyzed in three ways: first of all, the effect of certain government policies for instance welfare expenditures on the level of people's happiness is presented. Additionally, I examine among other things how economic circumstances influence voting behavior with the precondition that the constitution is given. Secondly, it is important to have a closer look at the institutional setting of a country. Whether the political power is organized federal, i.e. spread across the counties, or is controlled from the capital might have a strong influence on the well-being of the population. In the case of the EU further integration is always combined with increased power for 'Brussels'. However this might have far reaching consequences for the freedom and the happiness of EU citizens. In this sense the impact of democratic or authoritarian institutions will also be examined. Thirdly, the question of whether procedural utility is important in the context of voting is shown. The differentiation between the pure right to vote and the activity of voting is analyzed. For further reading I suggest the recently published book by Benjamin Radcliff (2013) with the title "The Political Economy of Human Happiness".

Current Politico-Economic Process

During usual political circumstances government parties see the constitution as unchangeable and therefore the political rules are given. In this framework each party tries to maximize the share of votes they will get in the next election. Consequently, a possible measure of satisfaction with politics could be the participation in and the outcome of elections. A citizen's voting behavior mirrors his or her experience and anticipation of future politics (Frey – Stutzer 2002a). Still, there are other ways individuals express their evaluation of the current political events: examples include when people retreat from society and stop paying taxes if they think the government is not spending it in the right way. The size of the shadow economy can measure how satisfied people are with their government. Besides, even though demonstrations and strikes are influenced by cultural issues an increase of these is a sign of an unsatisfied population. The outbreak of a revolution can be regarded as an extreme case. However, Tullock (1987) explains that it would be naïve to believe that the citizen's unhappiness is the cause of a revolution – it usually involves competitors to the existing government (rival parties, political clans or the military). The bad sentiment in the population is just used as an alibi to overthrow the existing rulers to seize power. For further reading on this topic I suggest Galetovic and Sanhueza (2000), Weede and Muller (1998) and Wintrobe (1998).

Satisfaction scores can be a very good tool to evaluate a politician's work plus it strengthens the incentive of politicians to do what the majority of the nation wants. Studies have shown that voters take the economic situation into account in their voting behavior: in connection with GDP growth Hibbs (1981) finds statistically positive effects for France, Kirchgässer (1985) for Germany and Frey and Schneider (1978a,b) for the United Kingdom (UK) and the US. However, the effect - as the coefficient linking growth and the popularity of the government - is rather small (between 0.02 and 0.5) and other studies do not find statistical meaningful results. However, inflation and unemployment seem to be fairly closely connected to the government's share of the vote: "A one-percentage point increase

in the unemployment rate lowers the voting or popularity share of the government by between 0.4 and 0.8 percentage points" (Frey – Stutzer 2002a:123).

What is very interesting is that the results from election and popularity functions are similar to the findings we saw with happiness and economics: the strong effect of unemployment and inflation and the rather weak effect of GDP growth. When specific government policies are analyzed, DiTella et al. (1999) find that collective unemployment insurance is positively related with well-being. They found evidence that average life satisfaction is increased by higher unemployment benefits (UB) in 11 countries of the EU. This is very important because Mediterranean countries which are members of the EZ rely less on UB to protect their citizens from adverse effects of the economy. I elaborate on this in chapter 5.6 in greater detail.

Constitution

Frey and Stutzer (2002a) claim that the general political climate matters greatly for the happiness of citizens: the highest levels of subjective well-being are reported in countries with stable democracies and which are free from political uncertainty. For example Switzerland, Denmark and other Scandinavian countries all report average happiness scores above 8 as we can see in table 2. The constitution sets the basic rules for governments and the political sphere insofar as citizens are able to vote parties out of power if these do not follow the wishes of the majority. Especially important are issues in connection with freedom for the individual, the decentralization of the state and whether citizens have ways to influence certain legislation directly.

On the one hand standard economic theory claims that property rights and stability foster economic growth. On the other hand, De Haan et al. (2000) show that the case of economic freedom is less clear cut: for instance China expanded its economy over a long period with double digit growth rates but still restricts several economic freedoms.

The effect of freedom on happiness has been studied by Veenhoven (2000) in mostly developed countries: he studied political (freedom of speech and political rights), economic

(regulations, taxes, etc.) and personal (travel, religion, etc.) freedom measures. All of them showed strong positive and significant results in connection with happiness. However, Lane (2000) did not confirm these findings for developing countries as no significant relationship was found.

Referenda

Even though just Switzerland has many direct political participation options (60% of all worldwide national referenda were held there as can be seen in Butler and Ranney 1994) it is important for my analysis. For example, many members of the EU gave their citizens the choice to directly evaluate important questions like joining the EZ. One of the few countries which did not allow this was Germany (Projectos 2003). It would have been important if German citizens could have voted on this issue because it would back up decisions taken today.

The positive impact of direct democracy has been documented by several scholars in connection with empirical data from the US: Matsusaka (1995) showed that the government spends less and collects fewer taxes. Hence, the administration sector is smaller. Further, McEachern (1978) provides evidence that the debt levels are considerably smaller. Furthermore, Santerre (1989, 1993) found signs that the public spends more on schooling. In Switzerland, Pommerehne (1990) highlights the fact that voters' preferences are better fulfilled as government expenditures follows demand factors instead of supply factors (Pommerehne – Schneider 1978). A better control of public spending also leads to cheaper public supply (Pommerehne 1978). Frey (1997) states that the willingness to pay taxes is also greater in places with direct participation rights.

Thus, Blankart (1992) claimed that the collusion of politicians can be effectively diminished by referenda and citizens are better off if direct democratic rights are given. However, the trend in the EU is going more in the direction of less direct democracy and even from a parliamentary point of view the creation of a European super-state seems likely. In the following chapter 7 ("Current Situation in the Eurozone") I will discuss this

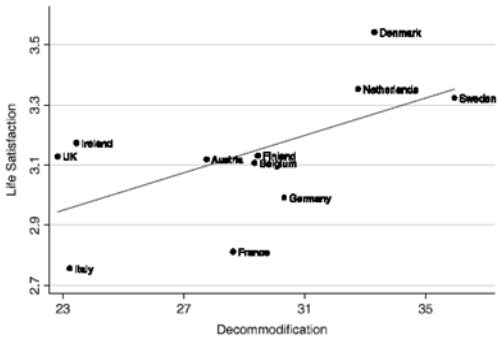
further. Overall it has to be noted that direct democracy leads to better decision making. To preserve direct democracy a federal system is important. In conclusion, the cartel of politicians can be broken with direct political participation rights and this will lead to better political decisions which will increase people's satisfaction with life.

Welfare Models

In the public debate on the intersection of politics and economics followers of the "right wing" ideology claim that most interventions in the market will create welfare losses and for this reason market forces should be set free. However the "left wing" claims that the market has to be controlled and managed for the higher public good. In the argument about the size of the government Radcliff (2013) showed that government consumption in the form of healthcare or education promotes happiness because the potential output of the population is under democratic control. Furthermore, he concludes that "the single most powerful individual or national-level determinant of the degree to which people positively evaluate the quality of their lives is the extent to which they live in a generous and universalistic welfare state" (Radcliff 2013:7). The main idea behind this is the fact that if people are not forced to act as a commodity their satisfaction with life increases. This process is called decommodification and citizens have a right on social assistance and do not have to rely solely on the market.

See in figure 9 how decommodification and life satisfaction correlate in European states. It can be seen that the relationship is positive. Hence, Radcliff (2001:950) concludes that "the quality and extent of welfare provisions affect a nation's aggregate level of satisfaction regardless of cultural differences."

Figure 9: Life Satisfaction and Decommodification



Source: Radcliff (2001:6).

Further analysis is needed and the current research investigates the issue with new methods and new datasets. For example, in chapter 4 and chapter 5 it is shown that life satisfaction data of European countries with the deviation of trend growth and found remarkable differences between certain countries: it seems that welfare systems and equity considerations are rather important for life satisfaction (Wiese 2014a).

Easterlin (2010, 2013) tried to figure out whether other policies rather than economic growth are able to increase happiness levels. Building on DiTella et al.'s (2003) findings that unemployment benefits are positively related to well-being levels in OECD countries and Flavin et al.'s (2011) and Radcliff's (2007) results that safety net polices are also positively correlated with satisfaction Easterlin investigates whether European countries with different welfare policies but similar GDP per capita, unemployment and inflation levels differ in their level of well-being. He groups as "ultra welfare states" Nordic countries like Denmark, Sweden and Finland and compares them with the "semi-welfare states" France, Germany, Austria and the UK (Easterlin 2013:13). His conclusion is: "Respondents in the ultra-welfare states are, on average, more satisfied with their work, health, and family life than in the semi-welfare states, and they also report greater overall life satisfaction" (Easterlin 2013:14). The average life in general measure varies significantly: in Nordic countries the level is around 8.4 on a ten point scale versus to the average level of semi-welfare states which is just 7.2 (Easterlin 2013:32). As we can see Easterlin highlights the importance of welfare policies in stark contrast to the unimportance

of GDP growth in European countries, however his examination lacks Mediterranean countries and a deeper econometric analysis. Consequently, this line of research is highly relevant for the literature and at the same time the novelty of such an approach is given.

Outcome and Process

Scitovsky (1976:103) stated that "the difference between liking and disliking one's work may well be more important than the differences in economic satisfaction that the disparities in our income lead to." Hence, he placed higher weight on natural feelings than on rewards externally granted. Several scholars (Rabin 1993, Tooby – Cosmides 1994) even claim that despite the ultimate outcome many individuals prefer to behave authentically and fairly. Therefore, people seem to derive value from the process itself: this is called Procedural Utility and it goes beyond the previous analysis in which I discussed exclusively outcome-related aspects of happiness. Even economic theory takes this form of utility into account (Pascal 1670, Marschak 1950, von Neumann – Morgenstern 1947). One example where procedural utility is used for modelling behavior is in betting games (Le Menestrel 2001). Furthermore, Simon (1976, 1978) and Sen (1995, 1997) put emphasis on the fact that many economic choice models are lacking this form of utility and should be reviewed. Also, in the field of psychology "procedural fairness" has been the subject of many studies (for example, Lind – Tyler 1988, Tyler 1990, Tyler – Blader 2000) and scientists concluded that it is an important aspect for many individuals.

Also interesting is the difference between actually participating in an activity, for example, voting and the utility derived from the mere right to do a certain activity outside the fact of actually doing it. This is especially interesting in the case of voting which seems like an irrational activity as the costs of doing it (for example spending time to get there, being informed about current politics, etc.) far outweigh the possible impact of the vote - at least for a nationwide election. From an outcome-oriented point of view the rational choice approach seems violated because people are still participating despite the negative expected value derived from going to vote. However, Hardin (1982) and Schuessler (2000) argue

that people derive procedural utility from voicing their political point of view or feel that it is their responsibility as a citizen to vote.

A far-reaching study about people living in Switzerland undertaken by Frey and Stutzer (2002a) revealed the positive effects of utility derived from participation rights. The idea is that even though foreigners enjoy the same economic circumstances they are excluded from actual participation in political processes. Thus, their evaluation of the situation differs from Swiss nationals as foreigners can only enjoy the outcome but not the utility derived from the active participation in politics. "Citizens, as well as foreigners, who live in jurisdictions with more extended political participation rights, enjoy higher levels of subjective well-being (…). The positive effect on reported satisfaction with life is, however, smaller for foreigners, reflecting their exclusion from procedural utility" (Frey – Stutzer 2002a:167). We can see that in their econometrical study it was possible to differentiate between outcome and process utility. Frey and Stutzer found that the gain from being able to vote seems to be three times more rewarding then if only the outcomes can be enjoyed. Reasons for this might be that the right to vote gives people a sense of control. However, they could not find proof that actual voting makes a difference, although the findings suggested that procedural utility exists and is important.

3.6 The Value of Public Goods

As public goods are not exchanged on markets it is difficult to derive their value. Freeman (2003) describes several approaches: the main ones are the stated preference method and the revealed preference method. The first one asks individuals directly via surveys about their willingness to pay. The second one tries to extract the price by analyzing the behavior of people towards complementary and substitutive goods. Both methods have several shortcomings. A new method is to use the Life Satisfaction Approach. If the marginal utility of income is given it can be compared with the marginal utility (disutility) of a public good (or bad). Thus, the trade-off ratio can be estimated. The first authors to use this approach were Van Praag and Baarsma (2004). They captured the irritation citizens living

near to Amsterdam Airport had to endure as a result of noise. Another study undertaken with this method showed the effect of terrorism in France. The authors conclude that a "resident of Paris (with an average household income) would be willing to pay approximately 14 percent of his income for a reduction in terrorist activity to a level that prevails in the more peaceful parts of the country" (Frey et al. 2004:22). The scholars were able to show that life satisfaction data is capable of estimating the negative effects of a public bad such as terrorism.

3.7 Findings in Related Fields

The literature on happiness has expanded in many other directions which do not have a clear link with economics. However, these disciplines might be important if, for instance, the effect of economic variables has to be singled out from other determinants. Firstly, empirical findings suggest that self-employed individuals seem to be happier than others working for an organization. One study, for instance, was carried out by Benz and Frey (2008) for Germany, the United Kingdom, and Switzerland. The differences ranged from 0.21 to 0.42 index points on a job-satisfaction scale from 0 to 10. This is striking because Hamilton (2000) states that the self-employed, compared to others with a similar educational background, tend to work longer but earn less. Nevertheless, Ryan and Deci (2000) claim that under hierarchical decision making self-determination and independence is lost and therefore dependent workers suffer. Secondly, the question of whether voluntary work increases happiness is discussed. The self-centered 'homo oeconomicus' disregards the utility of others. However, philosophers like Smith (1759) argue that helping others provides happiness. Volunteering can raise utility because the pure act of facilitating others might be rewarding. Further, volunteer work can provide special tasks which are investments in human capital. New skills can be acquired or a social network can be built up. Meier and Stutzer (2008) report that people who volunteer weekly (monthly) state that their average subjective well-being score is 0.30 (0.27) points higher than for non-volunteers.

3.8 Summary of Main Findings of the Literature

As we have seen, the new insights of happiness studies are numerous and contradict to some extend the classical models of economics. Therefore, Frey (2008) called this new branch of economics revolutionary as it changed the method of research by introducing a new measure of utility and a different conceptual way to conduct economic research. For instance, growth theory has so far neglected aspects of adaptation or social comparisons which now can be aided by empirical evidence. Furthermore, the literature has supported the ongoing research on the best public policy. The evaluation of economic tradeoffs between, for example, unemployment and inflation has been mentioned. Also, happiness studies advocates certain institutional constructs such as political participation rights and federalism which seem to help citizens to better optimize their well-being (Frey – Stutzer 2002a).

As we have seen, several scholars have studied the relationship of GDP on life satisfaction but no consensus has been reached so far about the importance of GDP on the well-being of citizens. As presented, two opposing groups have become visible: on the one hand, Easterlin and others accept the 'Easterlin-paradox' (Easterlin 1974, 2013) as true. Hence, they believe that raising the income of everyone has very limited influence on reported well-being if basic needs are already met. On the other hand, other scholars deny the existence of the paradox (Stevenson – Wolfers 2008, 2013). They have faith in the hypothesis that a percentage rise of average GDP per capita will result in the same percentage rise of reported well-being levels. It is interesting that even though both groups use the same tools (econometric analysis of self-reported life satisfaction data) to validate their conclusions dissimilarities exists. In a nutshell, remaining puzzles prevail and are waiting to be addressed as our knowledge is still limited and findings are still debatable.

4 The Cyclical Component of GDP and Life Satisfaction

After highlighting general findings, I present my own novel econometric research (Wiese 2014a). I tested the hypothesis whether a deviation from the trend growth of GDP affects the general public.

As discussed in the literature review the relationship between income and life satisfaction is still a hot topic. Many researchers have investigated the impact of GDP on happiness but they still dispute the relevance of GDP for the well-being of citizens. For the last few decades continuous and intense debates in the field have been conducted on this topic and two opposing groups have materialised: the followers of the 'Easterlin-paradox' (Easterlin 1974, 2013) are challenged by an opponent group which confutes the existence of the paradox (Stevenson – Wolfers 2008, 2013).

As mentioned before, Easterlin (2013) uses an ordinary least squares regression with GDP and life satisfaction (*LS*) data and analyzes several countries around the world. The regression in equation 2 shows his approach:

$$LS_t = \alpha_1 + \alpha_2 * GDP_t + \mu \quad (2)$$

As presented before his results for the whole group are given in equation 3 with t- statistics in parentheses and the R^2 was 0.069.

$$LS = \underset{(3.07)}{0.018} - \underset{(-1.61)}{0.003} * \text{GDP} \quad (3)$$

As we can see he found no significant relation between life satisfaction and economic growth as the t-value for α_2 is below 2. We will see that his approach is similar to the approach of the main study of this thesis and I will highlight the similarity of the research conduct. However, the novelty of my own approach is that the previously not analyzed Mediterranean countries are observed as well not the usual 'raw' GDP data is used but the cyclical component of GDP.

4.1 Data

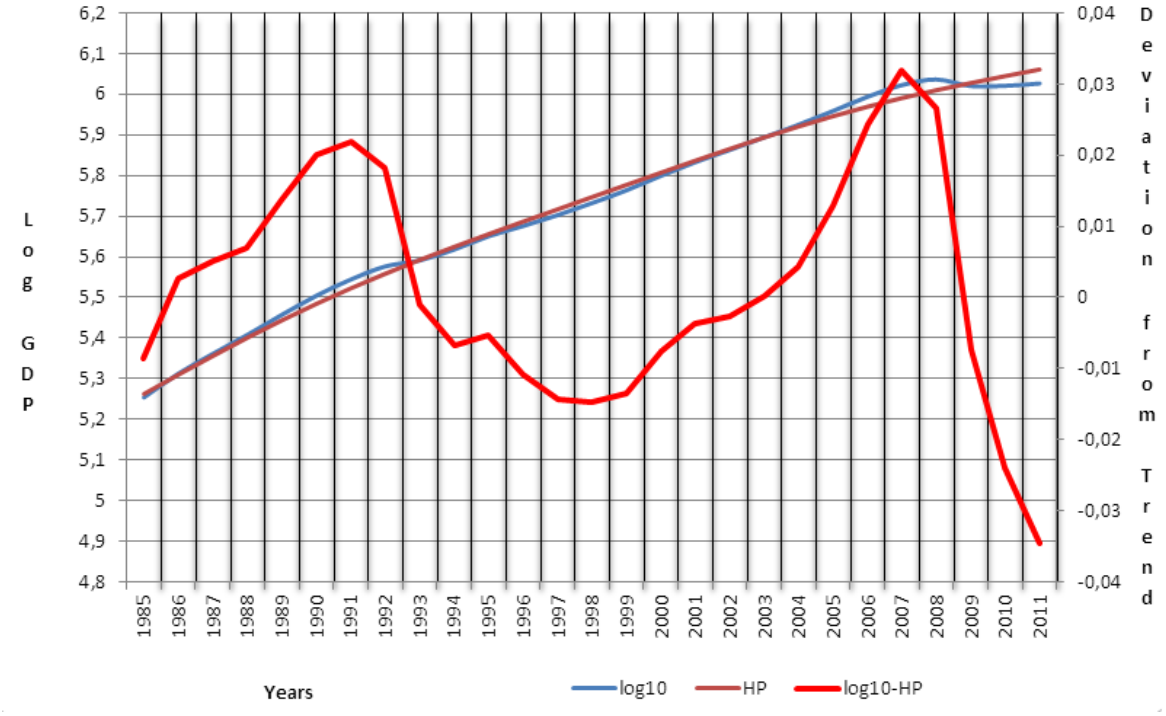
For the model life satisfaction and growth data was needed. The GDP data was taken from the OECD database (OECD 2013). I used the version which is seasonally adjusted to current prices of the national currencies. In addition, yearly life satisfaction data from the Eurobarometer report of the European Commission was used. This was downloaded from the world database of happiness. The survey focuses on the overall perception of life satisfaction. The question asked was "How satisfied are you with the life you lead." Answers given ranged from "very satisfied" to "not at all satisfied" and were adjusted according to a 10 to 1 scale. In many European countries the survey captured the answers to this question and average figures have been calculated since 1975. Consequently, a data depth of more than three decades coverage was available for most of the countries and for each country the last data point was 2011. The world database of happiness collected the results of many surveys and it is managed by Ruut Veenhoven (Erasmus University Rotterdam 2013).

4.2 Method

For my purpose a simple linear regression was the most suitable tool, and this is also widely used in the literature. Examples can be found in Frey and Stutzer (2002a, 2002b) as well as previously shown Easterlin (2013). All econometric results were computed with SPSS version 20. Nevertheless, the process is remodeled with EViews which can be seen in appendix E. Instead of using the original GDP data I transformed it into logarithmic versions. The Hodrick-Prescott (HP) filter was used to calculate the trend growth of GDP and this is a widely applied tool in macroeconomics (compare Metz 1995). The HP filter is a smoothing method to estimate the long term trend component of a series. Technically it is a two-sided linear filter that computes the trend by minimizing the variance of the original series. The cyclical component of GDP was obtained by subtracting the estimated trend

component from the original GDP series. I am using the terms cyclical component of GDP and deviation from trend GDP growth interchangeably. Other smoothing methods were considered for instance a moving average filter. However, the HP-filter models the expectations of individuals more consistently than others and is usual tool in macroeconomics (Hodrick - Prescott 1997). Figure 10 depicts the results of the HP-filtering for Spain.

Figure 10: Logarithmic GDP Growth, GDP Trend and Cycle Component for Spain



Notes: The seasonally adjusted GDP data from Spain from 1985 until 2011 was taken from OECD datasets and smoothed with the Hodrick – Prescott filter.

Figure 10 shows the logarithm of the time series of GDP in Spain (*log10*). Furthermore, the HP filter generated two new series, a smoothed series (*HP*) and a cyclical one (*log10-HP*), which distinguishes the parts where the original series differentiates from the trend. The vertical axis on the right shows the logarithmic value of the GDP series and on the left the value of the deviation from the trend. Further, the horizontal axis depicts the time frame.

The aim was to analyze the relationship between life satisfaction and the cycle series. The cyclical component of GDP called Cycle (*log10-HP*), a constant factor β_1 and the error term μ were correlated with life satisfaction indices called *LS* at a certain time *t*. Accordingly, the equation to be tested is specified in the following form:

$$LS_t = \beta_1 + \beta_2 * Cycle_t + \mu \quad (5)$$

For valid implications a minimum probability of 5% for the factors β_1 and β_2 are considered significant and of less than 1% highly significant. R^2 gives information about how well the model can explain the variance in life satisfaction. The correlogram of squared residuals was used to test for autocorrelation. For illustration see appendix E.

4.3 Results

Two country groups materialized in the regression analysis. The first group consists of Portugal, Italy, Greece and Spain (GIPS)[4] and the regression results are summarized in table 3.

[4] The term GIPS is used by Sinn (Project Syndicate 2011) and other economists as an abbreviation for Greece, Italy, Portugal and Spain. The original German Gips and Hungarian Gipsz mean cement which can be seen on the one hand as emphasizing the role of these countries in the process of further integration of the EZ. On the other hand it can also be understood sarcastically in the way that they are not cement but more like the opposite.

Table 3: Estimation of Equation (5) for GIPS

Country	β_1	Significance of β_1	β_2	Significance of β_2	R^2	Observations
Spain	6.38	0.000***	8.46	0.002***	36.4%	36
Portugal	5.33	0.000***	16.45	0.000***	40.9%	36
Italy	5.96	0.000***	0.60	0.002***	32.7%	36
Greece	0.02	0.80	25.96	0.000***	62.2%	30

*** = significant at the 1% level; ** = significant at the 5% level

Notes: Gross Domestic Product data from the OECD, seasonally adjusted to current prices of the national currencies. Aggregated life satisfaction data from the Eurobarometer Report of the European Commission dating back to 1975. Estimates of the coefficients of the linear model, the p-value of the corresponding t-test and R^2 are presented.

As we can see in table 3, Spain, Italy, Portugal, and Greece show significant and meaningful results: overall, between 30% and 60% of the variance can be explained by the equation. Further, the cyclical component of GDP correlates with happiness positively and with a very high significance as the p-values are small. Therefore, I suppose that the cyclical component of GDP has an effect on life satisfaction for the GIPS: citizens will react positively if GDP growth is higher than the trend. This phenomenon is strongest for Greece, Portugal and Spain. The relationship holds to a lesser extent for Italy. Greece was the only country in the sample which did not show a significant constant term. This implies that for Greece no intercept exists and the cycle component alone can explain more than 60% of the variation of life satisfaction.

It is essential to mention that only Spain reacted more strongly if a time lag of one year was applied to the GDP series.[5] The results for all other countries were inferior to the situation without applying a lag. The reason might be that especially in Spain it takes some time for the effects of higher income to materialize. Higher wages, for example, can only be negotiated once a year and even though the country on the whole is growing, distribution issues delay the effects. Other lags have been excluded because of the lack of a rationale for

[5] $LS_t = 6.38 + 17.06 * Cycle_{t-1}$
(0.000) *** (0.001) ***

longer than one year effects: Easterlin (2000) could show that two-thirds of the income effects on well-being were off within a year.

Table 4: Estimation of Equation (5) for Non-GIPS EZ Countries

Country	β_1	Significance of β_1	β_2	Significance of β_2	R^2	Observations
Finland	7.09	0.000***	-5.52	0.243	3.0%	16
France	5.94	0.000***	-10.30	0.584	1.9%	36
Ireland	6.86	0.000***	8.68	0.196	2%	36
Luxembourg	7.16	0.000***	17.81	0.151	3.0%	36
Netherlands	7.33	0.000***	22.00	0.175	2.4%	36
Austria	6.73	0.000***	-1.38	0.825	0.3%	16
Slovakia	5.66	0.000***	-1.17	0.848	0.4%	10
Slovenia	6.76	0.000***	3.62	0.038**	33.0%	10
Belgium	6.71	0.000***	18.76	0.381	2.1%	36

*** = significant at the 1% level; ** = significant at the 5% level

Notes: Gross Domestic Product data from the OECD; seasonally adjusted to current prices of the national currencies. Aggregated life satisfaction data from the Eurobarometer Report of the European Commission dating back to 1975. Estimates of the coefficients of the linear model, the p-value of the corresponding t-test and R^2 are presented.

In table 4 outcomes from the model for other EZ member countries are offered particularly Finland, France, Ireland, Luxembourg, Netherlands, Austria, Slovakia, Slovenia and Belgium. All of the countries showed a significant stable component, but the cyclical component of GDP and life satisfaction did not correlate meaningfully: either the R^2 was too low (less than 10%) and/or the significance level of β_2 did not meet the standard (for instance it was above 5%) and/or the number of available observations was too low to make strong conclusions (less than 20 data points). This suggests that the influence of cyclical component is either low or non-existent. For countries such as Finland, Netherlands, Belgium, Luxembourg, Austria and France this can be explained by the fact that these countries already have high GDP levels and therefore are less dependent on a deviation in income levels. Other countries, like Slovenia, did not provide the data depth for a

meaningful discussion and Germany has been left out of the analysis because reunification biased the data.

To counter criticism I comment on the approach and the empirical analyses. The "beauty" of simple models is that the implications are easy to analyze and the model fits the analysis to a sufficient degree. Furthermore, if only trend growth of GDP is used as a variable, the results of significance, variance and the statistical fit of the study can be directly attributed to this. Moreover, adding more information and/or further factors could have biased the model. For example, including data about inflation, unemployment or levels of the HDI could have hindered the analysis of GDP growth and information could have been biased because of multicollinearity. Inflation and unemployment are interrelated with GDP and could replace it to a certain point. The size of the coefficient in the regression analysis is not yet well discussed. In this context it is important to mention that the main focus of this study is to analyze the connection between the cyclical component and life satisfaction. Hence, just the existence of the pure correlation between a deviation from trend GDP growth and life satisfaction is tested via the sign of the coefficients and the significance level. Besides, what was found significant had typically explanatory power (see the R^2 in all the GIPS): as the regression with just one independent variable can already explain between 40 and 60% of the variance shows that the cyclical component is not simply significant but also important.

4.4 Discussion

We have seen that the EZ members differ in the relationship they exhibit in terms of a deviation from trend growth and aggregated life satisfaction. Spain, Italy, Portugal, and Greece are significantly impacted but other countries such as Ireland, Netherlands, France, Austria, Luxembourg, Belgium, Slovenia, Slovakia and Finland are not. From the results I can conclude that there are at least two different groups of countries. At the present moment

the comparison of possible EZ candidates such as Central and Eastern European countries seems unappealing because of insufficient data.

The empirical evidence points to the fact that the citizens of the GIPS adapt to a certain growth rate. For this reason, a positive stimulus to national life satisfaction will only manifest itself if trend growth rates are overachieved. For these countries the adaptation theory holds, and on average 40% of the variation of life satisfaction can be explained by a constant term and the cyclical component of GDP. The other countries do not show the same relationship. The reasons could be that the citizens of the other group perceive the world differently. As mentioned before, high GDP levels might make citizens more independent from volatility in growth rates. Also development status, cultural differences and a special set of political constraints could be the reasons why behavior differs. Reason for the presence or absence of the difference might be explained solely with cultural, instead of economic factors. The GIPS show certain similarities as they are all southern countries with – to a certain extent – similar cultural backgrounds like a strong influence of the church and close family ties. In addition, their comparable configuration of the welfare model might explain the parallel relationship with the cyclical component. Therefore, the following chapter will focus on the question whether economic institutions or cultural aspects are possible explanations for a deviation in behavior. Noteworthy is that the findings do not conclude that all citizens feel this way but simply that the country as a whole, or the majority of its citizens, responds accordingly.

Notably, the analysis has focused only on the cyclical component. Whether life satisfaction is also strongly impacted by the trend component of GDP growth is interesting but still opaque. So, the trend of GDP growth (*Trend*) which is given after the Hodrick-Prescott filter was applied, a constant factor γ_1 and the error term μ are correlated with life satisfaction indices (*LS*) at a certain time *t*. The equation to be tested is specified in the following form:

$$LS_t = \gamma_1 + \gamma_2 * Trend_t + \mu \qquad (6)$$

We can see in table 5 that the trend component of GDP growth seems to have a rather limited effect on the life satisfaction for GIPS countries. Only for Italy the significance of the coefficient is sufficient. For all other countries it is not significant the low levels of R^2 indicate and that's why it seems that the trend component of GDP has only limited importance (explanatory power) in (the variance of) happiness in these countries. Further tests could involve testing the correlation of the trend and the cyclical component together.

Table 5: Estimation of Equation (6) for GIPS

Country	γ_1	Significance of γ_1	γ_2	Significance of γ_2	R^2	Observations
Spain	5.06	0.000***	1.029	0.313	4.1%	36
Portugal	7.78	0.000***	0.617	0.09	14.1%	36
Italy	2.34	0.001***	0.616	0.042**	24.5%	36
Greece	6.88	0.000***	2.999	0.12	13.3%	30

*** = significant at the 1% level; ** = significant at the 5% level

Notes: Gross Domestic Product data from the OECD, seasonally adjusted to current prices of the national currencies. Aggregated life satisfaction data from the Eurobarometer Report of the European Commission dating back to 1975. Estimates of the coefficients of the linear model, the p-value of the corresponding t-test and R^2 are presented.

If we only focus on the relationship between growth and life satisfaction levels, the political consequences for the GIPS might be that economic prosperity and development should center on increasing returns instead of rapid growth. Consequently, GDP growth should be progressive instead of proportional or regressive. The ever increasing rates of growth surprise the population and continuously lift their level of life satisfaction during the process. In the proportional case the reality meets the expected growth rates and no positive or negative stimulus is given to satisfaction with life. The regressive approach would lead to a reduction in satisfaction levels because growth rates continuously dissatisfy expectations: the population would get used to the high growth rate of the first period and consequently expect it to continue. However, they will be negatively surprised in each following period because the growth rate will always be lower than they expect. This is true even though expectations will be lowered for each growth period.

To sum up, in the presented study the correlation between life satisfaction and the cyclical component of GDP growth has been analyzed. Countries were selected according to their membership of the EZ. The results were that a group of countries (Italy, Portugal, Spain and Greece) showed a significant and strong correlation between the cyclical component of GDP and life satisfaction. This suggests that the citizens of these countries get used to a certain growth rate. To explain this association the next chapter introduces social welfare systems and the special category which GIPS countries fall in. This leads to further regression analyzes to test whether equity considerations play a role. Besides, also other explanations like cultural effects are mentioned.

5 Social Welfare Systems and Life Satisfaction

The most powerful organizations to secure individuals against essential risks such as illness or unemployment are the market, special communities – for example family structures - and the state. However, the main reasons why the welfare state has developed in its current form seems to be that it has the advantage of hedging vital risks in the long run as it "lives" longer and it has universal powers to extract taxes (Ganßmann 2000:28). Other structures such as families lack these features. But the individual arrangements each state makes in terms of to what extent the family, the market or the state is responsible for risk sharing might be one explanation for international differences among welfare states.

5.1 Social Welfare Systems

Marshall (1950, 1963, 1965, 1981) and Titmuss (1958, 1974) were the founding fathers of the theoretical social welfare system theories. Empirically Wilensky (1975), Flora and Heidenheimer (1981), Mommsen (1981) and Flora (1983, 1986) laid the groundwork with comparative analyses. Their work inspired Esping-Andersen (Boje 1996:19). He is one of the leading scholars in the field since he created "today's best-known and most frequently used typology of welfare states" (Arts - Gelissen 2002:138). As the field is still at an early stage of development the use and formulation of typologies might still help to understand the big picture: Esping-Andersen (1990:3,26,32) generally argues that three ideal-type models of welfare states exist: conservative, liberal and social-democratic. These regime-types are very different in the way each is organized in terms of stratification and societal integration. Esping-Andersen claims that imbedded institutions shaped by historical events put each state on their own separate developmental track, and path-dependency prevails as institutional arrangements determine its course. Even though no country presents an ideal case as only hybrid forms exist the analysis of ideal-types is still meaningful "for comparison with and measurement of reality" (Watkins 1969:458–9).

Esping-Andersen (1990:1,4,105) raised the question of why exactly three qualitatively different ideal-type models of welfare states exist: "The historical characteristics of states, especially the history of political class coalitions as the most decisive cause of welfare-state variations, have played a determinate role in forging the emergence of their welfare-statism." Furthermore, three interrelated aspects are noteworthy: firstly, the nature of class mobilization and especially the ability of the working class to determine their own fate; secondly, class-political action structures and lastly, to analyze the institutionalization of the regime from a historical perspective (Esping-Andersen 1990:29). The three models are differentiated, on the one hand according to their degree of decommodification, and on the other according to the kind of social stratification and solidarities they provide.

As explained before, decommodification means, for example, how citizens can survive without reliance on the market or whether social assistance is offered as a matter of right. The essential question is to what degree allocation is determined by the market. Stratification, means which social stratification system is promoted by social policy and whether narrow or broad solidarities are promoted? The welfare state actively influences the social order and hierarchies and consequently determines the structure of society.

5.2 Three Ideal Types

In this section of the thesis the three ideal types are analyzed: firstly, there is the liberal type in which individualism and the primacy of the market prevails. The state promotes the market, either actively or passively: on the one hand active support is given if private models of social assistance are aided with subsidies such as cash transfers or tax cuts. On the other hand, the state can try to avoid passing legislation which would benefit citizens above the last resort level. This would stimulate market based solutions passively. The effect of such a policy is that social rights are incomplete and only a small amount of wealth is reallocated. Citizens are treated like a commodity (a low level of decommodification) and the social order is fragmented: a marginal group of poor people

depend on the last resort help of the state and the rest are able to provide for their own social protection by a well-functioning market.

Secondly, the conservative type is characterized by a moderate level of decommodification. Thus, in comparison with the liberal model, citizens are better protected against labor market risks and they are treated less like commodities. The historic roots lie, on the one hand, in the strong influence of the Catholic Church and its social policies and, on the other, in regime type features such as corporatism and the demand of the state for strong control over their citizens. Hence, the level of stratification is shaped according to the maintenance of income and social status in the case of undesired outcomes. Thus, assistance is given according to occupational rank and any further solidarity is low. Stereotypical family structures are preserved, so that women are usually encouraged to stay at home and take care of children; consequently their labor market participation is low. Furthermore, the concept of subsidiarity and its effects on society is present in the conservative model: the state only has to intervene if the family is unable to help its own members (Esping-Andersen 1990:27).

Finally, the social-democratic type of welfare system is considered. The main principle is that the level of decommodification is high and the stratification is universal. Consequently, a high share of wealth is distributed and whether someone is entitled to benefits does not depend on his or her own individual input. "This model crowds out the market and, consequently, constructs an essentially universal solidarity in favor of the welfare state" (Esping-Andersen 1990:28). The aim of the system is that the individual has full independence. Therefore, it is very important that women are also motivated to participate in the labor market and full employment is reached. Otherwise, it would be impossible to ensure such a high level of welfare provision.

5.3 The Mediterranean

Esping-Andersen's original work did not include all the Mediterranean countries, just Italy, which he considered to belong to the corporatist regime group. In his later work he recognizes that Portugal, Spain, Italy and Greece share some specific characteristics: most notably the strong influence of religion and the family (Esping-Andersen 1997:180). However, he states that they are more a subgroup of the continental/corporatist welfare model than their own subgroup. Furthermore, Katrougalos argues that they "do not form a distinct group but rather a subcategory, a variant of the Continental model. They are merely underdeveloped species of the Continental model, welfare states in their infancy, with the main common characteristics being the immaturity of the social protection systems and some similar social and family structures" (1996:43). Further, Merkel (2001:155) has pointed out that "it is not the institutions, procedures, rights and obligations which differ from those of the continental welfare state. Rather the level of welfare provision and partly also the financial arrangements can explain the (more quantitative) difference".[6] Here Merkel claims that there are no real differences in the institutional setting, processes or laws, with the dissimilarities existing only on a quantitative basis.

However, other scholars (Leibfried 1992, Ferrera 1996, Bonoli 1997, Trifiletti 1999) argue that a 'Southern' or 'Latin Rim' model of social policy exists. For example, Ferrera (1996) divides social policy into four dimensions: the first dimension is characterized by access rules and therefore designs the rules of eligibility; secondly, the general circumstances of how welfare is distributed are important; the third dimension is based on rules regarding how the welfare system is funded, for example on a tax or insurance basis; the last dimension is the type of "organizational-managerial arrangements to administrate the various social security schemes" (Arts - Gelissen 2002:145). We can see that the possible

[6] The original German: "Denn nicht die Institutionen, Verfahren, Rechte und Pflichten weichen von jenen des kontinentalen Sozialstaats kategorial ab. Es sind vielmehr vor allem die Leistungshöhe und partiell begrenzt auch die Finanzierungsmodalitäten, die einen (eher quantitativen) Unterschied begründen" (Katrougalos 2001:155).

segmentation of welfare states is widely debated but it is not the aim of this thesis to provide a complete list.

As I will argue in the next chapter in case of the European Union Leibfried (1992) finds four welfare systems: firstly the Scandinavian countries form a modern type; secondly, "Bismarckian" countries outline the institutional system; Anglo–Saxon countries structure their policies in a residual way and lastly, the Latin Rim countries operate a rudimentary form of social policy. The important difference is that the Latin Rim countries lack a stated social minimum and a specific right to social services and therefore can be considered as their own group.

5.4 Four main Social Welfare States in Europe

After discussing the literature on the social welfare systems, especially Esping-Andersen's typology of welfare capitalism as well as the Mediterranean model, the thesis now turns to a deeper analysis of European social systems in the period of globalization. I follow the analysis of Sapir (2005) and Boeri (et al. 2001) and most of the findings of this section are from them.

It is very important to note that even though many variants among the national European social systems exist, it has become customary to divide European welfare systems into four models according to Ferrera (1998), Bertola et al. (2001) and Sapir (2005):

The *Nordic* model is based on the citizenship principal and provides the highest level of social protection. It includes Denmark, Sweden, Finland and Netherlands. Its universal welfare programs reach all parts of society with especially massive fiscal intervention in the labor market. The public sector provides many jobs and many active policy instruments such as tax wedges. High unemployment benefits compress the wage structure. In short, these countries provide the strongest social safety net: the main goals are to keep participation in the labor force high, to treat genders equally, to provide universal benefits through the public sector and to redistribute a high degree of income.

Next, the *Anglo-Saxon* countries (Ireland and the UK) distribute a few services. The focus is on the poor elements in society to give "social assistance of the last resort" (Sapir 2005:6). Consequently, strong incentives to work drive the system. Unfortunately, the result is that with the lack of strong unions and a high degree of wage dispersion a high proportion of workers only earn a low wage. It has been argued that this model lies between the US and the European social welfare system.

Continental countries (Austrian, Germany, Belgium, France and Luxembourg) use a social model which is extensively "insurance-based" (ibid.). Hence there is a system of benefits for the unemployed and the retired. Even though union membership and union power is on the decline (Boeri et al. 2001) collective wage bargaining is still present.

Lastly, *Mediterranean* countries (Greece, Italy, Portugal and Spain) focus on early pensions, high retirement income and on the protection of employment. In this way entitlements as well as status are highly segmented. Union power in the formal sector is quite strong and consequently, collective bargaining is possible for a wide range of workers. Therefore, wages are strongly compressed.

We note that such a typology is an oversimplification as each country's social welfare system is rather complex. Sapir himself acknowledges that "not only wide differences between these four models [exist] but also within each of them" (Sapir 2005:6). Furthermore, the grouping might be politically motivated and this point will be discussed later. However, my research follows the main scholars in the field and therefore, such an approach is justified.

The overall focus is to explain the systems' differences in achieving three policy goals: firstly, reduction of income inequality and poverty; secondly, protection against uninsurable labor market risk; and lastly, reward for labor market participation. Boeri et al. (2002) investigated the four models in terms of how well they are able to achieve each of the goals and all findings are from him:

The Mediterranean social model underperforms the rest of Europe in connection with the reduction of income inequality and poverty: only a 35% reduction can be measured in contrast with over 40% in Nordic countries. Furthermore, they perform worst if poverty

after taxes and transfers is compared: 20% of the population has to live on less than 60% of national median income. In Nordic countries just 12% have to face such problems.

Governments can protect the work force from undesired labor market risks in two ways: either additional rules protect workers with "Employment Protection Legislation" (EPL) or taxes are distributed to jobless people via "Unemployment Benefits" (UB). Boeri et al. (2002) showed that Mediterranean countries rely almost exclusively on EPL to safeguard their citizens. In contrast the Nordic countries focus mainly on UB.

In connection with rewards for labor market participation it was found that Nordic countries manage to keep the labor participation rate high (72%) compared with Mediterranean countries (62%). This trend is even more pronounced if labor participation in old age is compared (53% against 40%). Furthermore, youth unemployment is quite high in the Southern countries with lower rates in Nordic countries (ibid.).

Sapir (2005) compared the four social models according to the benchmarks of efficiency (high employment) and equity (low risk of poverty) as we can see in table 6. On the one hand, Mediterranean countries score low on efficiency as well as on equity because their systems are unable to adequately reduce poverty and the system is living beyond its means as it has problems to motivate enough people to work and finance social expenses. On the other hand, Nordic countries score high on efficiency as well as on equity because in their system young and old are well integrated in the work force and the risk of falling into poverty is low. Continental countries can reduce poverty and so create equity but are less well equipped to create sufficient high employment rates. Lastly, Anglo-Saxons countries have strong activation measures and thus employment rates are high but lack an equitable system because the risk of falling into poverty is high.

Table 6: Four European Models According to Efficiency and Equity

EQUITY \ EFFICIENCY	*Low*	*High*
High	Continentals	Nordics
Low	Mediterraneans	Anglo-Saxons

Source: Sapir 2005:9.

5.5 GIPS in Comparison with Other EZ Members

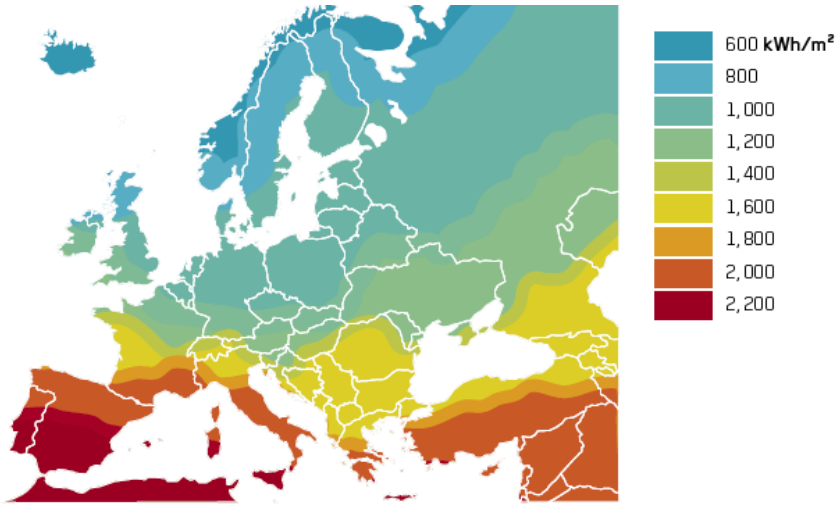
As we have seen in chapter 4 GIPS countries differ from other EZ member countries in the way they react on the cyclical component of GDP. For the first group a deviation from trend growth has a significant and important impact on life satisfaction. However, the second group does not share this behaviour (Wiese 2014a).

The differences and similarities in GIPS countries' welfare models have already been discussed: social stratification is rather high and decommodification is rather low. Other European welfare models place different emphasis on these dimensions. Also the differences in the way the working population is safeguarded against adverse effects on the labor market and activation measures to participate in the labor market have been mentioned.

The diverse cultural setting in Italy, Greece, Portugal and Spain has been stated particularly the strong impact of family ties and religions beliefs. Other European nations prefer either the market (Ireland, UK) or the state (Finland, Netherlands, France, etc). Interestingly, the climate is quite different in the two groups: as can be seen in figure 11 every year Mediterranean countries are subject to far more solar energy than other European countries.

This relates to many more sunshine hours a year. Hence, Spain, Portugal, Italy and Greece enjoy better possibilities to grow plants and they are famous for being holiday destinations. More importantly, the positive effect on well-being of sunshine is well established in the literature (Kämpfer – Mutz 2013).

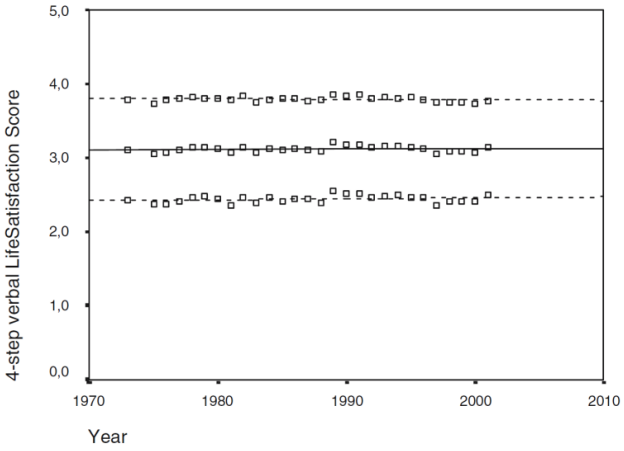
Figure 11: The Annual Amount of Solar Energy



Source: Sapa (2007)

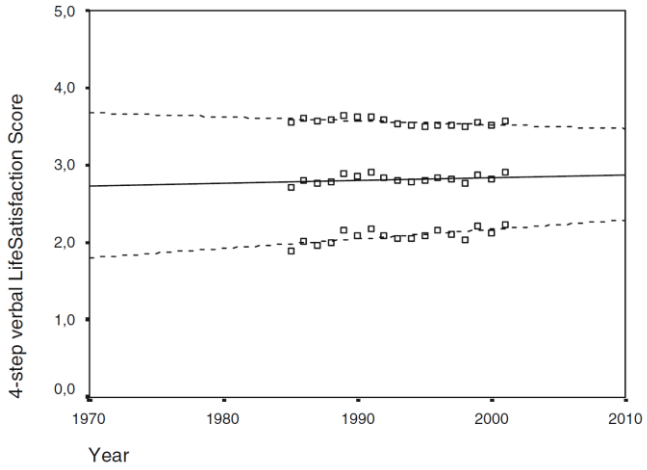
Besides, Veenhoven (2005) did a study with Northern and Southern EU member countries: we can see in figure 12 and figure 13 life satisfaction measured on a scale from 0 to 4 for each group plotted on a time axis ranging from 1973/1985 until 2001. In the first figure Britain, Denmark, West Germany and Netherlands and in the latter figure Italy, Greece, Portugal and Spain are outlined. The middle line symoblizes the trend of the mean level of life satisfaction. The two thinner lines illustrate the variations around that mean. We can see that the level of life satisfaction is stable and above 3 in Northern countries and in Southern countries it is rising but below 3. Furthermore, we can observe that the variation around the mean for Northern countries is stable but for Southern countries it seems to decline. It can be concluded that before the introduction of the Euro Southern European countries were on different trend paths than Northern ones; additionally Southern trend paths were positive and at the same time variations from the mean were declining.

Figure 12: Life Satisfaction in 4 North-European Countries 1973 - 2001



Source: Veenhoven (2005):476

Figure 13: Life Satisfaction in 4 South-European Countries 1985 - 2001



Source: Veenhoven (2005):476

However, the recent development seems to indicate the opposite: the trend of life satisfaction in Greece, Portugal, Italy and Spain appears to be negative and with higher variations due to the crisis and the aftermath of the consolidation reforms.

5.6 The Southern Model and Adaptation to the Cyclical Component of GDP

This part of the thesis follows and extends the work of Wiese (2014c) which got accepted in the journal 'Society and Economy'. In this section the thesis intends to highlight the inefficiencies Mediterranean social welfare system exhibit by not creating equity. Wiese (2014a) found out, as shown in chapter 4, that Portugal, Italy, Greece and Spain react on the cyclical component of GDP but other EZ member countries such as Finland, France, Ireland, Luxembourg, Netherlands, Austria, Slovakia and Belgium do not: Hence, the influence of a deviation from trend GDP growth is either low or non-existent in Continental and Nordic systems but in Mediterranean systems it can observed that the cyclical component of GDP correlates with life satisfaction. To analyze these findings deeper, the dissertation presents further regression analysis to test whether youth unemployment and in the end equity considerations play a dominate role in explaining why Mediterranean countries differ.

The Role of Youth Unemployment

Several macroeconomic as well as other factors could influence or be related to GDP so elements of GDP or variables with strong relation to it have been selected to test whether the effect found is driven by some of those on their own to a further extent in comparison with the meta-variable GDP. More than 30 different variables were selected and several regressions were run with them.[7] I used a multivariate regression analysis with more than 30 different variables. All socio-economic data were taken from the World Development Indicators database of the World Bank (2013). Further, yearly life satisfaction data from the Eurobarometer report of the European Commission was used. As in the previous study the survey focuses on the question "How satisfied are you with the life you lead." Answers

[7] A unknown referee from my Acta Oeconomica publication suggested this approach for future research.

given ranged from "very satisfied" to "not at all satisfied". The so called "backward elimination process" and the "forward method" was used in order to select the variables which show the highest relationship with the dependent variable.[8] In the forward method the algorithm starts with only one variable, the one with the strongest relationship with the dependent variable; then in each step the next best covariate (or candidate) – according to a partial correlation – is included in the model, but only if it has a significant role according to the corresponding t-test. The forward process loops as long as the next best candidate is not good enough to be taken into the model. In the case of the backward process, this starts by including all possible independent variables and then excluding one by one those which do not explain a significant part according to the t-test.

An interesting pattern was found for the Mediterranean countries: for all of them youth unemployment was a strong correlate of life satisfaction; if the regression is run using the FORWARD function out of 30 variables only youth unemployment stayed for Spain and Portugal. For illustration compare the simple regression outlined in equation 7: youth unemployment (*Youth_Unempl*), a constant factor and the error term μ were correlated with life satisfaction indices (*LS*) at a certain time *t*.

$$LS_t = \delta_1 + \delta_2 * Youth\_Unempl_t + \mu \qquad (7)$$

Regression results can be found in table 7. It can be seen that Spain, Italy, Portugal, and Greece show significant and meaningful results: youth unemployment correlates with life satisfaction negatively and with a very high significance as the p-values are small. The results for Spain and Portugal are stronger as more than 60% of the variance can be explained by the equation.

[8] SPSS manual (IBM 2010), or any major statistics book e.g. Anderson et al. (2010) chapter 16.

Table 7: Regression Results for Equation (7)

Country	δ_1	Significance of δ_1	δ_2	Significance of δ_2	R^2	Observations
Spain	7.195	0.000***	-0.027	0.001***	73.6%	35
Portugal	6.143	0.000***	-0.025	0.000***	61.0%	27
Italy	5.368	0.000***	-0.063	0.027**	15.4%	38
Greece	6.169	0.000***	-0.028	0.034**	14.6%	31

*** = significant at the 1% level; ** = significant at the 5% level

Notes: Youth unemployment data taken from the World Bank database. Aggregated life satisfaction data taken from the Eurobarometer report of the European Commission dating back to 1973. Estimates of the coefficients of the linear model, the p-value of the corresponding t- test and R^2 are presented.

However, for Italy the FORWARD function indicates that vulnerable employment (*Vul_Empl*), total unemployment (*Unempl_Total*) and household final consumption (*HH_Consum*) together correlate more strongly. The main argument for this is that the R^2 is 84.4% and consequently more variance can be explained. The regression results can be seen in equation 7. For Greece it seems that vulnerable employment (*Vul_Empl*), long-term unemployment (*Unempl_Long*) and youth unemployment (*Youth_Unempl*) together correlate stronger. The main argument for this is that the R^2 is 86.3% and consequently more variance can be explained. The regression results can be seen in equation 8. In parentheses significance levels are given.

$$LS_t = 7.24 + 0.05 * Vul\_Empl_t - 0.079 * Unempl\_Total_t + 1.50E\text{-}12 * HH\_Consum_t + \mu \quad (8)$$
(0.000) *** (0.000) *** (0.013) ** (0.043) ***

$$LS_t = 6.653 + 0.22 * Vul\_Empl_t - 0.117 * Unempl\_Long_t - 0.047 * Youth\_Unempl_t + \mu \quad (9)$$
(0.020) ** (0.000) *** (0.014) ** (0.000) ***

We can see from the regression results that unemployment – especially youth unemployment – is one of the strongest correlates for life satisfaction in GIPS countries. In boom phases the economy can create jobs even for the young, the uneducated and the old.

Hence, people are lifted out of poverty and life satisfaction levels rise. Since the Mediterranean welfare model is unable to create social equity the cyclical component of GDP has an influence on life satisfaction. Other European countries differ as they are better able to protect their citizens against adverse labor market outcomes. From these results my initial hypothesis is strengthened.

The Role of Equity and Poverty

After the situation has been analyzed on a macroeconomic level the thesis turns to investigate the hypothesis on a micro level. My approach is in line with current research conducted for example by Odermatt and Stutzer (2013).[9] The effects of adaptation to the trend growth of GDP are analyzed by using individual life satisfaction data together with several macroeconomic and country specific variables. The hypothesis tests whether equity is the determinant, which explains why GIPS behave different than other EZ countries.

Individual Level Data

The analysis uses the GINI coefficient which measures inequality in the distribution of wealth inside a country. It ranges from 0 to 1, with low values indicating more equally distributed incomes. Further, the population living in poverty after redistribution is an important indicator for whether the hardships endured due to the unequal distribution of wealth are the cause of the previously found effect. The above mentioned data were obtained from the dataset of the World Bank (2013).

Additionally, I used repeated cross-sectional life satisfaction data from the Eurobarometer surveys. All surveys cover more than 2 million individuals from most of the European countries between 1970 and 2013. To narrow down the analysis on the impact of the current crisis in the EZ I selected the timeframe 2001 to 2011. Moreover, macroeconomic data taken from Eurostat (2013) statistics are exploited. Unemployment rates and inflation

[9] See in Appendix F some descriptive statistics from their approach.

statistics going back several years into the past for most European countries can be found there. I use the "Harmonised Index of Consumer Prices" as well as the "Seasonally Adjusted Unemployment Rates" measures. Overall, my analysis is able to use a rich data pool with around 28 000 individual observations. This allows me to take into account the effects of macro-economic conditions on so far unobserved country specific effects.

Method

With reported satisfaction with life as the dependent variable, I directly assess the consequences of macroeconomic changes for the proxy for individuals' welfare. I estimate country by country whether life satisfaction adapts to individual welfare and the effect of the GINI index and poverty rates while controlling for other macroeconomic variables. Note that the GINI index is given with a negative sign as higher values show less equal distribution and thus are expected to reduce life satisfaction. Specifically, I estimate the regression equation of the following form:

$$LS_{ijt} = \varepsilon_1 + \varepsilon_2 * Cycle_{jt} - \varepsilon_3 * GINI_{jt} + \varepsilon_4 * Poverty_{jt} + \varepsilon_5 * Z_{jt} + \mu_{ijt} \quad (9)$$

The life satisfaction LS_{ijt} of individual i in country j at time t is regressed on a constant factor ε_1, the cyclical component of GDP (*Cycle*), yearly *GINI* and *Poverty* data. As control variables country-level variables Z (unemployment, inflation) and an error term μ are included. Such an approach could validate my theoretical findings regarding the importance of equity with statistical evidence.

Results

As we can see in table 8 all countries show a significant and positive relationship with the cyclical component of GDP. This is in line with my previous results and highlights the fact that citizens of Spain, Italy, Greece and Portugal adapt to the general growth of their country. If growth expectations are missed life satisfaction reacts. We see that the coefficient varies in size; however, I am not yet able to address this issue because the variability of GDP plays a role. Further tests would be important to see how the rate of variations impact life satisfaction. Next, the expected results in connection with the GINI index for Spain and Italy is observed as the coefficients show the expected signs and they are significant. However, for Portugal and Greece the significance level does not reach the required minimum plus the sign is the opposite from what would have been anticipated. The coefficients of the poverty measure show the assumed signs and are significant for Spain, Italy and Portugal. Nevertheless, the result for Greece was insignificant. Overall, we see R^2 levels between 12% and 50% which is between acceptable and excellent for the analysis of these rather big datasets.

Table 8: Regression Results for Equation (9) for GIPS

	Spain	Italy	Greece	Portugal
Cycle	8.787***	151.994***	85.013***	16.592***
	(6.744)	(43.363)	(11.423)	(3.843)
GINI	0.140***	5.901***	-0.864	-0.15
	(5.669)	(33.342)	(-1.508)	(-0.775)
Poverty	-0.630***	-3.669***	1.029	-0.113***
	(-3.464)	(-4.511)	(1.023)	(-4.828)
Country FE	Yes	Yes	Yes	Yes
No. of observations	7048	6689	7000	7074
R^2	0.210	0.511	0.304	0.121

Notes: OLS estimations. T- values in parentheses. Gross Domestic Product data from the OECD, seasonally adjusted to current prices of the national currencies; Unemployment and Inflation statistics from Eurostat. Individual life satisfaction data from the Eurobarometer Report of the European Commission.
Significance levels: * 0.05 < p < 0.1; ** 0.01 < p < 0.05; *** < 0.01.

We can see in table 9 regression results of equation (9) for France and Finland, two countries for which the adaptation theory to the trend growth of GDP did not hold on an aggregated level. The results indicate that this is also true on an individual level as the *Cycle* component is not significant. For France the sign is positive but for Finland it is negative. The coefficient for the GINI index is positive for both countries but it is only significant for Finland, which suggests that higher inequality has a negative effect on Finns. Also poverty is very negatively correlated with life satisfaction in both countries only the Finnish data can show some significance. The regression controlled for economic factors like unemployment and inflation. The number of observations are above 7000 and therefore the R^2 levels are low (around 3%). The results are in line with the previously found ones but they offer limited support to solve the challenge of why GIPS countries differ.

Table 9: Regression results for equation (9) for France and Finland

	France	Finland
Cycle	11.0661	-27.440
	(1.521)	(-1.664)
GINI	0.041	0.104*
	(1.442)	(2.289)
Poverty	-0.069	-0.339***
	(-1.084)	(-4.511)
Country FE	Yes	Yes
No. of observations	7205	7062
R^2	0.033	0.041

Notes: OLS estimations. T- value in parentheses. Gross Domestic Product data from the OECD, seasonally adjusted to current prices of the national currencies; Unemployment and Inflation statistics from Eurostat. Individual life satisfaction data from the Eurobarometer Report of the European Commission.
Significance levels: * $0.05 < p < 0.1$; ** $0.01 < p < 0.05$; *** < 0.01.

Discussion

These results emphasize and validate the previously found association in GIPS countries which highlights that the cyclical component is one important factor for life satisfaction in these countries. However, for the purpose to explain the effect the analysis is still not perfect: on the on hand, the results of Spain and Italy point to the conclusion that inequality due to the special design of the welfare state plays a major role. On the other hand, Greece and Portugal still show some insignificant results in this area. To address these open issues the inclusion of further control variables like individual socio-demographic characteristics could facilitate the analysis. Further, the time frame of the analysis could be expanded. The additional data would improve the analysis and improve the outcome. It would be also interesting to analyze further EZ member countries like Austria, Netherlands, etc. to make a distinction between the two groups and maybe even find further groups.

6 Implications

This section has to be seen as a part of the literature review as the insinuations of the research questions are discussed in chapter 8. The logic for this section is to give a general overview of how happiness research can aid individual and political judgments. The review follows the work of Frey (2008).

6.1 Suggestions for Individuals from the Common Media

Bestselling books like "Secrets of True Happiness" (Tai 2012) and "The Art of Happiness: A Guide to Developing Life's Most Important Skill" (Ricard 2013) are examples of how popular literature takes advantage of the hype around life satisfaction. A more scientific article about achieving personal happiness can be found in the journal 'New Scientist' (2003). Leading scholars in the field have distinguished ten factors which are crucial and I want to present some of the most important ones: firstly, "make the most of your genes" as well as cultivate personality traits is the strongest factor and hence, has the most potent influence on well-being. Secondly, "make friends and value them" because this is associated with happiness with a very strong correlation. Thirdly, "desire less" so it is easier to close the aspiration gap. Fourthly, "provide help to others" because altruism and voluntary work is strongly correlated with life satisfaction. Fifthly, "be religious" as it provides purpose and meaning. See appendix H for all discussed factors.

Furthermore, academics have formed an association with the aim of conducting surveys concentrating on well-being, optimism and flow (Csikszentmihalyi 1990, Seligman 2002, Carr 2003). They call their field "positive psychology" as it focuses on valued states of mind instead of on depression or other disorders. Nettle (2005:145), for instance, proposes three suggestions for improved well-being: firstly, the influence of strong negative emotions should be weakened. Secondly, positive feelings should be built up and lastly, the adaptation to certain positive states should be averted. However, it may be true that dissatisfied individuals are the only ones unable to perform these kinds of manipulations.

6.2 Implications for Economic Policies

This thesis will also discuss important recommendations for economic policy. We have seen that the well-being of citizens is influenced by income, employment, stable prices and fair income distribution. Moreover, non-material determinants are of great importance, as is the act of volunteering. Last but not least, the evaluation of public goods can be facilitated by the Life Satisfaction Approach. These findings suggest that certain policy reforms could improve the general satisfaction of individuals. For example, as preferences are endogenous, people make systematic mistakes and therefore should be guided to decisions which they desire (Easterlin 2003, Layard 1980, 2006, 2007). The shortcomings of education might force additional measures such as a prohibition of advertisements targeted at children (Layard 2005) or even further governmental intervention. Besides, Di Tella and MacCulloch (2005) argue that people have problems coordinating their working hours according to their optimal preferences. Some are overworked and some are unemployed because social security systems as well as taxation schemes make part time jobs disadvantageous for employees as well as employers. Improvements in this domain could free up potential satisfaction. As discussed earlier, expansionary policies could push up inflation but reduce unemployment. We have seen that citizens care more about unemployment and disregard inflation which seems to make such a policy viable. However small open economies are unable to maneuver these instruments well. Inflation expectations also adapt and hence the tradeoff is made impossible. Lastly, fighting terrorism and crime is an important task for all governments but they should consider different approaches towards the same end. For example deterrence of terrorist attacks such as a "war on terrorism" might entail many negative side effects for their own inhabitants. Considering alternatives such as the reintegration of possible attackers into society is more effective and causes fewer negative consequences (Frey et al. 2004).

6.3 Maximizing Gross National Happiness

After highlighting the importance of happiness and the findings in connection not only with economics but also with other related fields, the question is whether it would be a good policy to require the leadership of a country to maximize a certain happiness indicator. For instance already in the 1970s the Bhutanese king Wangchuck changed the constitution in such a way that the ultimate principle of public policy is to increase the Gross National Happiness (GNH) indicator. It is based on the idea of sustainable as well as non-economic aspects of development. The concept is a catalog of goals and priorities, which should lead to greater happiness. The four pillars are: sustainable socioeconomic development, good governance, cultural preservation and environmental conversation (United Nations 2010).

The Concept of a "National Happiness Indicator" (NHI) is as old as economic science: I already have mentioned the shortcomings of the standard National Account calculations especially that surplus and distributional considerations are neglected. Further, shadow market and social activities which are not exchanged on usual market places are not taken into account. Furthermore, "regrettables" like accidents are balanced positively.

Hence, Rajni Bakshi (2004) demands that "post autistic economists" should focus on GNH. Also leading scholars of the field (Diener 2000, Kahneman et al. 2004, Di Tella and MacCulloch 2005) discussed that a NHI should be introduced. In this context Kahneman et al. (2004:433) proclaims that a "better measure of well-being could help to inform policy". The aim of such a device would be to detect life satisfaction changes and their roots over time. A similar approach can aid also the analysis of different factions of society or for different nations.

Advantages

The obvious advantage of such a measure is that it would be the closest approximation to a social-welfare function which serves all individuals in a country. This approach would transform economics into a natural science like physics. Early economists like Bentham (1789) and Edgeworth (1881) but also of more recent one like Tinbergen (1956) and Theil (1964) dreamed of such a development.

The benefits of a NHI are that non-material factors are also incorporated. Important aspects of human life are considered, for instance, freedom and social interactions. Consequently, the approach goes beyond other scholars work like the "Measure of Economic Welfare" designed by Nordhaus and Tobin (1972). Moreover, outcome factors are included, for example, government services like health care and education. Usually these are just measured by their costs or other forms of input like number of classrooms. One example is the "Index of Social Progress" (Estes 1988). Furthermore, a NHI would assess subjectively ratings in comparison with other indicators like the "Human Development Index" developed by the World Bank. Thus, the NHI goes ahead of calculated factors like the number of teachers or hospital beds and includes not only quantity but also quality (Sen 1992, 1999, Nussbaum 2000, Comim 2005). Additionally, an independently evaluated NHI would rate the work of the government and therefore would give a new vision for the policy makers. So, citizens would judge their leaders' work according to their satisfaction level. The most convincing argument is that a NHI is democratic. It would give the same importance to every individual. GDP measures weight persons with high purchasing power higher and poor people become "meaningless".

Even though we have seen some arguments which support the introduction and the maximization of an NHI the next paragraph will argue that it should be excluded from policy making.

Disadvantages

Contrary to these advantages a number of objections emerge which far outweigh the positive side: firstly, the "Impossibility Theorem" by Arrow (1951) argues that if certain assumptions hold only autocracies can have a welfare function that can order outcomes completely and coherently. Several scholars like Sen (1970, 1995) and Slesnick (1998) have tried multiple ways to derive a different result by varying the pre-assumptions and they came to the conclusion that "there is no way we can use empirical observations on their own to produce an ethically satisfactory cardinalization, let alone an ethically satisfactory social welfare ordering" (Hammond 1991:220–221). Unfortunately, this also applies to all kinds of NHIs.

Secondly, the cardinality of utility and the problem of interpersonal comparisons pose a serious problem for the justification of a NHI. As discussed before, classical microeconomic scholars do not take into account the possibility that utility can be measured cardinally. Further, for them the evaluation of utility between individuals does not seem sensible. Nonetheless, psychologists like Kahneman do not worry too much about assessing and linking indicators of the emotions of individuals (Kahneman et al. 2004:432). Even though the issue of cardinality and interpersonal comparison is challenging on a theoretical level it seems to impose fewer problems on practical grounds (Ng 1996, Kahneman 1999).

Besides, many happiness scholars reject the idea of a NHI based on two lines of thought: to begin with, it is not clear that happiness is the "Ultimate Goal" of public policy. As discussed in textbox 1 many philosophers give special emphasis to other issues like responsibility, freedom or personal development. Further, Lane (2000) as well as Kimball and Willis (2005) argue that procedural characteristics are not well represented in typical surveys and for this reason disregard those aspects. It might even be that happiness is just one of multiple ultimate goals which all should be targeted by policy makers. However, this question has to be answered by philosophers and the general public. Therefore, it is not quite clear that the maximization of NHI or happiness should be the absolute purpose of human existence.

Besides, short term satisfaction might be in conflict with sustainable well-being and hence, a trade off occurs. Kahneman and Krueger (2006:14–15) claim that the way we live has no lasting effect on satisfaction scores as people adjust over time to certain comfort or pain levels. One example already cited was the study of Brickman et al. (1978) where lottery winners and paraplegics adjusted almost entirely to their new situations. Additionally, Oswald and Powdthavee (2006) made a study with accident victims who suffered modest or serious injuries. Two years later individuals with a modest disability claimed to be equally satisfied with their pre-injury level. The individuals with a quite serious disability did also recover substantially, but not fully. As discussed, the previously mentioned Easterlin Paradox shows that the impression of income even fades faster: within a year at least 66% of the initial positive effect disappeared (Easterlin 2000). The consequences from these results would be that a person with a fast adaptation rate would be taxed higher as it would have less impact on him/her. This could lead to strategic answering behavior and the scale would be biased. Then again, if public policy did not consider these effects it would wrongly assume that adaptation did not exist. In a nutshell, a NHI is missing these aspects and therefore, "the role to be attributed to adaptation and aspiration as elements of social welfare must be discussed and decided on a more fundamental level" (Frey 2008:165).

Lastly, from a political and institutional viewpoint NHI maximization creates concerns: even if the government would recognize a NHI measure which represents the wishes of the citizens there would be no reason for the politicians to respect it. On the contrary, the political class would have a strong motivation to affect the NHI measure. In the past we have seen several times that politicians have manipulated the way unemployment numbers are calculated to show an improved statistic to their citizens. Also, it is common knowledge that almost all EZ member countries cheated their way into the EZ: Greece and Italy in particular used "creative accounting" (Jameson 1988) methods in order to fulfill the Maastricht criteria.[10] However, Brück and Stephan (2006) as well as Forte (2001) claim that the indicators were manipulated and some came to the conclusion that "the determining

[10] The rule was that the budget deficit was not allowed to surpass 3 percent of GDP and further, public debt should not go beyond 60 percent of GDP.

factor for achieving membership of the planned European Monetary Union seems to rely on widespread use of public-sector creative accounting measures" (Dafflon – Rossi 1999:59–60). Even if governments or special interest groups cannot affect one particular happiness measure they could easily choose from the already existing variety of indicators the one which is suitable for their purpose or they could create a new one. This could create a situation where governments might even start to reduce the freedom of individuals for their own "happiness" according to their newly created happiness indicator. Likewise, respondents to surveys could strategically express their satisfaction level in order to affect political decisions for their benefit. For example, in order to urge the government/mayor to build a hospital nearby citizens could report very low satisfaction levels about their health even though they do not feel that way. The NHI would become distorted and efficiency would be lost.

In conclusion, we have seen that the maximization of NHI is not a convincing aim for public policy. But the result is not to solely focus on GDP or other economic indicators alone would be sensible. Constitutional Economics claims that deep rooted social institutions influence the motivation of politicians and after these are established there is not much room to maneuver to alter the existing politico-economic procedure (Frey 2008:168). Thus, people's preferences are served best by varying the deep rooted social institutions. Hence, the knowledge gained from happiness studies should be used as an input for political decision making (ibid.). Thereafter, discussions in the political sphere, among citizens and between citizens and the political class will show what will be taken into consideration and what not. One example could be that the already discussed positive effects of direct democracy on life satisfaction like referenda and federalism could be adopted more widely (Ryan – Deci 2001).

We can see that happiness research can contribute to foster the welfare of society but it is not wise to directly and exclusively maximize a NHI. More useful is when the underlying social institutions work in such a way that the results of research can be used as an input into the political discussions and so, the freedom of society is ensured and the general public can decide how to improve their lives.

6.4 Progressive Taxation

One of the findings of happiness research in connection with the main results of the thesis is that people care about their relative position on the income ladder but disregard their absolute wealth. This facilitates a "rat race" among citizens with rather undesired outcomes for society as a whole. For this reason, Layard (2005, 2006) and Robert Frank (1999) argue that income and other status games are zero-sum games: if one person gains and his/her position improves the relative position of others will decline. The gain of one brings positional externalities to others.[11] Frank (2003) states that even certain goods and services can have this effect, especially if they are status goods like expensive watches, cars or cell phones. Consequently, society is at risk of losing when it engages in the production of such zero-sum goods as they do not necessarily increase social welfare but waste resources as one has argued before (chapter 3.2 Income). Thus, Frank (1999) and Layard (2006) argue for the implementation of a progressive taxation system which should correct the negative external effect of these status games. Studies have estimated that such a tax rate usually around 30% depending on the country (Blanchflower - Oswald 2000, Luttmer 2005, Stutzer 2004). Besides, the possible redistribution effect of taxes could lead to higher equality and lower poverty.

Nonetheless, progressive taxation might have severe limitations: it might be ineffective as citizens try to avoid paying taxes and start working in the underground economy (Schneider - Enste 2000, 2002). Or the government starts spending the additional revenue on activities which lower overall well-being like higher levels of bureaucracy and other activities (Mueller 1997, 2003). These issues are well discussed in the literature and therefore less emphasis will be placed on them.

The focus will be on status effects because even if taxation could be implemented successfully people would find new possibilities to make a distinction between themselves

[11] In a special case no gain for society has been achieved due to the fact that improvement and decline are the same size. This is called a "positional treadmill" (Frey 2008:169).

and the rest.[12] Therefore it has to be considered in what other ways the citizens will try to gain status and whether these new ways have stronger or weaker negative side effects on overall welfare. For instance, people nowadays already use education, power or leisure as new areas to play status games. Leisure is especially interesting because once income is heavily taxed to reverse the status games work incentives will be lower and people will engage in more leisure time. It is noteworthy that 300 years ago rich people tried to differentiate themselves from the hard working poor by showing off as a "leisure class" (Veblen 1899). However nowadays the contrary effect seems to prevail and to be overworked is perceived as valuable.

Consequently, progressive taxation does not always lead to better outcomes and it depends mainly on the created distortions on the real economy, the government`s ability to collect taxes and the leaders incentives to redistribute the revenue. Such a tax system will work better if the alterations to the economy are low and the capability and the incentive of the leaders to redistribute is high. However, it has to be considered what the responses of the status-seeker population will be. If they will switch to other games with higher negative external effects progressive taxation can be welfare reducing. For each country and each period distinct studies would be required to get an answer to this question. This would be required for most practical applications of happiness research results.

In a nutshell, we have seen that happiness research can contribute to improve the lives of the individual as well as of society's course. But the maximization of happiness is dangerous as political motivation can easily alter the way it is measured and inefficient results can occur.

[12] Many studies emphasize that humans are status seekers, for example evolutionary anthropologists like Chapais (1991) or sociologists like de Botton (2004) have written about it. Also, economists like Frank (1985, 1997), Layard (2005, 2006) and Fehr and Schmidt (1999) emphasized the significance of status effects. Further examples are work status has been analyzed by Nicholson (1998) and Loch et al. (2000).

7 The Current Situation in the Eurozone

The results of the regression and the countries in economic difficulties overlapped in such a way that it became necessary to at least mention the crisis. Furthermore, the current crisis forces a difficult question for policy makers in these countries: tough austerity or reintroducing their own currency to regain competitiveness. My own analysis can facilitate the elaboration of this question with a new way of reasoning. All these arguments together made a discussion of the current crisis necessary.

This section follows the analysis of Sinn (2013) who has made several contributions to the current discussion with presentations at conferences, research papers and was a guest on several talk shows. According to a Bloomberg study he is one of the most influential economist in the world (Focus 2012). Further, he is a professor at the Ludwig Maximillian University in Munich and the president of the Ifo institute. Most importantly, he has written about one of the core issues of the Eurozone crisis: the problem of lost competitiveness. All in all he is a trusted and experienced economist[13] who has specialised on this topic and made several contributions to the field for example with his latest book "Die Target Falle" (Sinn 2012).

7.1 The Crisis and the Respond

The economic crisis in Europe made headline news in 2010 when Greek government bonds reached high levels of interest payments. As the markets were not willing to fund Greece's large deficit and the huge amount of debt which had to be rolled over, governments and the IMF jumped in with bilateral help (Spiegel 2010). However, the market became extremely worried and reassessed the risks of other sovereigns in the EZ. This led to the point where Ireland and Portugal had to follow the same path as Greece and so they implemented

[13] Professor Sinn was invited by the German Constitutional Court to give his judgement on the crisis.

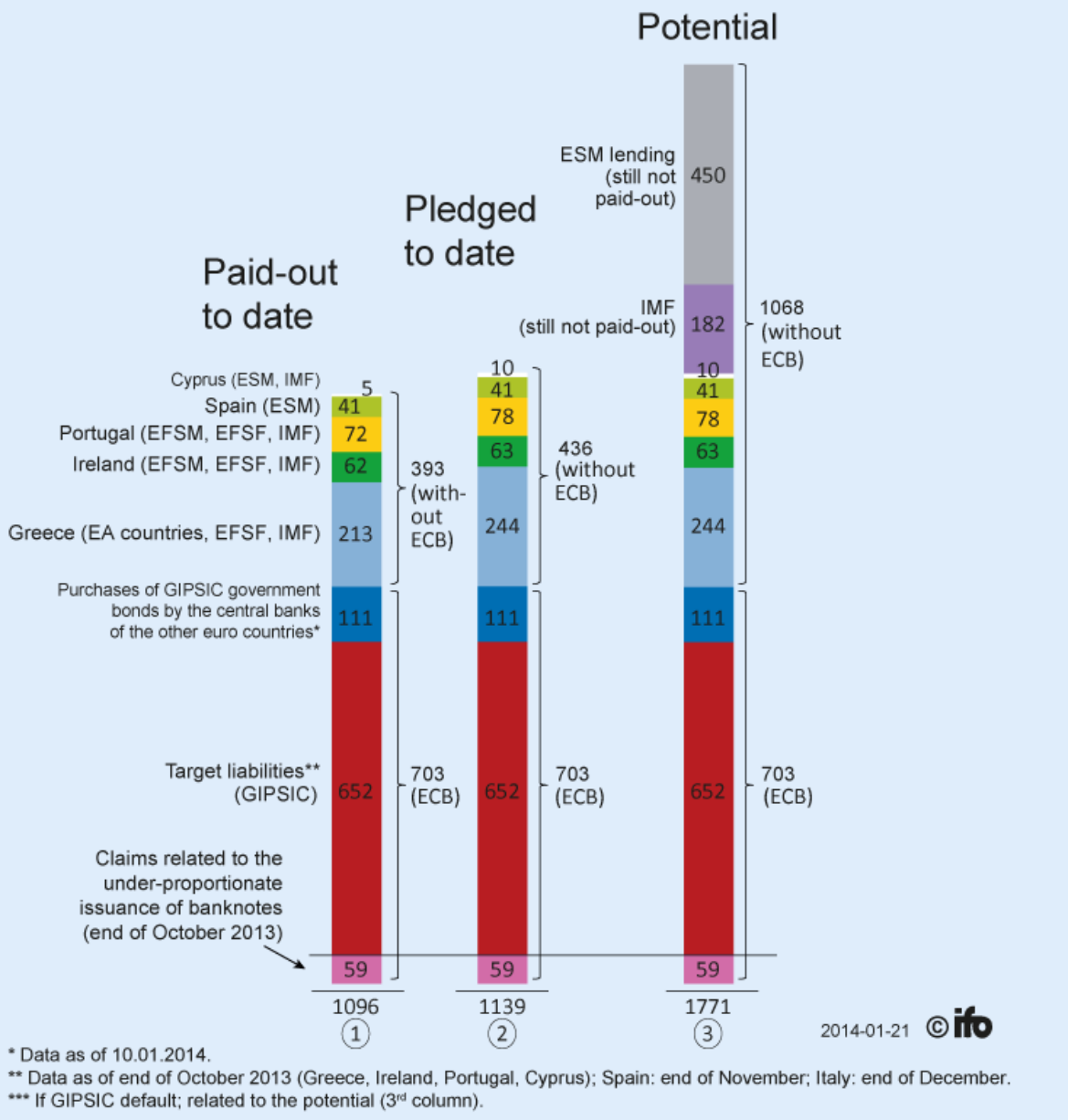
official rescue programs. Soon after this, the Spanish banking system also found itself in trouble and was rescued as well. At that time this was simply referred to as a crisis of confidence which has its roots in a brief liquidity issue.

As the market reacted rather turbulently to the situation, the only institution which was able to react quick and effective was the European Central Bank (ECB): TARGET2 credit lines were used - indirectly and without parliamentary consensus - to provide credit for Southern Central Banks (Spiegel 2012). At the moment the amount of TARGET2 imbalances stands at around 657 billion euros (Ifo Institute 2014). After 2010 most of its monetary base was established in GIPS countries and hence, the liquidity of Southern banks was sustained. Besides, the ECB purchased 116 billion euros worth of crisis countries' government bonds (ibid.).

The second pillar among the rescue institutions was the IMF and the European partner nations. They have already given credit and guarantees totalling 392 billion euros, a sum which could reach a potential 1.068 trillion euros if the European Stability Mechanism is fully used (ibid.). We can see in figure 14 the exposure level of the current bail out mechanisms with its three pillars – the first one shows the funds which were already paid-out by January 2014. We can see that through the ECB system 703 billion euros have been given and that with bilateral help from countries and other institutions an additional 393 billion euros have been provided. In total, this amounts to more than 1 trillion euros. The potential exposure level is even higher and stands in total at more than 1.7 trillion euros which amounts to almost 20% of EZ GDP.[14] Additionally, the ECB is still able to purchase more government bonds of crisis countries and even announced a program called OMT which would do this to an unlimited extent (Spiegel 2012). Consequently, the possible exposure level might be indefinite.

[14] 1.7/9.5 = 17.9. Data taken from Eurostat (2013) and Ifo Institute (2014).

Figure 14: The Exposure Level: Lending Funds Available to Euro Countries



Source: Ifo Institute (2014).

7.2 Underlying Core Issue: Lack of Competitiveness

It is worth mentioning that the current discussions about a fiscal union, a banking union or Eurobonds cannot solve the core issue of the lost competitiveness of certain countries. Further, some European policy makers call for demand stimulating growth programs which are financed by additional debt. These remedies would only prolong the suffering and hinder the realignment. What we see is the creation of creditor and debtor nations in the EZ and the partnership of equals is broken. This destroys the common spirit of the bloc, as it is not the bloc's own elected parliament which decides on the budget and welfare provision of a country but the parliaments of creditor nations or a European bureaucratic institution such as the European Commission. Frey and Stutzer (2002a) have pointed out the positive effects on life satisfaction of self-determination and direct democracy – the current development undermines these sources of happiness. A further danger is that such a development leads to nationalism and a hostile atmosphere between countries which in itself creates dissatisfaction.

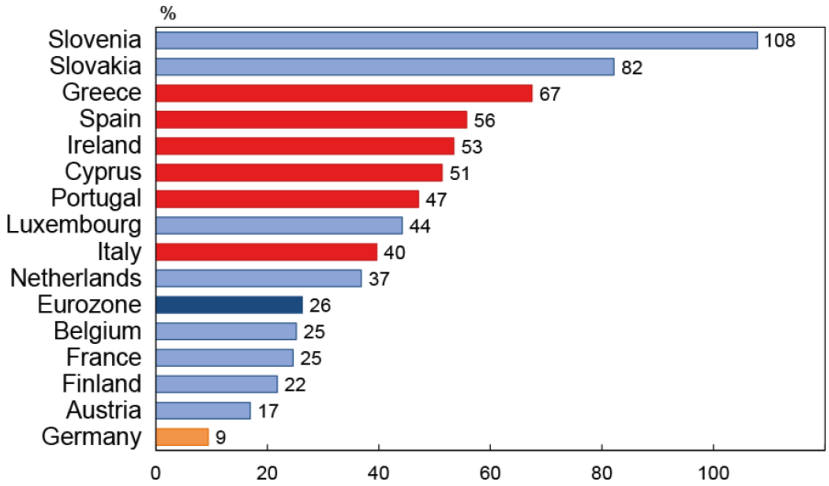
But even if all the debt of GIPS countries were written off they would still import more than they export and their governments would spend more than they earn because all nations in trouble are subjected to a realignment problem of real wages due to a lack of competitiveness: Sinn (2013) argues that after the Madrid Summit of 1995 interest rates in Europe converged due to the fact that the introduction of the Euro would abolish the exchange rate risk. The creation of the Euro with its mandate for stable prices (close to but under 2% inflation per annum) and the low interest payments on perceived “riskless” government bonds managed to drive up imports and debt loads and some governments postponed the necessary reforms modern globalization demanded (Sapir 2005). Hence, easy credit created an inflationary boom and prices and wages were lifted in Southern Europe. The result was the already mentioned loss of competitiveness as well as high government and household debt.

From 1995 until the start of the financial crisis in 2008 the GDP deflator measuring the price level of a country went up for Greece by 67%, for Spain by 56%, for Ireland by 53%

and Portugal by 47% which is illustrated in figure 15. However, the GDP deflator for the EZ as a whole only increased by 26%. Following the calculation of Sinn (2013:3,5) we see that Greek prices appreciated by 18%, Spanish by 22%, Portuguese by 14% and Italian ones by 27% in comparison with the rest of the EZ. The GDP deflator is used above other competitiveness measures like unit labor costs, productivity or import/export data. The reason is that while a country is in depression many low skilled jobs and unproductive companies are pushed out of the market. Even though this causes domestic demand as well as imports to collapse the statistic improves artificially: the remaining companies and workers in the market are in comparison performing better and for this reason the average rises. The trade balance improves also as imports plummet faster as exports. Nonetheless, the competitiveness of the country does not improve and the statistics will be the same once the recession is over (Sinn 2013).

To reverse this trend and, eventually, to achieve competitiveness for the Southern countries the price increases must be reverted. Goldman Sachs Economic Research (2013) published a study indicating that in order to achieve external debt sustainability Italy would have to lower its relative price level by around 10% but "Spain, Greece and Portugal will have to come down by 25 – 35%" (Sinn 2013:5).

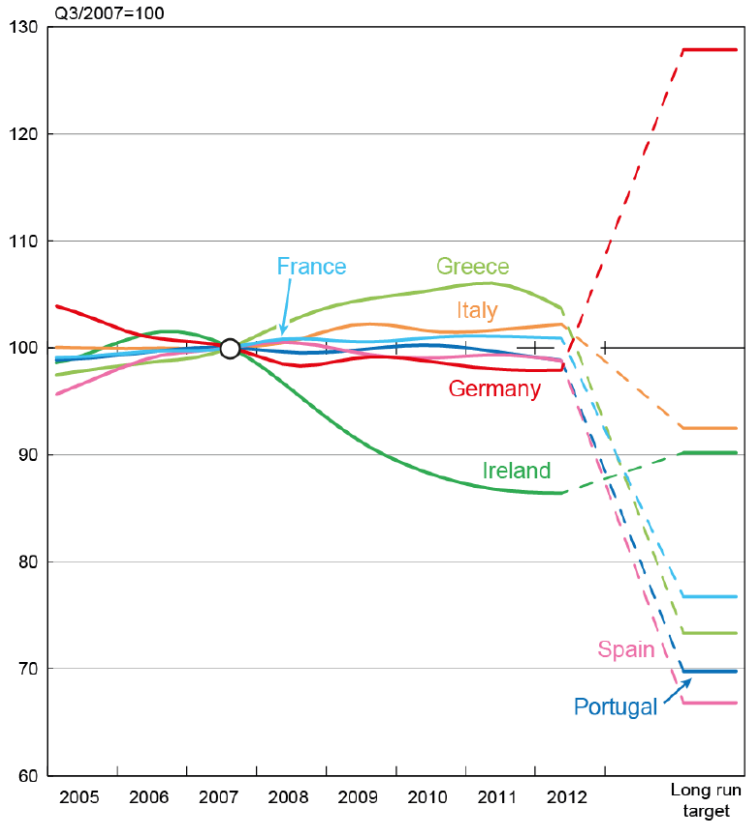
Figure 15: Developments of the GDP Deflator from 1995 to 2008



Source: Sinn (2013:4). Eurostat, Database, Economy and Finance, National accounts, GDP and main components - Price indices; Ifo Institute calculations.

In Figure 16 we can see the development of the current real exchange rates of selected EZ countries and their necessary realignment according to the Goldman Sachs Economic Research (2013) study mentioned in the previous paragraph. We can see that the GIPS countries have not meaningfully depreciated in comparison with their long run target since the outbreak of the crisis in 2007. We can see that from 2007 to 2012 prices in Spain and Portugal fell by just 1.2%. Deeply worrying is the fact that the relative price level of Greece has not fallen but even grew by 3.7% due to higher taxes. Even though Italy's price level has increased somewhat their alignment need is smaller and not so problematic. 5 years into the crisis Greece, Spain and Portugal still have to make serious adjustments as they have not improved their debt sustainability yet.

Figure 16: Real Exchange Rates: Development and Necessary Realignment



Source: Sinn (2013:8).

7.3 On Possible Solutions

Sinn (2013) proposes that adjustment can be carried out either by internal devaluation with austerity and reforms or by achieving the necessary realignment through an open devaluation.[15] The purpose of the following section is to introduce these two solutions. Moreover, a practical assessment of the most likely scenarios of EZ disintegration can be seen in textbox 6. Thereafter the implications for average life satisfaction levels in the crisis countries will be elaborated. The results about the cyclical component of GDP together with general findings of happiness research presented previously will be taken into account.

Textbox 6: Potential Scenarios of Eurozone Disintegration

The sovereign debt crisis has haunted Europe since the beginning of 2010 even though political willpower and financial capital have been mobilized to contain the situation. Nevertheless, the final conclusion of the Euro endeavor has not been decided. Hence, it is not unthinkable that a partial or total disintegration of the EZ might happen despite the rather catastrophic consequences for all involved. This textbox follows the analysis of Dabrowski (2012) and Meyer (2012) about the three most likely disintegration scenarios: firstly, the voluntary exit and secondly, the involuntary exit of one of the GIPS countries as well as lastly, the voluntary exit of at least one of the financially more solid core countries.

A **voluntary exit** of one of the GIPS countries and the reintroduction of their own national currency would help the country to regain its competitiveness without undergoing the long task of internal devaluation in a quick and country wide fashion. However, the country´s fiscal position would get worse and the legal consequences might be everything else than trivial. The short-term effect on domestic demand would be catastrophic as most of the public and private debt would be still denominated in Euros as would all the existing contracts. The newly introduced currency would most likely lose purchasing power against the Euro and servicing most of these obligations would be intolerable. As widespread defaults would occur aggregated demand and supply would diminish. For instance, the chief economist of Citigroup (Businessinsider 2012) calculated that in the first year of Greece leaving the EZ GDP would contract by as much as 10%.

It is also questionable whether the new currency would be used at all as people might expect loose monetary and fiscal policies and consequently, search for safe havens like

[15] Another option might be that the so called core countries would experience higher inflation rates and in comparison the crisis countries would regain competitiveness through having lower inflation rates. However, the mandate of the ECB of stable prices is prohibiting this.

Dollars or Euros. The depreciation of the new currency could easily end in very high inflation rates (Meyer 2012).

The organization and execution of implementing a new currency is not an easy and quick task. Secret planning would be important beforehand and once it were announced some temporary bank holidays would be needed.

For the rest of the European Monetary Union as well as for the world financial markets the move could have extensive contagion effects. For instance, other troubled countries might be attacked by speculators. The exiting country`s default would have widespread effects on the balance sheets of financial institutions, first and foremost the EU governments, the ECB as well as private institutions (Meyer 2012). However, an exit of a member state could be managed if contingency plans are set up, a strong political will is signaled and the ECB is ready to bail out essential institutions. Furthermore, over the last few years an exit has been priced in by market participants and hence it is not unlikely that it could be handled.

An **involuntary** exit of one of the GIPS countries could occur if the country does not comply with the agreed austerity and reform packages. The troika consisting of delegations from the IMF, the European Commission and the ECB monitors the rescue program's progress and has to ensure that it is properly designed and that enough rescue resources are available. However, if it becomes obvious that the country cannot mobilize the political will and/or it is not able to follow the plan either a sovereign default or a banking crisis could be sparked (Dabrowski 2012).

The first case could be initiated because the government runs out of Euro cash reserves due to the inability to raise taxes or reduce spending. Payments to government employees and pensioners as well as expenditures for other social services would be seized or postponed. This would have quite negative short term consequences as rather soon this strategy would backfire: people not receiving their wages would delay all kinds of payments for example tax payments. In such a situation governments could print some kind of monetary substitutes like notes which would "guarantee" payment later. In return the government would have to accept these notes with face value for tax payments but they would be traded on a second hand market with a haircut. If the situation lasted too long this would lead to the introduction of an actual parallel currency (Dabrowski 2012:2). As banks would have to accept the notes with face value their balance sheet would degrade and this would lead sooner or later to a banking crisis.

The second case of a banking crisis could be triggered if the banking sector of the troubled nation experienced major net capital outflows either by cash withdrawal or by transferring deposits abroad. In the worst case this capital flight results in a full blown bank run as depositors try to take out their savings from local banks. In the past the ECB has provided immense quantities of liquidity through several programs like the LTRO or ELA (Dabrowski 2012:3). If an outside shock gave rise to a market reaction where the ECB could not prevent a bank run, banks would have to close and assets would have to be frozen. The same would happen if the ECB stopped its liquidity assistance. The reasons

could be that the country failed to fulfill the agreed reforms or the ECB does not want to increase its risk position any further (or both). Life without banks could be possible but would be rather difficult. Therefore, once this step has been taken a reopening of banks would usually require a national monetary policy which would supply the banks with the new legal tender (ibid.).

If the ECB required higher lending conditions due to an awareness of the risks involved, a national central bank could "rebel" (ibid.) against this policy and provide liquidity to its local banks beyond the quotas. The ECB would probably deny the rebel access to the TARGET-2 payment system and for this reason the country's banking system would be detached from the rest of the Eurozone. Once the nation`s public discovers this bank runs would occur.

Dabrowski (ibid.) concludes that "an involuntary exit would be even more disastrous, economically and politically, than a voluntary one because of its spontaneous and highly unpredictable character."

A voluntary exit of at least one **core country** with sound fiscal policy and strong macroeconomic fundamentals could be caused by high inflation rates as well as the lower external value of the Euro due to the misconduct of the ECB. The new core country`s currency would most likely appreciate against the Euro and this would be a damaging surprise for local exporters and for banks with net credits with EZ counterparties. Also, during this time setting up the new currency capital inflow would be dangerous. For the remainder of the EZ a competitiveness advantage would occur but disturbed financial markets would endanger its continued existence and might lead to a race to the exit of all remaining countries (Meyer 2012).

Internal Devaluation

The first option - internal devaluation - forces governments to stay on a restructuring path to lift the country out of its misery but the adjustment is hard and takes a long time: due to downward price stickiness it is extremely hard to implement the necessary price cuts with austerity measures to achieve competitiveness without forcing the country and its population into political protests and governability problems. Keynes (1960:267) and Friedman (1976:214) both had the same opinion about the difficulty, and perhaps even the impossibility of internal devaluation. The unavoidable recession with cuts in welfare programs and dismissal of government employees creates uncertainty, high unemployment

and negative growth.[16] Consequently, lower life satisfaction levels will prevail until the turnaround is achieved, which is unlikely to happen before 2020 in Greece according to OECD predictions (Greekreporter 2013). As pointed out before, the realignment needed in Greece and Portugal would amount to around 30% or more, which can only be achieved if wages and government subsidies are cut drastically, which would create high unemployment and social tensions. "In Greece, the labor market situation today is already hardly sustainable, with youth unemployment exceeding 50% and an official rate of unemployment moving towards 30%. This catastrophe results from the attempt to try the impossible" (Sinn 2013:12). Other countries face similar, although less bleak, prospects.

Disintegration

The second possibility of a realignment of real wages can be achieved by external devaluation of a lower exchange rate with import and export partners. However, the current high level of the euro to the dollar of 1.3652 (Finanzen 2014) is undermining the competitiveness of GIPS countries with their non-EZ partners. By entering the EZ each nation gave up their direct influence on monetary policy and they are thus unable to influence the exchange rate. Even more importantly, no inter-EZ exchange rates exist and hence, pure price effects matter. Therefore, only a withdrawal from the EZ could provide the needed realignment of prices in a quick and nationwide fashion, but with catastrophic prospects for the real economy: the new local currency would quickly lose purchasing power compared to the Euro currency and most of the Euro liabilities of the country would have to be restructured and a partial default would occur. This would have extreme negative effects on foreign direct investment and financial institutions' market access and lead to turmoil in the household and government debt markets. The output of the country would decline rapidly to a much lower level. Besides, a negative feedback loop of lower foreign demand due to the lower world output would depress the economy even further. To

[16] Hungary also had their own history of internal devaluation in the 1990s. The "Bokros package" was a rather tough pill for the population to digest after Goulash communism (Kornai 1997).

avoid a humanitarian catastrophe the EU and other organisations could provide aid for medical imports and other assistance of the last resort. In this context it is important to mention that adaptation and coping effects would stabilise life satisfaction levels once citizens would have absorbed the negative shock from lower GDP levels and the negative economic prospects. Most importantly, competitiveness would be restored. As the prices of imported products would rise new employment opportunities would open up as domestic production becomes profitable. The tourism sector would be boosted as real prices for services and accommodation would decline. Government finances could be brought in check as promises such as high retirement liabilities or government pay checks could be lowered in real terms with higher inflation. Furthermore, capital from outside would flow into the country as land prices and company stocks would be cheap. After some time the economy would grow again from a lower starting point – slowly but with accelerating returns.

7.4 Discussion

In this section two possible growth paths are discussed at the example of Greece. As mentioned before, according to an OECD study (Greekreporter 2013) the turnaround in the case of internal devaluation is not likely to occur before 2020. Hence, in this scenario the economy is expected to witness high unemployment rates and could stay depressed with low or negative growth for at least another 6 years until the bottom is reached after 2020. However, the economic forecast remains rather uncertain as the country has to increase taxes and reduce spending. Aggregated demand is likely to stay low until competitiveness is regained after 2020. In the second scenario Greece will exit the EZ in 2014. It is projected by the chief economist of Citigroup (Businessinsider 2012) that its GDP would contract by 10% in the first year after leaving the EZ. However, after this initial hit the economy would stabilize and soon would begin to grow again as pointed out in the analysis above. At first, growth would be low but it is likely that it would shape itself in a progressive fashion. Moreover, unemployment rates would dramatically go down as own

production would be efficient again. After few years, the level of the first scenario would be overachieved. One positive key feature of the second scenario would be that the economic outlook would be rather certain after the first hit from the disintegration would be absorbed. Sinn (2013:14) concludes that "the dangers of an exit are minuscule compared to the horror resulting from a non-exit." The main point would be that in such a scenario the medium-term cyclical component would be positives: Due to the progressive growth fashion of such a development low growth expectations would be over-satisfied each year and the positive deviation from the trend would lift life satisfaction ceteris paribus.

8 General Discussion

First and foremost, the dissertation has reviewed recent writings and concludes that even though my analysis uses life satisfaction measures based on a subjective evaluation of the respondents happiness research is not "unscientific" and can discover valuable new insights. However, future research might be able to use more advanced technologies and it will be possible to observe for instance brain functions. The objectivity of the research could grow thereafter.

Happiness researchers still dispute the impact and the importance of GDP on the well-being of citizens. In this important controversy I can contribute with my approach and with my results to the discussion but there are still open questions which give ample room for further research.

For instance it could be tested whether negative deviations in the trend growth could influence life satisfaction more strongly than positive variations. The main idea is that lower than expected economic growth influences life satisfaction to a greater extent than an over-fulfilment of growth expectations. Maybe the pure fact of a missed expectation is in itself the reason for the shift in satisfaction. Besides, a unified dataset with country controls could facilitate the analysis. As mentioned before cross-country analyses bear many risks and should be avoided due to cultural and social factors. This is especially true when it comes to income factors. Therefore I have always run regressions on an individual country basis.

For the purpose to test whether the cyclical component of GDP has an effect the presented investigation was enough and so I excluded the discussion of the size of the coefficient of the cyclical component. However, this would be an interesting topic for future research.

Further, effects of other economic data such as inflation or unemployment could be analysed according to their relationship to trend behavior. Just as in Wiese (2014a), the trend component could be excluded and then an empirical assessment could be made as to whether an adaptation occurs. These directions seem worth examining.

Furthermore, future research could include other (macro)economic indicators. Instead of the "aggregate" GDP it would be interesting to take GDP into parts and use some these parts in a de-trended form. It is clear that an inclusion of further factors would definitely give a better picture of the issue which could lead to deeper understanding of the results presented in this thesis.

Besides, it is clear that unemployment is one of the key macroeconomic factors determining individual and gross national happiness levels. GIPS countries use EPL to safeguard their citizens against the adverse effects on the labor market and to ensure that once an individual has achieved a certain social status he or she can feel some security about it. However, EPL programmes impose inflexibility on the labor market as they put high risks on companies employing additional workers who cannot be released in the case of an economic downturn. Hence, EPL programmes increase the unemployment rate (Sapir 2005). For that reason it is not surprising that GIPS countries suffer from high unemployment rates as well as extremely high youth unemployment rates. One solution could be to implement structural reforms which are designed to liberalise the labor markets. This would put pressure on wages and would result in higher employment and strengthened competitiveness. Nevertheless, democracy and civil peace is a precondition for the successful functioning of an economic system especially in times of globalisation and the weakening of societal structures. Nations have to provide a well-developed welfare system to equip citizens with the necessary security to be able to take risks regarding flexibility and mobility. This is needed to ensure the long run competitiveness of a country. Further, extended education programmes would be a desired policy in GIPS countries as many people are in danger of becoming poor because they have less schooling. For example, the unemployed could be offered the option to join specific classes.

As elaborated in chapter 4 EZ members differ in the extent to which they experience a deviation from trend growth. One possible explanation for the challenge that the GIPS countries behave different is that their social welfare model is not able to create sufficient equity as social stratification is high. Thus, a second investigation on an individual level validated the previously found association in GIPS countries. However, it was not yet

possible to explain the effect in every detail as some insignificant results occurred in connection with GINI and poverty coefficients: Greece and Portugal show still some insignificant results on these issues. To address this, further control variables like individual socio-demographic characteristics could be included. For instance, the effect of age, sex, level of education, marital status, number of children in the same household, and the occupation of the respondent are important determinants of happiness and could improve the results. Furthermore, the analysis could be expanded by examining a longer period: the years 2012 and 2013 could be included as well as some years before 2001. The additional data would improve the analysis and the outcome. It would be also interesting to analyse other EZ member countries like Austria, Belgium, Ireland and Netherlands to make a better distinction between the two groups and maybe even find further groups. Also some more sophisticated econometric models could be applied.

Regardless of these shortcomings in the econometric analysis, further possible explanations are not yet ruled out: firstly, maybe just specific parts of the welfare system and not the whole is the crucial factor. Certain labor market institutions seem to be worth studying. Secondly, even though the association was just found in GIPS countries it does not imply that their welfare system is the explanation. For example, certain cultural factors could describe the effect. To control for this the regression should include certain cultural factors for example the Schwartz cultural orientation scores which are displayed in appendix G. Thirdly, the relatively low income of Greece, Portugal and Spain could be one explanation because, as discussed above, Layard (2005) claims that higher income can boost life satisfaction just until a threshold level. As long as a country is below that threshold, focusing on higher growth rates can raise overall well-being. It was already mentioned that higher income makes other countries independent from economic growth and hence they behave differently. However, even if a country is developed beyond the threshold where income seems to lose meaning, sections of the population can be still endangered by poverty as distribution effects have to be considered.

9 Answers to Research Questions and Main Results

The research motivation was that despite several decades with significant GDP growth life satisfaction levels have not increased, for example for Japan, the US and European countries like Belgium. Several scholars have debated this puzzle and no convincing line of thought has been able to dominate the field. For this reason, the initial idea of this thesis was to test whether citizens react strongly on a deviation from trend growth and this is one of the main drivers of the relationship between GDP and life satisfaction. Thus, the important controversy about the impact of GDP on happiness was aided by my research and I could supplement the existing literature with a novel approach. The results of this study were that two country groups emerged. GIPS countries differ from the rest of the EZ. In this context the theory of welfare models was reviewed. As possible explanations equity, culture, labor market institutions and the initial level of income were considered. This is reflected in the analysis of several econometric models and further discussions. The current sovereign debt crisis in Europe focuses on Mediterranean countries which lost competitiveness. This issue is discussed with special regard to my own findings.
In the following the initial hypotheses are revisited and I elaborate whether the results can confirm them. Additionally, other findings on related problems are concluded in the end.

Impact of the Cyclical Component of GDP

> An association between Eurozone member countries citizens' life satisfaction and the cyclical component of GDP exists for Spain, Portugal, Italy and Greece but not for others EZ countries. Hence, we can see two country groups in the Eurozone of which one reacts to a deviation of trend growth and another one which does not.

My econometric results (see Wiese 2014a) indicate that EZ members differ in the extent to which they experience a deviation from trend growth: Spain, Italy, Portugal, and Greece are significantly impacted, but other countries, such as Ireland, the Netherlands, France,

Austria, Luxembourg, Belgium and Finland are not. Consequently, in GIPS countries a positive stimulus for national satisfaction will manifest itself if growth rates over-achieve the expected trend. On average 40% of the variance in life satisfaction can be explained by the cyclical component of GDP. Higher GDP levels, more equal distribution of wealth and different social norms might make citizens of other EZ countries more independent from volatility in growth rates. Furthermore, the trend component seems not to play an important role in GIPS countries

I can add to the existing literature that GIPS countries, ceteris paribus, are expected to profit from increasing returns instead of rapid growth in terms of life satisfaction scores. Thus, progressive instead of proportional or regressive GDP growth is advisable: increasing rates of growth surprises the population and constantly lifts their level of well-being during the process. However, the regressive approach would lead to a reduction in life satisfaction levels as growth rates always dissatisfy expectations. My analysis is also able to show that other EZ member countries are independent from this effect and the cyclical component of GDP has no significant effect on their citizen's life satisfaction.

Inequality in the Mediterranean Welfare Model and Life Satisfaction

> The causes of the different associations in the Eurozone can be partly explained by social welfare models and the resulting variations in inequality levels in the systems. Further econometric analyses showed that youth unemployment is an important factor for life satisfaction in Southern European countries. Moreover, a study on an individual level provided evidence that poverty and inequality correlate negatively with life satisfaction.

We have seen that the citizens of Spain, Portugal, Italy and Greece react on the cyclical component of GDP. Due to a high level of social stratification in the welfare model of the Mediterranean countries it is rather difficult for the young, old and uneducated to find employment when the economy is declining. Consequently, these segments of society face

higher risks of falling into poverty. They are lifted out of the poverty trap mainly during economic boom times as, for instance, the need for additional employment intensifies and so satisfaction scores are lifted. It seems that in other EZ countries social welfare models are able to create equity and consequently their citizens are more resilient to fluctuations in growth as they are better protected against poverty. Based on my results I can add further evidence to the concept of a "Mediterranean" or "Latin Rim" welfare model as a fourth type of social welfare models.

From my regression results in connection with aggregated life satisfaction and youth unemployment (see in Wiese 2014c) I can see the importance for high employment rates for the GIPS countries. Additionally, with reported satisfaction with life data from repeated cross-sectional surveys of the European Commission as the dependent variable, I have directly assessed the consequences of the cyclical component of GDP on individual data. While controlling for other aggregated economic variables I estimated for the GIPS countries as well as for France and Finland whether individual life satisfaction reacts to a deviation of the trend growth of GDP as well as the effect of the GINI index and poverty rates. I could show that GIPS countries react to the cyclical component even on an individual level. Furthermore, I could proof that inequality and poverty can somewhat explain the variations in the association and hence, the role of welfare models is strengthened.

However, more specific characteristics of welfare models like special labor market institutions could also be causing the variations. Further, the lower initial level of income in GIPS countries especially in the 1980s and 1990s in comparison with other European countries has been considered as a possible explanation: they might not have reached the threshold where income becomes rather unimportant. Furthermore, cultural differences as the reason why adaptation behaviour differs have been analyzed. However, future research could focus on a deeper analysis of the GIPS countries in connection with their common culture and their similar labor market institutions. To test the effect of culture the use of Hofstede or the Schwartz-data is advisable and to test the impact of labor market institutions employment protection legislation should be considered.

Implications from my Results for the Current Crisis

> Implications from my results for the design and future of the Eurozone for some Mediterranean member countries are that if the road to regain competitiveness through internal devaluation is too long disintegration might be advisable. Ceteris paribus, high unemployment, depressed economic output and cuts in government spending as well as tax increases would keep life satisfaction levels down. However, leaving the Eurozone would lower GDP levels and life satisfaction in the short run but could enable positive and progressive growth opportunities thereafter. As a result continuous increases in life satisfaction levels would be expected in the medium run due to positive cyclical components.

The current economic crisis in the EZ is centred on the question of how certain Mediterranean countries like Greece can regain competitiveness: on the one hand, we see that internal devaluation would depress the country for a long period. Thus, the slow but accelerating economic downturn would reduce satisfaction levels for a long time, especially if false promises of growth and prosperity are communicated and consequently expected. On the other hand, a quick exit, the reintroduction of an own weak currency and possible defaults would devastate living standards and growth expectations immediately. This negative shock would have a huge impact on happiness levels in the short run, but adaptation and coping processes would stabilize the situation. Additionally, the countries would regain competitiveness and consequently recover and grow - slowly but with increasing rates in a positive upward spiral. Each year growth expectations would be over-satisfied and life satisfaction levels would be boosted. In a nutshell it seems that it would be better to make a painful break than draw out the agony.

However, these results have to be seen as a ceteris paribus analysis as certain political and socio-economic factors will be influenced by such a dramatic move as leaving the EZ. The difficulty in forecasting these is not within the scope of an economic PhD thesis. Further,

the recent analysis should only be seen as an input for the contemporary discussion – the GIPS countries and the GIPS citizens have to decide themselves what is best for them and have to balance the short term and the long term costs and benefits.

In a nutshell, first and foremost the valuable new insights of happiness and economics literature are varied and contradict to a great extent the classical models of economics. We have seen that happiness and economics can be a new way to tackle a question that the field of economics would otherwise not be able to answer. For example, standard views such as "homo oeconomicus" can be observed in a new light. By introducing a new measure of utility the field has changed the method of research and consequently, Bruno Frey (2008) titled one of his recent books "Happiness – A Revolution in Economics". The subjective nature of the widely used survey reports on life satisfaction is criticised by standard economic scholars and the debate about whether utility is cardinal or ordinal is back in the literature. The economic principle of "more is better" is extended by other lines of research like the view of psychologists which claim that individuals are bound to a certain set-point of well-being. The dissertation has reviewed recent writings and concludes that the use of life satisfaction measures based on a subjective evaluation of the respondents is not 'unscientific'. With this assumption I follow the main scholars of the field. One of the most persuasive arguments for working with life satisfaction data is that national accounts measures like GDP or HDI show severe limitations in the way they try to measure social welfare for example they do not give equal weight to all citizens. However, future research might be able to use more advanced technologies and may even observe brain functions during experiments. This would be positive for the objectivity of the research conduct.
Secondly, I have reviewed the literature on the most important findings. To cut a long story short, Blanchflower (2008:7) described the main findings of the happiness and economic literature in one sentence: "The main ceteris paribus findings from happiness and life satisfaction equations across countries and time [are that] well-being is higher among those who are women, married, highly educated, actively involved in religion, healthy, with a high income, young or old [and] self-employed (…)." Additionally, the literature has

supported the ongoing research on the best public policy. The evaluation of economic trade-offs between, for example, unemployment and inflation has been mentioned. Also, happiness research advocates certain institutional constructs such as political participation rights and federalism which seem to help citizens to better optimize their well-being (Frey – Stutzer 2002a).

Thirdly, general political and individual consequences have been elaborated. The common media gives several advices for individuals in connection with personal happiness. To be part in a stable community with friends, a spouse or others with the same religious background are very important factors to become happy. Happiness research is able to impact the welfare of society positively however, the direct and exclusive maximization of Gross National Happiness will not be aiding the interests of the general public. More useful is when the underlying social institutions work in such a way that the results of research can be used as an input into the political discussions. It is important to ensure the freedom of society and that the general public can decide on ways how they want to improve their lives.

As mentioned before Wiese (2014a) found evidence that the cyclical component of GDP correlates with life satisfaction in GIPS countries. Wiese (2014c) argued about the inclusion of a Mediterranean welfare type and important role of equity considerations. In this context the current political and socio-economic crisis in the EZ has been discussed. Ceteris paribus, my results point to the conclusion that internal wage adjustments can depress life satisfaction levels for a long time in comparison with the impact of an introduction of an own currency. In short, rather an end with terror than drawing out the agony is advised for some of the GIPS countries.

Appendix A

Table 10: Well-Being Questions from Different Data Sources

Source	Question
General Social Survey	*Taken all together, how would you say things are these days would you say that you are:* 1. Very Happy 2. Pretty Happy 3. Not too Happy
German Socio Economic Panel	*In conclusion, we would like to ask you about your satisfaction with your life in general.* 0. Completely dissatisfied (...) 10. Completely satisfied
Eurobarometer	*"Taking all things together, how would you say things are these days,would you say you're:"* 1. Very Happy 2. Pretty Happy 3. Not too Happy *"Please tell me whether you are ___ with your life in general?"* 1. Very satisfied 2. Fairly satisfied 3. Not very satisfied 4. Not at all satisfied

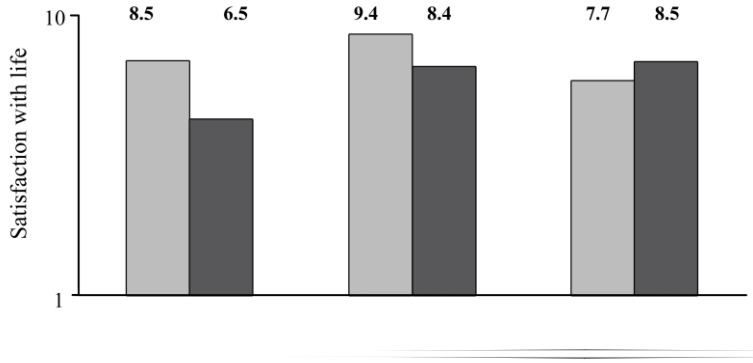
Appendix B

Happiness Psychogram

Three sample persons are presented to give a general overview how results of survey questions are to be read. The scale is from 1 to 10. 10 would be the highest satisfaction level. The data source is from Leu et al. (1997) and the happiness psychogram is simliar to Frey and Stutzer (2002a:7). Figure 17 illustrates the analysis.

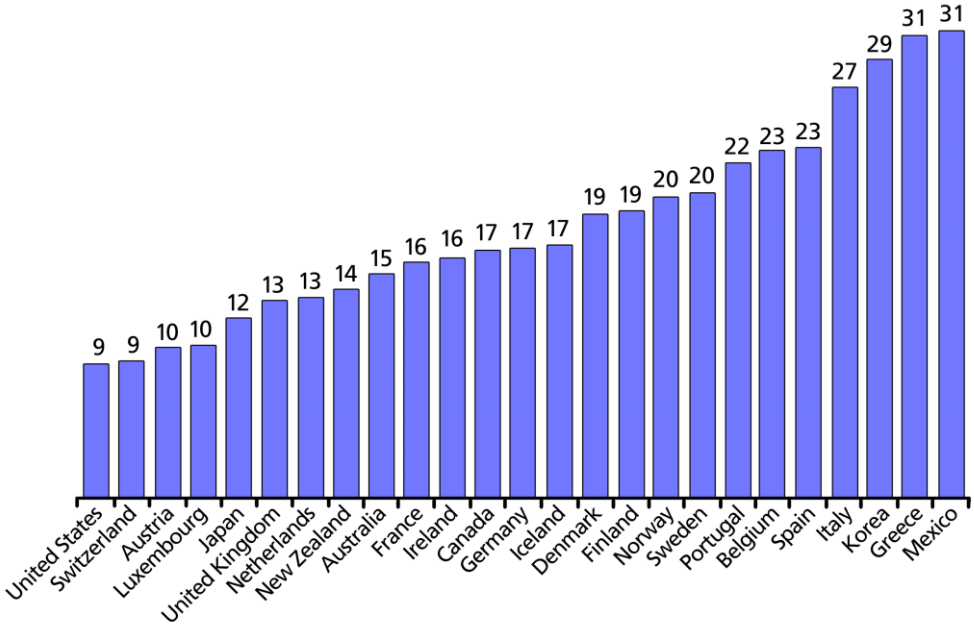
First of all, let me introduce the Swiss citizen Hans. He is 33 years old, is married and works as an electrician. His expected satisfaction score would be around 8.5. Since the company moved to China he lost his job. Further, his monthly income of 3000 CHF is reduced to 2600 CHF unemployment benefits. His new satisfaction score would be around 6.5. The loss of part of his income and his job depresses his mood by around 2 points. Secondly, Maria is 60 years old and a German citizen. She has an university degree and works as a public relations manager. Since the death of her husband she lives with a new partner. Her score would be expected to be around 9.4. After her retirement she is suffering from a serious illness. The degeneration of her health and the new situation as a retiree puts her happiness level at 8.4 – one point lower. Thirdly, we can observe Tony, a 42 years old blue-collar worker with a monthly income of 3600 CHF. He has not finished any degree and also he is divorced for already some time. His expected reported subjective well-being is 7.7. However, after he got remarried his score could be as high as 8.5.

Figure 17: Sample Persons



Appendix C

Figure 18: Shadow Economy as Share of GDP of OECD Countries



Source: Data taken from Schneider, Buehn and Montenegro – World Bank (2010).

Appendix D

Table 11: Human Development Index (HDI): Data for Selected Countries

2012 HDI rank	Name	2012 HDI Value	2012 Life Expectancy at Birth	2010 Mean Years of Schooling	2012 Gross National Income (GNI) per capita
	World	**0.694**	**70.1**	**7.5**	**10184**
4	Netherlands	0.921	80.8	11.6	37282
5	Germany	0.92	80.6	12.2	35431
7	Ireland	0.916	80.7	11.6	28671
7	Sweden	0.916	81.6	11.7	36143
13	Iceland	0.906	81.9	10.4	29176
15	Denmark	0.901	79	11.4	33518
17	Belgium	0.897	80	10.9	33429
18	Austria	0.895	81	10.8	36438
21	France	0.893	81.7	10.6	30277
21	Finland	0.892	80.1	10.3	32510
23	Slovenia	0.892	79.5	11.7	23999
24	Spain	0.885	81.6	10.4	25947
26	Italy	0.881	82	10.1	26158
26	Luxembourg	0.875	80.1	10.1	48285
28	United Kingdom	0.875	80.3	9.4	32538
29	Czech Republic	0.873	77.8	12.3	22067
30	Greece	0.86	80	10.1	20511
32	Cyprus	0.848	79.8	9.8	23825
	Malta	0.847	79.8	9.9	21184
35	Estonia	0.846	75	12	17402
36	Slovakia	0.84	75.6	11.6	19696
38	Hungary	0.831	74.6	11.7	16088
40	Poland	0.821	76.3	10	17776
41	Lithuania	0.818	72.5	10.9	16858
44	Portugal	0.816	79.7	7.7	19907
45	Latvia	0.814	73.6	11.5	14724
48	Croatia	0.805	76.8	9.8	15419
57	Romania	0.786	74.2	10.4	11011

Source: United Nations (2012).

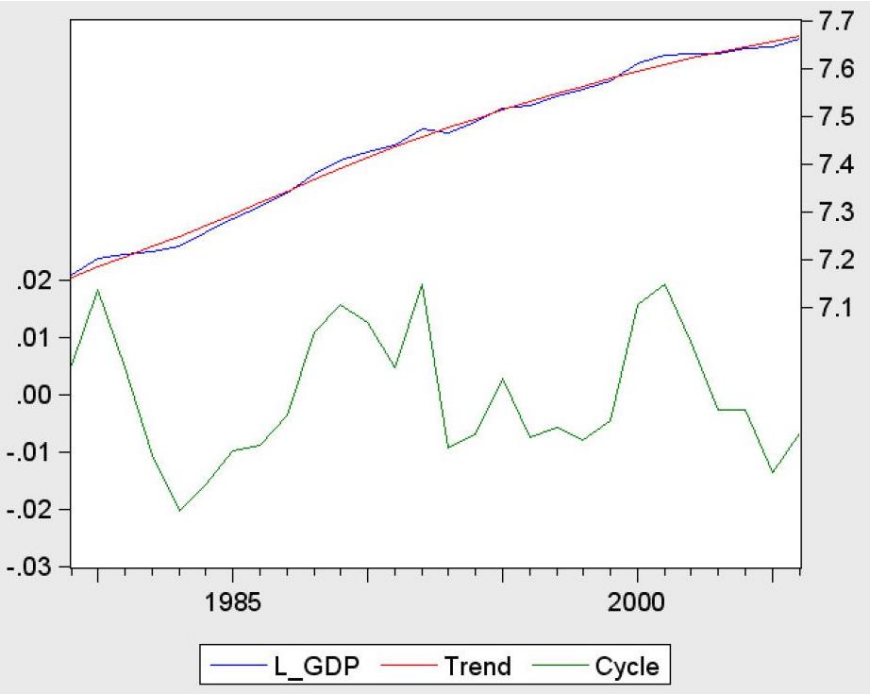
Appendix E

Regression Results for Spain

Regression results for Spain are presented which were calculated with EViews. I used the least squares method. The aim was to analyze the relationship between life satisfaction (HAPP) and the cyclical component of GDP (L_GDP_CYCLE). A constant factor and the error term μ were included. In figure 19 you can see the Hodrick-Prescott filtering process and in figure 20 the econometrical output. Seasonally adjusted GDP data was taken from the OECD datasets and the logarithmic form was used (L_GDP). The Hodrick- Prescott filtering created a trend component (Trend) and a cycle series (Cycle) which was later used for the regression.

$$HAPP_t = c_1 + c_2 * L\_GDP\_CYCLE_t + \mu \quad (7)$$

Figure 19: Hodrick-Prescott Filtering Results for Spain



Notes: Gross Domestic Product data from the OECD, seasonally adjusted to current prices of the national currencies. Lambda = 100.

Figure 20: Regression Results for Spain

Dependent Variable: HAPP
Method: Least Squares
HAPP = C(1) + C(2)*L_GDP_CYCLE

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	6.379091	0.046728	136.5166	0.0000
C(2)	8.462481	2.345973	3.607236	0.0018

R-squared	0.394163	Mean dependent var	6.379091
Adjusted R-squared	0.363871	S.D. dependent var	0.274797
S.E. of regression	0.219172	Akaike info criterion	-0.111413
Sum squared resid	0.960726	Schwarz criterion	-0.012227
Log likelihood	3.225545	Hannan-Quinn criter.	-0.088048
F-statistic	13.01215	Durbin-Watson stat	0.640896
Prob(F-statistic)	0.001759		

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	0.254	0.254	1.6249	0.202
		2	0.325	0.278	4.4066	0.110
		3	-0.107	-0.275	4.7268	0.193
		4	-0.161	-0.213	5.4895	0.241
		5	-0.106	0.125	5.8369	0.322
		6	-0.167	-0.077	6.7596	0.344
		7	-0.172	-0.248	7.8015	0.350
		8	-0.186	-0.086	9.1056	0.333
		9	-0.078	0.118	9.3547	0.405
		10	0.046	0.074	9.4486	0.490
		11	0.071	-0.110	9.6931	0.558
		12	0.286	0.253	14.016	0.300

Notes: Gross Domestic Product data from the OECD, seasonally adjusted to current prices of the national currencies. Aggregated life satisfaction data from the Eurobarometer Report of the European Commission dating back to 1975.

As we can see in figure 20, Spain shows significant and meaningful results: overall, 40% of the variance can be explained by the equation. Further, the cyclical component of GDP correlates with life satisfaction positively and with a very high significance as the p-values are small. Further, we can see that autocorrelation seems not to be problematic as the confidence intervals are not broken. Therefore, I suppose that the cyclical component of trend GDP growth has an effect on life satisfaction for Spain: citizens will react positively to GDP growth if it is higher than the trend.

Appendix F

Table 12: Descriptive Statistics

	Mean	Std. dev.	Min.	Max.
Life satisfaction	3.048	0.742	1.000	4.000
Age	45.892	18.218	15.000	99.000
Female	0.535	0.499	0.000	1.000
Education up to age 17	0.252	0.434	0.000	1.000
Education up to age 18-21	0.394	0.489	0.000	1.000
Education up to age 22+	0.262	0.440	0.000	1.000
Student	0.092	0.289	0.000	1.000
No fulltime education	0.003	0.055	0.000	1.000
Married	0.529	0.499	0.000	1.000
Single with partner	0.081	0.272	0.000	1.000
Single	0.218	0.413	0.000	1.000
Divorced	0.072	0.259	0.000	1.000
Widowed	0.090	0.287	0.000	1.000
Other	0.009	0.095	0.000	1.000
No child in HH under age 15	0.605	0.489	0.000	1.000
One child in HH	0.131	0.337	0.000	1.000
2 children in HH	0.093	0.290	0.000	1.000
3 children in HH	0.026	0.159	0.000	1.000
4 children in HH	0.009	0.094	0.000	1.000
No info about children	0.137	0.344	0.000	1.000
Working	0.497	0.500	0.000	1.000
Unemployed	0.064	0.244	0.000	1.000
Out of labor force	0.439	0.496	0.000	1.000
No. of observations	629,930			

Source: Stutzer (2012:39). Individual-level data is from Eurobarometer Survey Series.

Appendix G

Table 13: Schwartz Cultural Orientation Scores for GIPS

Country	Embed-dedness	Hierarchy	Mastery	Affective autonomy	Intellectual autonomy	Egalitar-ianism	Harmony
Greece	3.469	1.775	4.126	3.828	4.427	4.979	4.683
Italy	3.611	1.467	3.6	2.842	4.863	5.376	4.905
Portugal	3.513	1.845	3.901	3.407	4.514	5.388	4.570
Spain	3.363	1.840	3.681	3.587	4.984	5.203	4.636

Source: Kashima and Kashima (1998).

Appendix H

Table 14: Ten Most Important Factors Determining Personal Happiness

1) "Don't worry if you aren't a genius." (weight 0)	6. "Provide help to others." (weight 1.5)
2. "Earn more money (up to a point)." (weight 0.5)	7. "Desire less." (weight 2)
3. "Grow old gracefully." (weight 0.5)	8. "Make friends and value them." (weight 2.5)
4. "Stop comparing your looks with others." (weight 1)	9. "Get married." (weight 3)
5. "Be religious, or believe in some other system." (weight 1.5)	10. "Make the most of your genes." (weight 5)

Source: Results taken from New Scientist (2003)

References

Ahuvia, A. – D. Friedman (1998): Income, Consumption, and Subjective Well-Being: Towards a Composite Macromarketing Model. Journal of Macromarketing 18(2): 153–68.

Alesina, A. – E. La Ferrara (2005): Preferences for Redistribution in the Land of Opportunities. Journal of Public Economics 89(5–6): 897–931.

Allais, M. (1953): Le comportement de l'homme rationnel devant le risqué, critique des postulats et axioms de l'école Americaine. Econometrica 21: 503–546.

Allen, R. (1934): A Reconsideration of the Theory of Value, II. Economica 1: 196–219.

Anderson, Williams, Sweeney, Freeman, Shoesmith (2011): Statistics for Business and Economics. SouthWestern, Cengage.

Argyle, M. (1999): Causes and Correlates of Happiness. In Well-Being: The Foundations of Hedonic Psychology, (ed) D. Kahneman, E. Diener, and N. Schwarz. Russell Sage Foundation.

Arrow, K. (1951): Social Choice and Individual Values. New York: John Wiley & Sons.

Arts, W. – J. Gelissen (2002): Three worlds of welfare capitalism or more? A state-of-the-art report. Journal of European social policy, 12(2): 137-158.

Aspromourgos, T. (1986): On the origins of the term 'neoclassical'. Cambridge Journal of Economics, 10(3), 265–270.

Arvay J. (1994): "The Material Product System (MPS): A Retrospective," The Accounts of Nations, edited by Zoltan Kenessey, IOS Press.

Augustine Saint (Bishop of Hippo) (2006): Confessions. Hackett Publishing.

Bakshi, R. (2004): Gross National Happiness. Post-Autistic Economics Review 26: article 6.

BBC (2010): Plan to measure happiness 'not woolly' – Cameron, http://www.bbc.co.uk/news/uk-11833241, 30.09.2013.

BBC (2011): Japan's cat's ear headset that matches your mood, http://www.bbc.co.uk/news/world-asia-pacific-13694911, 01.02.2014.

Baumgärtner S. – C. Becker (2008): Ökonomische Aspekte der Biodiversität, D. Lanzerath, J. Muthke, W. Barthlott, S. Baumgärtner, C. Becker und T.M. Spranger (2008), Biodiversität (Reihe: Ethik in den Biowissenschaften – Sachstandsbe-richte des DRZE, Band 5), Verlag Karl Alber, Freiburg und München: 75–115.

Becker, G. (1962): Irrational Behavior and Economic Theory. Journal of Political Economy 70(1): 1–13.

Bentham, J. (1789): An Introduction to the Principles of Morals and Legislation. Reprinted 1948. Oxford: Blackwell.

Benz, M. – F. Bruno (2008): The Value of Doing What You Like: Evidence from the Self-Employed in 23 Countries. Journal of Economic Behavior & Organization, 68(3), 445-455.

Bertola, G. - B. Tito – N. Giuseppe (2001): Welfare and Employment in a United Europe: A Study for the Fondazione Rodolfo Debenedetti. Mit Press.

Beveridge W. (1942): Der Beveridge-Plan. Sozialversicherung und verwandte Leistungen. Bericht von Sir William Beveridge, dem britischen Parlament überreicht im November 1942, Zürich/New York 1943

Björklund, A. – E. Tor (1998): Unemployment and Mental Health: A Survey of Nordic Research. Scandinavian Journal of Social Welfare 7: 219–235.

Bjørnskov, C. – A. Dreher – J. Fischer (2008): Cross-country determinants of life satisfaction: Exploring different determinants across groups in society. Social Choice and Welfare 30(1): 119-173.

Blanchflower, D. – A. Oswald (2000): Well-Being over Time in Britain and the USA. NBER Working Papers 7487, National Bureau of Economic Research, Inc.

Blankart, C. (1992): Bewirken Referenden und Volksinitiativen einen Unterschied in der Politik? Staatswissenschaften und Staatspraxis 3(4): 509–24.

Boeri, T. – G. Hanson – B. McCormick (2002): Immigration policy and the welfare system: a report for the Fondazione Rodolfo Debenedetti. Oxford University Press on Demand.

Boje, T. (1996): Welfare State Models in Comparative Research: Do the Models Describe the Reality?, in B. Greve (ed) Comparative Welfare Systems: the Scandinavian Model in a Period of Change, 13–27. London: Macmillan Press.

Bonoli, G. (1997): Classifying Welfare States: a Two-dimension Approach, Journal of Social Policy 26 (3: 351–72).

Brennan, G. – P. Pettit. (2004): The Economy of Esteem: An Essay on Civil and Political Science. Oxford University Press.

Brickman, P. - D. Campbell (1971): Hedonic Relativism and Planning the Good Society. In Mortimer H. Appley (ed), Adaptation Level Theory: A Symposium. New York: Academic Press.

Brickman, P. – D. Coates - R. Janoff-Bulman (1978): Lottery Winners and Accident Victims: Is Happiness Relative? Journal of Personality and Social Psychology 36(8): 917–27.

Brück, T. – A. Stephan (2006): Do Eurozone Countries Cheat with Their Budget Deficit Forecasts? Kyklos 59: 3–16.

Businessinsider (2012): This Is How Bad A Grexit Will Be For The Greek Economy, http://www.businessinsider.com/scenario-analysis-the-charts-from-buiters-latest-greek-exit-forecast-2012-5, 30.01.2014.

Butler, D. – A. Ranney (1994): Referendums around the World: The Growing Use of Direct Democracy. Washington, D.C.: AEI Press.

Butterwegge C. – M. Klundt (2000): Die Demografie als Ideologie und Mittel sozialpolitischer Demagogie? – Bevölkerungsrückgang, „Vergreisung und Generationengerechtigkeit, in: dies. (ed), Kinderarmut und Generationengerechtigkeit, a.a.O.

Campbell, A. – P. Converse - W. Rodgers (1976): The Quality of American Life: Perceptions, Evaluations, and Satisfactions. Russell Sage Foundation.

Campus A. (1987): "Marginal economics", The New Palgrave: A Dictionary of Economics, v. 3, p. 323.

Chapple, S. (2009): What can subjective well-being research tell us about social policy? Presentation for the Measuring subjective well-being conference, Firenze.

Chapais, B. (1991): Primates and the Origins of Aggression, Power and Politics among Humans. In Understanding Behavior, (ed) J. Loy and C. Peters. Oxford University Press.

Carr, A. (2003): Positive Psychology: The Science of Happiness and Human Strength. Ney York: Routledge.

Carstensen, L. (1995): Evidence for a Life-Span Theory of Socioemotional Selectivity. Current Directions in Psychological Science 4(5): 151–55.

Clark, A. (2003): Unemployment as a social norm: Psychological evidence from panel data. Journal of Labor Economics 21(2): 323-351.

Clark, A. - A. Oswald (1994): Unhappiness and Unemployment. Economic Journal 104(424): 648–59.

Clark, A. - A. Oswald (1996): Satisfaction and Comparison Income. Journal of Public Economics 61(3): 359–81.

Clark, A – E. Diener – Y. Georgellis – R. Lucas (2006): Lags and Leads in Life Satisfaction: A Test of the Baseline Hypothesis. Working paper, CNRS and DELTA Fédération Jourdan.

Clark, A. – P. Frijters – M. Shields (2008): Relative income, happiness, and utility: An explanation for the Easterlin paradox and other puzzles. Journal of Economic Literature: 95-144.

Crowne, D. - D. Marlowe (1964): The Approval Motive: Studies in Evaluative Dependence. New York: Wiley.

Csikszentmihalyi, M. – J. Hunter (2003): Happiness in Everyday Life: The Uses of Experience Sampling. Journal of Happiness Studies 4: 185–199.

Csikszentmihalyi, M. (1990): Flow: The Psychology of Optimal Experience. New York: Harper Perennial.

Dabrowski, M. (2012): The Need for Contingency Planning: Potential Scenarios of Eurozone Disintegration (11). CASE-Center for Social and Economic Research: 1-4

Dafflon, B. – S. Rossi (1999): Public Accounting Fudges towards EMU: A First Empirical Survey and Some Public Choice Considerations. Public Choice 101: 59–84.

Daily, G. - K. Ellison (2001): The New Economy of Nature, Washington: Islands Press.

Daily, G. (1997): Nature's Services: Societal Dependence on Natural Ecosystems. Washington: Islands Press.
Daly, H. – J. Cobb (1989): For the Common Good: Redirecting the Economv Toward Community, the Environment, and a Sustainable Future. Boston: Beacon Press.
Darity, W. - A. Goldsmith (1996): Social Psychology, Unemployment and Macroeconomics. Journal of Economic Perspectives 10(1): 121–40.
Deaton, A. (2008): Income, Health, and Well-Being around the World: Evidence from the Gallup World Poll. Journal of Economic Perspectives, 22(2): 53-72.
De Botton, A. (2004): Status Anxiety. Hamish, Hamilton.
De Haan, J. - J. Sturm. (2000): On the relationship between economic freedom and economic growth. European Journal of Political Economy 16(2): 215-241.
De Neve, K. – H. Cooper (1998): The Happy Personality: A Meta-Analysis of 137 Personality Traits and Subjective Well-Being. Psychological Bulletin 124(2): 197–229.
Di Tella, R. - R. MacCulloch - A. Oswald (2001): Preferences over Inflation and Unemployment: Evidence from Surveys of Happiness. American Economic Review 91(1): 335–41.
Di Tella, R. - R. MacCulloch - A. Oswald (2003): The Macroeconomics of Happiness. Review of Economics and Statistics 85(4): 809–827.
Di Tella, R. - R. MacCulloch (2005): Gross National Happiness as an Answer to the Easterlin Paradox? Working Paper, Harvard Business School.
Dielman, T. (2001): Applied regression analysis for business and economics. Duxbury/Thomson Learning.
Diener, E. – M. Seligman (2004): Beyond Money: Toward an Economy of Well- Being. Psychological Science in the Public Interest 5: 1–31.
Diener, E. – E. Suh - R. Lucas – H. Smith (1999): Subjective Well-Being: Three Decades of Progress. Psychological Bulletin 125(2): 276–303.
Diener, E. – M. Diener – C. Diener (1995): Factors predicting the subjective well-being of nations. Journal of personality and social psychology, 69(5): 851.
Diener, E. – R. Biswas – R. Diener (2002): Will money increase subjective well-being? A literature review and guide to needed research. Social Indicators Research, 57: 119-169.
Diener, E. – H. Scollon – R. Lucas. (2006): Beyond the Hedonic Treadmill: Revising the Adaptation Theory of Well-Being. American Psychologist 6 (4): 305–314.
Diener, E. – W. Sandvik – F. Fujita (1992): Extraversion and Subjective Well-Being in a U.S. National Probability Sample. Journal of Research in Personality 26(3): 205–15.
Diener, E. – R. Biswas-Diener (2000): Will Money Increase Subjective Well-Being? A Literature Review and Guide to Needed Research. Mimeo: University of Illinois Urbana-Champaign.
Easterlin, R. (1974): Does Economic Growth Improve the Human Lot? Some Empirical Evidence. In Paul A. David and Melvin W. Reder (eds), Nations and Households in Economic Growth: Essays in Honor of Moses Abramowitz. New York: Academic Press, 89–125.
Easterlin, R. (2000): Income and Happiness: Towards a Unified Theory. Mimeo. Los Angeles: University of Southern California.
Easterlin, R. (2003): Building a Better Theory of Well-Being. Presented at conference on Paradoxes of Happiness in Economics, University of Milano-Bicocca.
Easterlin, R. (2013): Happiness, Growth, and Public Policy. Economic Inquiry 51(1): 1-15.
Easterlin, R. – L. McVey – M. Switek – O. Sawangfa – J. Zweig (2010): The happiness–income paradox revisited. Proceedings of the National Academy of Sciences 107(52): 22463-22468.
Edgeworth, F. (1881): Mathematical Psychics: An Essay on the Application of Mathematics to the Moral Sciences. London: Kegan Paul.
Einstein, A. (2002) [1949]: Why Socialism? Monthly Review 52(1): 36–44.
Ellsberg, D. (1961): Risk, Ambiguity and the Savage Axiom. Quarterly Journal of Economics 75: 643–669.
Ellison, C. (1991): Religious Involvement and Subjective Well-Being. Journal of Health and Social Behavior 32(1): 80–99.
Elster, J. (1998): Emotions and Economic Theory. Journal of Economic Literature 36(1): 47–74.
Erasmus University Rotterdam (2013): World Database of Happiness, http://www1.eur.nl/fsw/happiness/index.html, 03.01.2013

Esping-Andersen, G. (1990): The Three Worlds of Welfare Capitalism. Oxford: Polity Press.
Esping-Andersen, G. (1993): The Comparative Macro-sociology of Welfare States, in L. Moreno (ed) Social Exchange and Welfare Development, 123–36. Madrid: Consejo Superior de Investigaciones Científicas.
Esping-Andersen, G. (1994): Welfare States and the Economy, in N. J. Smelser and R. Swedberg (eds) The Handbook of Economic Sociology, 711–32. Princeton/New York: Princeton University Press/Russel Sage Foundation.
Esping-Andersen, G. (1996): Welfare States without Work: the Impasse of Labor Shedding and Familialism in Continental European Social Policy, in G. Esping-Andersen (ed) Welfare States in Transition, 66–87. London: Sage.
Esping-Andersen, G. (1997): Hybrid or Unique? The Japanese Welfare State between Europe and America, Journal of European Social Policy 7(3): 179–89.
Esping-Andersen, G. (1999): Social Foundations of Post-industrial Economies. Oxford: Oxford University Press.
Esping-Andersen, G. – W. Korpi (1984): Social Policy as Class Politics in Post-war Capitalism, in J. Goldthorpe (ed) Order and Conflict in Contemporary Capitalism. Oxford: Oxford University Press.
Estes, R. (1988): Toward a 'quality-of-life'index: Empirical approaches to assessing human welfare internationally. The Third World: States of Mind and Being, Boston: Unwin Hyman, 23-36.
Eurostat (2014): Your key to European statistics, http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home, 04.02.2014.
Eysenck, M. (1990): Happiness: Facts and myths, Berlin: L. Erlbaum.
Fehr, E. – S. Gächter (1998): Reciprocity and Economics. The Economic Implications of Homo Reciprocans. European Economic Review 42: 845–859.
Fehr, E. – S. Gächter. (2000): Fairness and Retaliation: The Economics of Reciprocity. Journal of Economic Perspectives 14: 159–181.
Fehr, E. – K. Schmidt. (1999): A Theory of Fairness, Competition, and Cooperation. Quarterly Journal of Economics 114(3): 817–868.
Ferrera, M. (1996): The Southern Model of Welfare in Social Europe, Journal of European Social Policy 6(1): 17–37.
Finanzen (2014): Dollarkurs (Euro - Dollar), http://www.finanzen.net/devisen/dollarkurs, 06.01.2014.
Fischer, S. (1981): Towards an Understanding of the Costs of Inflation: II. Carnegie–Rochester Conference Series on Public Policy 15: 5–41.
Flavin, P. - A. Pacek – B. Radcliff (2011): State Intervention and Subjective Well-Being in Advanced Industrial Democracies. Politics & Policy 39(2): 251-269.
Flora, P. – A. Heidenheimer (1981): The Development of Welfare States in Europe and America. New Brunswick, NJ: Transaction Books.
Flora, P. (1983): The Growth of Mass Democracies and Welfare States, Vol. 1. Frankfurt am Main: Campus Verlag.
Flora, P. (1986): Growth to Limits: the Western European Welfare States since World War II, 5 vols. Berlin: de Gruyter.
Focus (2012): Das sind die 50 mächtigsten Herrscher über die Finanzmärkte, http://www.focus.de/finanzen/boerse/top-50-ranking-das-sind-die-50-maechtigsten-herrscher-ueber-die-finanzmaerkte_aid_814213.html, 10.02.2014.
Forte, F. (2001): The Maastricht Excessive Deficit Rules and Creative Accounting. In Rules and Reason, (ed) R Mudambi, P. Navarra, and G. Sobbrio. Cambridge University Press.
Frank, R. (1985): Choosing the Right Pond. New York: Oxford University Press.
Frank, R. (1999): Luxury Fever: Why Money Fails to Satisfy in an Era of Excess. New York: Free Press.
Frederick, S. - G. Loewenstein (1999): Hedonic Adaptation. In Daniel Kahneman, Ed Diener, and Norbert Schwarz (eds), Well-Being: The Foundations of Hedonic Psychology. New York: Russell Sage Foundation, 302–29.
Freeman, A. (2003): The Measurement of Environmental and Resource Values: Theory and Methods. Resources for the Future.

Free Republic (2006): Study: US mothers deserve $134,121 in salary, http://www.freerepublic.com/focus/news/1626069/posts, 02.02.2014.
Frey, B. (2010): Happiness and Public Finance. Public choice e political economy. I fondamenti positivi della teoria di finanza pubblica 63.
Frey, B. – S. Luechinger - A. Stutzer (2004): Valuing public goods: the life satisfaction approach. Institute for Empirical Research in Economics, University of Zurich.
Frey, B. (1997): A Constitution for Knaves Crowds Out Civic Virtues. Economic Journal 107(443): 1043–53.
Frey, B. – A. Stutzer (2002a): Happiness and Economics: How the Economy and Institutions Affect Well-Being. Princeton University Press.
Frey, B. – A. Stutzer (2002b): What Can Economists Learn from Happiness Research? Journal of Economic Literature 40(2): 402–435.
Frey, B. (2008): Happiness - A revolution in Economics. The MIT Press, Cambridge.
Frey, B. – R. Eichenberger (2001): Marriage Paradoxes. In Bruno S. Frey, Inspiring Economics: Human Motivation in Political Economy. Cheltenham, U.K., and Brookfield: Edward Elgar, 37–51.
Frey, B. – F. Schneider (1978a): A politico-economic model of the United Kingdom. The Economic Journal 88(350): 243-253.
Frey, B. – F. Schneider. (1978b): Recent research on empirical politico-economic models. Institute for Emirical Research in Economics Universität Zürich.
Fromm, E. (1976): Haben oder Sein. Die seelischen Grundlagen einer neuen Gesellschaft. München: dtv.
Friedman, M. (1976): Price Theory, Aldine Publishing Company, Chicago (1st edition 1962).
Friedman, M. (1957): A Theory of the Consumption. Princeton: Princeton university press.
Furnham, A. – M. Argyle (1998): The Psychology of Money. London and New York: Routledge.
Gächter, S. (2007): Conditional Cooperation: Behavioral Regularities from the Lab and the Field and Their Policy Implications. In Economics and Psychology: A Promising New Cross-Disciplinary Field, (ed) B. Frey and A. Stutzer. MIT Press.
Godelier M. (1999): The Enigma of the Gift. University Of Chicago Press.
Galetovic, A. – R. Sanhueza (2000): Citizens, Autocrats, and Plotters: A Model and New Evidence on Coups D'Etat. Economics & Politics 12(2): 183–204.
Ganßmann H. (2000): Politische Ökonomie des Sozialstaates, Münster: Westfälisches Dampfboot.
Goldman Sachs Economics Research (2013): European Economics Analyst, 17 January, No. 03.
Goodin, R. (1999): The real worlds of welfare capitalism. Cambridge University Press.
Gough, I. (2000): Welfare Regimes: on Adapting the Framework to Developing Countries. University of Bath: Institute for International Policy Analysis.
Greekreporter (2013): OECD Predicts Greece's Debt Will be 157 Percent of GDP by 2020 http://greece.greekreporter.com/2013/11/27/oecd-predicts-greeces-debt-will-be-157-percent-of-gdp-by-2020/, 06.01.2014.
Hagerty, M. - R. Veenhoven (2003): Wealth and Happiness Revisited - Growing National Income Does Go with Greater Happiness. Social Indicators Research, 64(1): 1-27.
Hamilton, B. (2000): Does Entrepreneurship Pay? An Empirical Analysis of Returns to Self-Employment. Journal of Political Economy 108(3): 604–632.
Hammond, P. (1991): Interpersonal Comparisons of Utility: Why and How They Are and Should Be Made. In Jon Elster and John E. Roemer (eds), Interpersonal Comparisons of Well-Being. Cambridge, U.K.: Cambridge University Press, 200–54.
Hardin, R. (1982): Collective Action. Baltimore: Johns Hopkins University Press.
Hooper, D. - F. Chapin - J. Ewel (2005): Effects of biodiversity on ecosystem functioning: A consensus of current knowledge. Ecol. Monogr. 75: 3-35.
Houthakker, H. (1950): Revealed Preference and the Utility Function. Economica 17: 159–74.
Headey, B. – A. Wearing (1989). Personality, Life Events, and Subjective Well-Being: Toward a Dynamic Equilibrium Model. Journal of Personality and Social Psychology 57(4): 731–39.
Heise A. (2003): Dreiste Elite. Hamburg: Zur Politischen Ökonomie der Modernisierung.
Helliwell, J. (2003): How's Life? Combining Individual and National Variables toExplain Subjective Well-Being. Economic Modelling 20(2): 331–360.

Henry, J. (2012): The Price of Offshore Revisited: New Estimates for Missing Global Private Wealth, Income, Inequality, and Lost Taxes. Tax Justice Network.
Hibbs, D. (1981): Economics and Politics in France: Economic Performance and Mass Political Support for President Pompidou and Giscard D'Estaing. European Journal of Political Research 9: 133–45.
Hicks, R. (1939): Value and Capital. London: Oxford University Press.
Hicks, J. (1934): A Reconsideration of the Theory of Value, I. Economica 1: 52–75.
Hicks, J. (1939): The Foundations of Welfare Economics. The Economic Journal, Vol. 49(196): 696–712.
Hodrick, R. – E. Prescott (1997): Postwar US business cycles: an empirical investigation. Journal of Money, Credit, and Banking, 1-16.
Ifo Institute (2014): The Exposure Level, http://www.cesifo-group.de/ifoHome/policy/Haftungspegel.html, 06.01.2014
Haidt, J. (2006): The happiness hypothesis: Finding modern truth in ancient wisdom. New York: Basic Books.
Inglehart, R. (1990): Culture Shift in Advanced Industrial Society. Princeton, N.J.: Princeton University Press.
Inglehart, R. – C. Welzel (2005): Modernization, cultural change, and democracy: The human development sequence. Cambridge University Press.
Inglehart, R. - R. Foa - C. Peterson - C. Welzel. (2008): Development, Freedom, and Rising Happiness a Global Perspective (1981-2007). Perspectives on Psychological Science, 3(4): 264-85.
Irwin, F. (1944): The Realism of Expectations. Psychological Review 51: 120–26.
Jameson, M. (1988): Practical Guide to Creative Accounting. London: Kogan Page.
Jarvis, G. - H. Northcott (1987): Religion and Differences in Morbidity and Mortality. Social Science and Medicine 25(7): 813–24
Kahneman, D. (1999): Objective Happiness. In Daniel Kahneman, Ed Diener, and Norbert Schwarz (eds.), Well-Being: The Foundations of Hedonic Psychology. New York: Russell Sage Foundation, 3–25.
Kahneman, D. – E. Diener – N. Schwarz (2003): Well-Being: The Foundations of Hedonic Psychology. New York: Russell Sage Foundation, 392–412.
Kahneman, D. – A. Krueger - D. Schkade – N. Schwarz – A. Stone (2004): Toward National Well-Being Accounts. American Economic Review 94(2): 429–434.
Kahneman, D. – A. Tversky (1979): Prospect Theory: An Analysis of Decision under Risk. Econometrica 47(2): 263–91.
Kahneman, D. – A. Krueger. (2006): Developments in the measurement of subjective well-being. The journal of economic perspectives 20(1): 3-24.
Kahneman, D. – C. Varey (1991): Notes on the Psychology of Utility. In Jon Elster and John E. Roemer (eds), Interpersonal Comparisons of Well-Being: Studies in Rationality and Social Change. Cambridge, U.K.: Cambridge University Press, 127–63.
Kahneman, D. – A. Krueger, - D. Schkade - N. Schwarz – A. Stone (2004): A survey method for characterizing daily life experience: The day reconstruction method. Science, 306(5702), 1776-1780.
Kaldor, N. (1939): Welfare Propositions in Economics and Interpersonal Comparisons of Utility. Economic Journal (The Economic Journal 49(195): 549–552.
Kämpfer, S. – M. Mutz (2013): On the Sunny Side of Life: Sunshine Effects on Life Satisfaction. Social Indicators Research, 110(2): 579-595.
Katrougalos, G. (1996): The South European Welfare Model: the Greek Welfare State in Search of an Identity, Journal of European Social Policy 6(1): 39–60.
Kaufmann, D. – A. Kraay – M. Mastruzzi (2009): Governance matters VIII: aggregate and individual governance indicators, 1996-2008. World bank policy research working paper 4978.
Kersting, W. (2000): Politische Solidarität statt Verteilungsgerechtigkeit. Eine Kritik egalitaristischer Sozialstaatsbegründung, in: ders. (Hrsg.), Politische Philosophie des Sozialstaats, Weilerwist.
Kessler, R. – K. McGonagle - C. Nelson – M. Hughes (1994): Sex and Depression in the National Comorbidity Survey: II. Cohort Effects. Journal of Affective Disorders 30(1): 15–26.
Keynes, J. (1938): Letter to Roy F. Harrod, published in Keynes, vol. XIV, 299 – 301. In: Economia (2011): Keynes to Harrod http://economia.unipv.it/harrod/edition/editionstuff/rfh.346.htm, 16.12.2012.

Keynes, J. (1960): The General Theory of Employment, Interest and Money, Macmillan and Company Limited, London.

Kirchgässner, G. (1985): Rationality, Causality, and the Relation between Economic Conditions and the Popularity of Parties: An Empirical Investigation for the Federal Republic of Germany, 1971–1982. European Economic Review 28(1–2): 243–68.

Fujita, F. – E. Diener (2005): Life satisfaction set point: stability and change. Journal of Personality and Social Psychology 88(1): 158.

IBM (2010): IBM SPSS Statistics for Windows, User`s Guide, Version 19.0. Armonk, NY: IBM Corp.

Kimball, M – R. Willis (2006): Utility and Happiness. Working paper, University of Michigan.

Kirchgässner, G. (1985): Rationality, Causality, and the Relation between Economic Conditions and the Popularity of Parties: An Empirical Investigation for the Federal Republic of Germany, 1971–1982. European Economic Review 28(1–2): 243–68.

Komlos, J. (1994): Stature, living standards, and economic development: Essays in anthropometric history. University of Chicago Press.

Kornai, J. (1997): Adjustment without recession: a case study of Hungarian stabilization. Lessons from the Economic Transition, 123-53.

Korpi, T. (1997): Is Well-Being Related to Employment Status? Unemployment, Labor Market Policies and Subjective Well-Being among Swedish Youth. Labor Economics 4(2): 125–47.

Kraut, R. (2012): Aristotle's Ethics, Standford: The Stanford Encyclopedia of Philosoph.

Kwan, V. – M. Bond – T. Singelis (1997): Pancultural Explanations for Life Satisfaction: Adding Relationship Harmony to Self-Esteem. Journal of Personality and Social Psychology 73(5): 1038–51.

Lane, R. (2000): The Loss of Happiness in Market Economies. New Haven and London: Yale University Press.

Lane, R. (1998): The Joyless Market Economy. In Avner Ben-Ner and Louis Putterman (eds), Economics, Values, and Organization. Cambridge, U.K.: Cambridge University Press, 461–88.

Larsen, R. (1992): Neuroticism and Selective Encoding and Recall of Symptoms: Evidence from a Combined Concurrent–Retrospective Study. Journal of Personality and Social Psychology 62: 480–88.

Larson, R. - M Csikszentmihalyi (1983): The experience sampling method. New Directions for Methodology of Social & Behavioral Science.

Lawton, M. (1996): Quality of Life and Affect in Later Life. In Carol Magai and Susan H. McFadden (eds), Handbook of Emotions, Adult Development and Aging. San Diego, Calif.: Academic Press, 327–48.

Layard, R. (1980): Human Satisfaction and Public Policy. Economic Journal 90: 737–750.

Layard, R. (2003): Happiness: Has social science a clue? London: Centre for Economic Performance.

Layard, R. (2005): Happiness: Lessons from a New Science. London: Penguin.

Layard, R. (2006): Happiness and Public Policy: A Challenge to the Profession. Economic Journal 116: C24–C33.

Layard, R. (2007): Happiness and Public Policy: A Challenge to the Profession. In Economics and Psychology: A Promising New Cross-Disciplinary Field, (ed) B. Frey and A. Stutzer. MIT Press.

Layard, R. (2010): Measuring subjective well-being. Science 327(5965): 534-535.

Le Menestrel, M. (2001): A Process Approach to the Utility for Gambling. Theory and Decision 50(3): 249–62.

Lee, G. – K. Seccombe - C. Shehan (1991): Marital Status and Personal Happiness: An Analysis of Trend Data. Journal of Marriage and the Family 53 (November): 839–44.

Lehtonen, P. (2000): Forest Policy Review, Bhutan [World Bank (IDA) and Swiss Development Co-operation (SDC)].

Leibfried, S. (1992): Towards a European Welfare State? On Integrating Poverty Regimes into the European Community, in Ferge, Z. – Kolberg. J. E. (eds) Social Policy in a Changing Europe. Frankfurt am Main: Campus Verlag.

Lerch, A. (1998): Property rights and biodiversity. European Journal of Law and Economics 6: 285-304.

Lind, A. – T. Tyler (1988): The Social Psychology of Procedural Justice. New York: Plenum Publishing Corporation.

Lindbeck, A., Nyberg, S. (2006): Raising children to work hard: altruism, work norms, and social insurance. The Quarterly Journal of Economics, 121(4), 1473-1503.
Loewenstein, G. (1999): Because It Is There: The Challenge of Mountaineering for Utility Theory. Kyklos 52(3): 315–43.
Loewenstein, G. – T. O'Donoghue, - M. Rabin (2003): Projection Bias in Predicting Future Utility. Quarterly Journal of Economics 118: 1209–1248.
Loch, C. – B. Huberman - S. Stout (2000): Status Competition and Performance in Work Groups. Journal of Economic Behavior and Organization 43(1): 35–55.
Loreau, M. – S. Naeem - P. Inchausti - J. Bengtsson (2001): Biodiversity and ecosystem functioning: Current knowledge and future challenges. Science 294: 804–808.
Lucas, R. (1981): Discussion of: Stanley Fischer, Towards an Understanding of the Costs of Inflation: II. Carnegie–Rochester Conference Series on Public Choice 15: 43–52.
Lucas, R. - E. Diener – A. Grob - E. Suh – L. Shao (2001): Cross-Cultural Evidence for the Fundamental Features of Extraversion. Journal of Personality and Social Psychology. 79(3): 452–68.
Luttmer, E. (2005): Neighbors as Negatives: Relative Earnings and Well-Being. Quarterly Journal of Economics 120(3): 923–1002.
Lykken, D. - Tellegen, A. (1996): Happiness is a stochastic phenomenon. Psychological Science, 7(3): 186-189.
Lyubomirsky, S. (2008): The how of happiness: A scientific approach to getting the life you want. New York: Penguin Press. Mankiw, Gregory N. 2001. Principles of Economics, 2nd ed. Forth Worth: Harcourt College Publishers.
Marcuse L. (1949): Die Philosophie des Glücks: Von Hiob bis Freud, Hain: Westkulturverlag.
Marschak, J. (1950): Uncertain Prospects, and Measurable Utility. Econometrica 18: 111–41.
Marshall, T. (1950): Citizenship and Social Class and other Essays. Cambridge University Press.
Marshall, T. (1963): Sociology at the Crossroads and other Essays. London: Heinemann.
Marshall, T. (1965): Social Policy. London: Hutchinson.
Marshall, T. (1981): The Right to Welfare and other Essays. London: Heinemann.
Mastekaasa, A. (1995): Age Variations in the Suicide Rates and Self-Reported Subjective Well-Being of Married and Never Married Persons. Journal of Community and Applied Social Psychology 5(1): 21–39.
Matsusaka, J. (1995): Fiscal Effects of the Voter Initiative: Evidence from the Last 30 Years. Journal of Political Economy 103(2): 587–623.
Mauss M. (1924): The Gift. The Form and Reason for Exchange in Archaic Societies. London: Routledge.
Mayer T. (1999): Die demographische Krise. Eine integrative Theorie der Bevölkerungsentwicklung, Frankfurt am Main/New York: Campus Verlag.
McEachern, W. (1978): Collective Decision Rules and Local Debt Choice: A Test of the Median Voter Hypothesis. National Tax Journal 31(2): 129–36.
Meier, S. – A. Stutzer (2008): Is Volunteering Rewarding in Itself? Evidence from a Natural Experiment. Economica, 75(297): 39-59.
Merkel, W. (2001): Soziale Gerechtigkeit und die drei Welten des Wohlfahrtskapitalismus, in: Berliner Journal für Soziologie (2): 155 - 167.
Metz, R. (1995): Der Einsatz des Hodrick-Prescott Filters zur Trendbestimmung in ökonomischen Zeitreihen. http://hsr-trans.zhsf.uni-koeln.de/hsrretro/docs/artikel/hsr/hsr1996_384.pdf, 25.02.2013.
Meyer, D. (2012): Currency Disintegration: Two Scenarios of Withdrawal, in: Applied Economics Quarterly, Vol. 58(3): 171-191.
Meyer, H. (1975): The Pay-for-Performance Dilemma. Organizational Dynamics 3(3): 39–50.
Mill, J. (1863): On the Definition of Political Economy, and on the Method of Investigation Proper to It, London and Westminster Review, October 1836. Essays on Some Unsettled Questions of Political Economy, 2nd ed London: Longmans, Green, Reader & Dyer, 1874, essay 5, paragraphs 38 and 48.
Mommsen, W. (1981): The Emergence of the Welfare State in Britain and Germany. London: Croom Helm.
Munasinghe, M. (1992): Biodiversity protection policy: Environmental valuation and distribution issues. Ambio 21: 227-236.

Myers, D. (2000): The Funds, Friends, and Faith of Happy People. American Psychologist 55(1): 56–67.
Nettle, D. (2005): Happiness: The Science Behind Your Smile. Oxford University Press.
Neurowear (2014): Home Page, http://neurowear.com/news/index.html, 01.02.2014.
New Scientist. (2003): Reasons to Be Cheerful. October 4–10: 44–47.
New York Times (2014): Occupy Movement (Occupy Wall Street), http://topics.nytimes.com/top/reference/timestopics/organizations/o/occupy_wall_street/, 02.02.2014.
New York Times (2008): Maybe Money Does Buy Happiness After All http://www.nytimes.com/2008/04/16/business/16leonhardt.html?_r=0, 13.05.2013.
Ng, Y. (1996): Happiness Surveys: Some Comparability Issues and an Exploratory Survey Based on Just Perceivable Increments. Social IndicatorsResearch 38(1): 1–27.
Nisbett, R. – L. Ross (1980): Human Inference: Strategies and Shortcomings of Social Judgement. Englewood Cliffs, N.J.: Prentice Hall.
Nicholson, N. (1998): How Hardwired Is Human Behavior? Harvard Business Review 76(4): 135–147.
Nolen-Hoeksema, S. - C. Rusting (1999): Gender Differences in Well-Being. In Daniel Kahneman, Ed Diener, and Norbert Schwarz (eds), Well-Being: The Foundations of Hedonic Psychology. New York: Russell Sage Foundation, 330–50.
Nozick R. (1974): Anarchy, State, and Utopia (Vol. 5038). Basic books.
Odermatt, R. – A. Stutzer (2013): Smoking bans, cigarette prices and life satisfaction. IZA Discussion Paper No. 2208, Institute for the Study of Labor.
OECD (2013): Gross domestic product (GDP), http://stats.oecd.org/Index.aspx?DatasetCode=SNA_TABLE1#, 03.01.2013.
Offe, C. (2003): Freiheit, Sicherheit, Effizienz. Spannungen zwischen Gerechtigkeitsnormen für Arbeitsmarkt und Wohlfahrtsstaat, in: Jutta Allmendinger (Hrsg.), Entstaatlichung und soziale Sicherheit. Verhandlungen des 31. Kongresses der Deutschen Gesellschaft für Soziologie in Leipzig 2002, Opladen.
Offer, A. (2001): On Economic Welfare Measurement and Human Well-Being over the Long Run. In Paul A. David, Peter Solar, and Mark Thomas (eds), The Economic Future in Historical Perspective. London: BritishAcademy.
Osterloh, M. – Frey, B. (2000): Motivation, Knowledge Transfer, and Organizational Forms. Organization Science 11(5): 538–550.
Osterloh, M. – Frey, B. (2004): Corporate Governance for Crooks? The Case for Corporate Virtue. In Corporate Governance and Firm Organization, (ed) A. Grandori. Oxford University Press.
Osterloh, M. – Frey, B. (2006): Shareholders Should Welcome Knowledge Workers as Directors. Journal of Management and Governance 10(3): 325–345.
Oswald, A. (1997): Happiness and Economic Performance. Economic Journal 107(445): 1815–31.
Oswald, A. – N. Powdthavee (2006): Does Happiness Adapt? A Longitudinal Study of Disability with Implications for Economists and Judges. IZA Discussion Paper No. 2208, Institute for the Study of Labor.
Parducci, A. (1995): Happiness, Pleasure, and Judgment: The Contextual Theory and Its Applications. Lawrence Erlbaum Associates, Inc.
Pareto, V. (1971): Manual of Political Economy. Tr. by Ann S. Schwier. Augustus M. Kelley.
Pascal, B. (1670): Pensées. Paris: Port-Royal.
Pommerehne, W. (1978): Institutional Approaches to Public Expenditure: Empirical Evidence from Swiss Municipalities. Journal of Public Economics 9(2): 225–80.
Pommerehne, W. (1990): The Empirical Relevance of Comparative Institutional Analysis. European Economic Review 34(2–3): 458–69.
Pommerehne, W. – F. Schneider (1978): Fiscal Illusion, Political Institutions and Local Public Spending. Kyklos 31(3): 381–408.
Pommerehne, W. (1987): Präferenzen für öffentliche Güter. Mohr Siebeck., Tübingen.
Polanyi, K. (1944): The Great Transformation. New York: Rinehart.
Powdthavee, N. (2010): The happiness equation: the surprising economics of our most valuable asset. London: Icon

Project Syndicate (2011): The ECB's Secret Bailout Strategy, http://www.project-syndicate.org/commentary/the-ecb-s-secret-bailout-strategy, 07.02.2014.
Projectos (2003): The Maastricht Treaty, http://www.proyectos.cchs.csic.es/euroconstitution/Treaties/Treaty_Maast_Rat.htm, 02.02.2014
Persky, J. (1995): Retrospectives: The Ethology of Homo Economicus, The Journal of Economic Perspectives, 9(2), 221-231.
Rabin, M. (1998): Psychology and Economics. Journal of Economic Literature 36: 11–46.
Rabin, M. (1993): Incorporating Fairness into Game Theory and Economics. American Economic Review 83(5): 1281–302.
Radcliff, B. (2013): The Political Economy of Human Happiness: How Voters' Choices Determine the Quality of Life. Cambridge University Press.
Radcliff, B. (2001): Politics, markets, and life satisfaction: The political economy of human happiness. American Political Science Review, 939-952.
Ravallion, M. – M. Lokshin. (2001): Identifying Welfare Effects from Subjective Questions. Economica 68(271): 335–357.
Ricard, M. (2013): The Art of Happiness: A Guide to Developing Life's Most Important Skill, London: Atlantic Books Ltd.
Robbins, L. (1932): An Essay on the Nature and Significance of Economic Science. London: Macmillan. Selections reprinted in Daniel M. Hausman (ed) (1984), The Philosophy of Economics: An Anthology, New York: Cambridge University Press.
Ryan, R. – E. Deci (2000): Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being. American Psychologist 55: 68–78.
Ryan, R. – E. Deci (2001): On Happiness and Human Potentials: A Review of Research on Hedonic and Eudaimonic Well-Being. Annual Review of Psychology 52: 141–166.
Sahlins, M. (1972): The Original Affluent Society, in: Marshall Sahlins (1972): Stone Age Economics. London: Routledge 2003.
Samuelson, P. (1938): A Note of the Pure Theory of Consumer's Behaviour. Economica 5(17): 61–71.
Santerre, R. (1989): Representative versus Direct Democracy: Are There Any Expenditure Differences? Public Choice 60(2): 145–54.
Santerre, R. (1993): Representative versus Direct Democracy: The Role of Public Bureaucrats. Public Choice 76(3): 189–98.
Sapa (2007): Sun hours for European Cities, http://www.sapa-solar.com/sun-hours-european-city.html, 03.02.2014.
Sacks, D. – B. Stevenson – J. Wolfers (2010): Subjective well-being, income, economic development and growth. National Bureau of Economic Research (No. w16441).
Sapir, A. (2006): Globalization and the Reform of European Social Models. JCMS: Journal of Common Market Studies, 44(2): 369-390.
Scheier, M. - C. Carver (1985): Optimism, Coping, and Health: Assessment and Implications of Generalized Outcome Expectancies. Health Psychology 4(3): 219–47.
Schmidt, M. (1998): Sozialpolitik in Deutschland: Historische Entwicklung und internationaler Vergleich. Opladen: Leske & Budrich.
Schneider, S. – B. Gräf – M. Peter (2010): Homo economicus – or more like Homer Simpson? Frankfurt: Deutsche Bank Research.
Schneider, F. – A. Buehn, - C. Montenegro (2010): Shadow Economies all over the World: New Estimates for 162 Countries from 1999 to 2007. Santiago.
Schneider, F. – D. Enste (2000): Shadow Economies: Sizes, Causes, and Consequences. Journal of Economic Literature 38(1): 77–114.
Schneider, F. – D. Enste (2002): The Shadow Economy: Theoretical Approaches, Empirical Studies, and Political Implications. Cambridge University Press.
Schopenhauer, A. (1818): Die Welt als Wille und Vorstellung. Volume One, Cologne: FA Brockhaus.
Schuessler, A. (2000): Expressive Voting. Rationality and Society 12(1): 87–119.

Schwarze, J. – R. Winkelmann (2005): What Can Happiness Research Tell Us about Altruism? Evidence from the German Socio-Economic Panel. Discussion Paper 1487, IZA (Institute for the Study of Labor), Bonn.

Scitovsky, T. (1976): The Joyless Economy: An Inquiry into Human Satisfaction and Dissatisfaction. Oxford: Oxford University Press.

Seligman, M. (2002): Authentic happiness: Using the new positive psychology to realize your potential for lasting fulfillment. Simon and Schuster

Sen, A. (2008): Sobre ética y economía. Madrid: Alianza.

Sen, A. (1995): Rationality and Social Choice. American Economic Review 85(1): 1–24.

Sen, A. (1997): Maximization and the Act of Choice. Econometrica 65(4): 745–79.

Sen, A. (1986): The Standard of Living. In Sterling McMurrin (ed), Tanner Lectures on Human Values, Vol. VII. Cambridge, U.K.: Cambridge University Press.

Sen, A. (1980): 'Equality of what?', in S. McMurrin (Ed), Tanner Lectures on Human Values, volume I, Cambridge University Press, Cambridge: University of Utah Press, Cambridge.

Sen, A. (1979): The Welfare Basis of Real Income Comparisons: A Survey. Journal of Economic Literature 17(1): 1–45.

Shiller, R. (1997): Why Do People Dislike Inflation? In Christina D. Romer and David H. Romer (eds), Reducing Inflation: Motivation and Strategy. Chicago and London: University of Chicago Press, 13–65.

Slesnick, D. (1998): Empirical Approaches to the Measurement of Welfare. Journal of Economic Literature 36(4): 2108–65.

Smith, A. 1759 [2000]: The Theory of Moral Sentiments. New York: Prometheus Books.

Smith, A. (1776): An Inquiry into the Nature and Causes of the Wealth of Nations. Reprinted 1980, London: Deut and Sane.

Simon, H. (1976): From Substantive to Procedural Rationality. In S. J. Latsis (ed), Methods and Appraisal in Economics. Cambridge, Mass.: Cambridge University Press.

Simon, H. (1978): Rationality as a Process and Product of Thought. American Economic Review 68(2): 1–16.

Sinn, H.-W. (2013): Austerity, Growth and Inflation. Remarks on the Eurozone's Unresolved Competitiveness Problem. CESifo.

Sirgy, M. (1997): Materialism and Quality of Life. Social Indicators Research 43(3): 227–260.

Social Security (2009): Otto von Bismarck, http://www.ssa.gov/history/ottob.html, 05.02.2014.

Spiegel (2010): Drohende Staatspleite: Ökonomen geben Griechenland auf, http://www.spiegel.de/wirtschaft/soziales/drohende-staatspleite-oekonomen-geben-griechenland-auf-a-691717.html, 06.01.2014.

Spiegel (2012): Top-Ökonom Hans-Werner Sinn: Der Mann und die Milliarden-Bombe http://www.spiegel.de/wirtschaft/soziales/top-oekonom-hans-werner-sinn-der-mann-und-die-milliarden-bombe-a-817004.html, 06.01.2014.

Stevenson, B. – J. Wolfers (2008): Economic growth and subjective well-being: Reassessing the Easterlin paradox. National Bureau of Economic Research (No. w14282).

Stevenson, B. – J. Wolfers (2013): Subjective Well-Being and Income: Is There Any Evidence of Satiation? National Bureau of Economic Research (No. w18992).

Stambor, Z. (2007): Is Our Happiness Set in Stone? American Psychological Association, Vol. 38 (11).

Stigler, G. (1950): The Development of Utility Theory. Journal of Political Economy 58(4–5): 307–327, 373–396.

Stroebe, W. – M. Stroebe (1987): Bereavement and Health: The Psychological and Physical Consequences of Partner Loss. New York: Cambridge University Press.

Stutzer, A. (2004): The role of income aspirations in individual happiness. Journal of Economic Behavior & Organization 54(1): 89-109.

Stutzer, A. – B. Frey. (2010): Recent advances in the economics of individual subjective well-being. Social Research: An International Quarterly 77(2): 679-714.

Suls, J. – T. Wills (1991): Social comparison: Contemporary theory and research. Lawrence Erlbaum Associates, Inc.

Szondy, M. (2004): A szubjektív jóllét és a törekvések kapcsolata késő serdülőkorban. Alkalmazott Pszichológia. 6(4), 53 – 72.
Tai Sheridan (2012): Secrets of True Happiness, CreateSpace.
Taylor, J. (2008): "Involuntary Unemployment.", in Durlauf, Steven N.; Blume, Lawrence E., The New Palgrave: A Dictionary of Economics.
Taylor, S. - J. Brown (1988): Illusion and Well-Being: A Social-Psychological Perspective on Mental Health. Psychological Bulletin 103(2): 193–210.
Thaler, R. (1980): "Toward A Positive Theory of Consumer Choice." Journal of Economic Behavior and Organization, 1: 39-60.
The Telegraph (2009): Nicolas Sarkozy wants to measure economic success in 'happiness', http://www.telegraph.co.uk/news/worldnews/europe/france/6189530/Nicolas-Sarkozy-wants-to-measure-economic-success-in-happiness.html, 30.09.2013.
Titmuss, R. (1958): Essays on the Welfare State. London: Allen & Unwin.
Titmuss, R. (1974): Social Policy. London: Allen & Unwin.
Toman, M. (1998): Why not to calculate the value of the world's ecosystem services and natural capital. Ecological Economics, 25: 57-60.
Tooby, J. – L. Cosmides (1992): The Psychological Foundations of Culture. In The Adapted Mind, ed J. Barkow, L. Cosmides, and J. Tooby (1992): The adapted mind: Evolutionary psychology and the generation of culture. Oxford University Press
Tooby, J. – L. Cosmides (1994): Better than Rational: Evolutionary Psychology and the Invisible Hand. The American Economic Review 84(2): 327–32.
Trifiletti, R. (1999): Southern European Welfare Regimes and the Worsening Position of Women, Journal of European Social Policy 9 (1): 49–64.
Tullock, G. (1987): Autocracy. Dordrecht: Kluwer.
Tversky A. (1995): The Psychology of decision making, ICFA Continuing Education (7).
Tyler, T. (1990): Why People Obey the Law. New Haven: Yale University Press.
Tyler, T. – S. Blader (2000): Cooperation in Groups: Procedural Justice, Social Identity, and Behavioral Engagement. Philadelphia: Psychology Press.
United Nations (2010): Gross National Happiness Index, http://sustainabledevelopment.un.org/index.php?page=view&type=1006&menu=1348&nr=2212, 05.02.2014.
United Nations (2012): United Nations Development Programme, https://data.undp.org/dataset/Table-1-Human-Development-Index-and-its-components/wxub-qc5k, 01.05.2014.
Uzawa, H. (1960): Preference and Rational Choice in the Theory of Consumption. In Kenneth J. Arrow, Simon Karlin, and Peter Suppes (eds), Mathematical Methods in the Social Sciences. Stanford, Calif.: Stanford University Press.
Van Praag, B. – B. Baarsma. (2004): Using Happiness Surveys to Value Intangibles: The Case of Airport Noise. Economic Journal 115(500): 224–246.
Van Praag, B. – P. Frijters (1999): The Measurement of Welfare and Well-Being: The Leyden Approach. In Daniel Kahneman, Ed Diener, and Norbert Schwarz (eds), Well-Being: The Foundations of Hedonic Psychology. New York: Russell Sage Foundation, 413–33.Veenhoven, R. 1991. Is happiness relative? Social Indicators Research, 24(1): 1-34.
Veblen, T. (1899): The Theory of Leisure Class. Modern Library, New York.
Veblen, T. (1900). 'The Preconceptions of Economic Science – III', The Quarterly Journal of Economics, 14(2), 240–269.
Veenhoven, R. (1989): Does Happiness Bind? Marriage Changes of the Unhappy. In Ruut Veenhoven (ed), How Harmful Is Happiness? Consequences of Enjoying Life or Not. Rotterdam: University of Rotterdam Press, 44–60.
Veenhoven, R. (1991): Is happiness relative? Social Indicators Research, 24(1), 1-34.
Veenhoven, R. (2000): Freedom and Happiness: A Comparative Study in Forty-Four Nations in the Early 1990s. In Ed Diener and Eunkook M. Suh (eds), Culture and Subjective Well-Being. Cambridge, Mass.: MIT Press, 257–88.

Veenhoven, R.. (2005): Return of inequality in modern society? Journal of Happiness Studies, 6: 457-487.
Von Neumann, J. – O. Morgenstern (1947): Theory of Games and Economic Behavior. 2nd ed. Princeton, N.J.: Princeton University Press.
Waterman (1993): Globalisation, civil society, solidarity: the politics and ethics of a world both real and universal, ISS Working Papers-General Series.
Watkins, J. (1969) [1953]: Methodological Individualism and Non-Hempelian Ideal Types, in L. J. Kimmerman (ed) The Nature and Scope of Social Science: a Critical Anthology. New York: Appleton-Century-Crofts.
Watson, R. - V. Heywood - I. Baste - B. Dias - R. Gamez - T. Janetos - W. Reid - G. Ruark (eds) (1995): Global Biodiversity Assessment. Summary for Policy-Makers. Published for the United Nations Environment Programme, Cambridge University Press, Cambridge.
Weber, A. (2011): Challenges for Monetary Policy in the European Monetary Union, Federal Reserve Bank of St. Louis Review, 93(4): 235-242.
Weede, E. – E. Muller (1998): Rebellion, Violence and Revolution: A Rational Choice Perspective. Journal of Peace Research 35(1): 43–59.
Weintraub, E. (2007): Neoclassical Economics. The Concise Encyclopedia Of Economics.
Welsch, H. (2007): Macroeconomics and Life Satisfaction: Revisiting the 'Misery Index'. Journal of Applied Economics 10(2): 237-251.
White, J. (1992): Marital Status and Well-Being in Canada. Journal of Family Issues 13: 390–409.
World Tourism Organisation (2010): Facts & Figures 2009; http://www.unwto.org/index.php, 15.03.10.
Wiese T. (2013): Notes on Biodiversity Conservation and Declining Discount Rates. Acta Beregsasiensis 12(2013)/1: 211-220.
Wiese, T. (2014a): Analysis of the Trend Growth of GDP and Life Satisfaction in the EMU. Accepted (in 2013) and forthcoming in Acta Oeconomica.
Wiese, T. (2014b): A literature review of Happiness and Economics and guide to needed research. Accepted (in 2013) and forthcoming in Competitio.
Wiese, T. (2014c): Explanation of the Trend Growth of GDP and Life Satisfaction in the EMU: The Impact of Welfare Regimes. Accepted in (2014) and forthcoming in Society and Economy.
Wilensky, H. (1975): The Welfare State and Equality: Structural and Ideological Roots of Public Expenditures. Berkeley/Los Angeles: University of California Press.
Winkelmann, L. – R. Winkelmann (1998): Why Are the Unemployed So Unhappy? Evidence from Panel Data. Economica 65(257): 1–15.
Wintrobe, R. (1998): The Political Economy of Dictatorship. Cambridge, U.K.: Cambridge University Press.
Wolff, E. (2010): Recent Trends in Household Wealth in the United States: Rising Debt and the Middle-Class Squeeze—an Update to 2007, (No. 589) Levy Economics Institute of Bard College.
Wood, W. - N. Rhodes – M. Whelan (1989): Sex Differences in Positive Well-Being: A Consideration of Emotional Style and Martial Status. Psychological Bulletin 106(2): 249–64.
Yale University (2009): Why so many species? http://www.youtube.com/watch?v=QjFkTneCfTE:, 15.01.14.
Zeckhauser, R. – D. Shepard. (1976): Where now for saving lives? Law and contemporary problems 40(4): 5-45.

DATA SOURCES

European Commission (2013)

Several Eurobarometer Reports

TNS OPINION & SOCIAL, Brussels [Producer];

GESIS Data Archive

https://dbk.gesis.org/dbksearch/GDESC2.asp?no=0008&DB=E., 01.02.2014

Eurostat (2013)

Statistical Office of the European Communities

Unemployment and Inflation Statistics

http://europa.eu.int/comm/eurostat/, 01.02.2014

OECD (2013)

Gross domestic product (GDP),

http://stats.oecd.org/Index.aspx?DatasetCode=SNA_TABLE1#, 01.02.2014

World Database of Happiness (2013)

Veenhoven, Ruut (2001). World Database of Happiness: Catalog of Happiness in Nations.

www.eur.nl/fsw/research/happiness, 01.02.2014

World Development Indicators (2013)

World Bank (various years). World Development Report. New York et al.: Oxford University Press.

http://www.worldbank.org/data/wdi/home.html, 01.02.2014

World Value Survey (2013)

Inglehart, Ronald, et al. (2000): World Values Surveys and European Values Surveys, 1981–1984, 1990–1993, and 1995–1997. ICPSR version. Ann Arbor, Mich.: Institute for Social Research (producer), 1999. AnnArbor, Mich.: Inter-university Consortium for Political and Social Research (distributor).

http://wvs.isr.umich.edu/, 01.02.2014