

*'The professed object of dr. Adam Smith's inquiry is the nature and causes of the wealth of nations.
There is another inquiry, however, perhaps still more interesting, which he occasionally mixes with it,
I mean an inquiry into the causes which affect the happiness of nations.'*

Malthus (1798/1966, pp. 303-304)

1. Introduction

‘I am an economist – I love the subject and it has served me well. But economics equates changes in happiness of a society with changes in its purchasing power – or roughly so. I have never accepted that view, and the history of the last fifty years has disproved it.’

Richard Layard (2005, p. xi)¹

1.1 Happiness in Present Times

‘Happiness is hot’. That is a heading from a recent article about happiness in the Dutch daily newspaper ‘De Pers’.² The interviewee, the Dutch *Happiness Professor* Ruut Veenhoven,³ confirms the current and wide interest in happiness. He remarks that he is busier than ever before answering questions concerning happiness from television producers, large companies, social organizations, and politicians. Especially the latter engage more and more in the subject of happiness. Within the scope of the current financial crisis the chairwoman of the Dutch green parliamentary party makes a plea for happiness as a new conception of welfare.⁴ The present crisis proves that we are finished with neo-liberalism and its focus on profit seeking. According to her, politicians need to pay more attention to the happiness of citizens and other aspects that cannot be expressed in economic terms (e.g. education, leisure and nature) instead of measuring welfare by solely looking at Gross Domestic Product (GDP) per capita. This view is not entirely new. Jon Hall, a project leader at the Organization of Economic Cooperation and Development (OECD) said about a year ago: ‘We’ve been chasing gross domestic product for decades, and now societies are starting to say we need to look beyond GDP and start measuring well-being’.⁵

These ideas resonate with the unique economic policy of the Himalayan Kingdom of Bhutan which implemented the notion of Gross National Happiness (GNH). The launch of GNH as an economic alternative was in 1972 by then-king Jigme Singye Wangchuck who shifted focus of development from productivity to human well-being through good governance, conservation of the environment, preservation and promotion of cultural values, and by means of sustainable economic development. Despite the fact that often Western development experts and economists do not take Bhutan’s economic approach seriously its policy is actually gaining international attention. Brazil and India already adopted some GNH guidelines. Australia, Canada and the United States are developing extensive programs to measure the well-being of its citizens. Finally, the France president Nicolas

¹ See Layard (1980); Layard is not just a fashionista.

² Dagblad De Pers, 2nd of June 2009, pp. 8-9.

³ Veenhoven is emeritus-professor of Social Conditions for Human Happiness at Erasmus University Rotterdam in the Netherlands.

⁴ www.nu.nl 3rd of June, 2009 – Interview with Femke Halsema (Groenlinks).

⁵ <http://greeningindia.net>.

Sarkozy launched ‘The Quality of Life Commission’ in which Nobel prize winners Joseph Stiglitz and Amartya Sen among others try to map, adapt and reform the France system of measuring welfare.⁶ So happiness gains more attention among the general public and policy officials. But what about behavioral scholars and especially economists?

1.2 Happiness Research in Economics

Today there is also increasing attention for happiness in the academic world. Historically, it was in the 1970’s that happiness research came into its own in the psychological community.⁷ In the following decades more and more researchers (from all around the world and with different disciplinary backgrounds) paid attention to this psychological topic. In the year 2000 over 2,000 researchers from 42 nations were actively involved in happiness research and the volume of happiness studies practically doubles itself every year. In 1994 *The Journal of Happiness Studies* began publication and it was the first professional journal exclusively dedicated to scientific research on human happiness (Fordyce, 2000). Clark *et al.* (2008, p. 106) report that a search for journal articles with either “well-being”, “life-satisfaction” or “happiness” identifies 465 published articles between 1960 and 2006. Of these articles 285 (61 percent) have been published since 2000 and one third (37 percent) has appeared in the last three years.

Although mainstream economists became interested in happiness recently, two economists, Richard Easterlin (1974) and Tibor Scitovsky (1976), blazed a trail by focusing their economic research directly on happiness.⁸ Easterlin’s seminal paper introduced the *paradox of happiness*; the existence of a robust correlation between income and happiness at a given moment in time within a single country, a not general nor robust relation between wealth and happiness in a cross-section of countries, and most interestingly (from time series analysis) Easterlin (1974, pp. 99-111) found that per capita real income grew by more than 60 percent (from 1946 to 1970 in the US) and the level of happiness remained almost the same in that period. Since Easterlin (1974), explaining the happiness paradox has gained greater and greater attention among economists (e.g. Hirsch, 1977; Ng, 1978; and Drakopoulos, 2008).⁹

Since some basic tenets of economic thought were called into question (Bruni and Porta, 2005), a wider scientific audience was reached in 1997 when the *Economic Journal* devoted a complete volume to the theme (Dixon, 1997). Bringing new insights into the subject of happiness in economics is still a steadily growing process (Lane, 2000). Frey and Stutzer (2005, p. 117) claim that research on happiness has been one of the most recent stimulating developments in economics and that

⁶‘Economists Appraise Bhutan’s Happiness Model’ by Don Duncan – The San Francisco Chronicle 4th of December 2008.

⁷ Some might argue that sociologists were perhaps the first dealing with happiness (see Bruni and Porta, 2005).

⁸ Van Praag (1968) already investigated the relation between wealth and well-being (see Bruni and Porta, 2005: p. 3).

⁹ See Chapter 4 for some explanations for the paradox.

some findings result in an increasing attention of a broader audience like government administrators (as seen in section 1.1). Van Praag (2005, p. 196) endorses this when he argues that: ‘Happiness is one of the most pressing issues for behavioral sciences in general and for economics in particular.’

1.3 Background

Happiness research can be classified in three categories (Rojas, 2007). The first is the study of human happiness as such. This is the most difficult category for happiness researchers because they are forced to deal with the complexity of human beings. The second approach is the understanding of human happiness by focusing on the relationship between happiness and relevant variables from different aspects of life influencing happiness. Happiness is still the main variable of study but the understanding of happiness is limited since many relevant variables from other disciplines are neglected. Using happiness as an instrumental variable to explain other phenomena is the third approach. Economists can for example study the impact of happiness on people’s productivity or income (Rojas, 2006: p. 523). Furthermore, there is evidence that happiness leads to more success in life (see Lyubomirsky *et al.*, 2005) and to better health (longevity in healthy population) (Veenhoven, 2008b).

The second category deserves elaboration since this thesis also belongs to this category. There is ample literature investigating the relation between happiness and differences in income, education, occupation, marital status, gender and other demographic variables (see Inglehart, 1990; Myers and Diener, 1995; Argyle, 1989, 1999)¹⁰. According to Inglehart and Klingemann (2000, p. 165) these characteristics explain surprisingly little of the variation in the level of happiness of people. Although the reported happiness of people with higher income is somewhat higher than those with lower income, the differences are small and explain approximately 4 percent of the variation.¹¹ There is also evidence that personality and genetic factors influence happiness (also Diener and Lucas, 1999). Lykken and Tellegen (1996) study identical twins and they find that the heritability of the stable component of happiness approaches 80%. The authors conclude (1996, p. 189) that ‘the reported well-being of one’s identical twin, either now or 10 years earlier, is a far better predictor of one’s self-rated happiness than one’s own educational achievement, income or status.’ Inglehart and Klingemann (2000) find that cultural¹² and historical factors (e.g. democracy and Protestantism) also play powerful roles in explaining happiness (see also Schyns, 1998; Oishi *et al.*, 1999; Diener and Suh, 1999; Dorn *et al.*, 2007; Veenhoven, 2008a).

Notwithstanding the importance of genes, culture, democracy and demographic characteristics for happiness, macroeconomic factors can have strong effects on happiness of individuals too. Di Tella

¹⁰ Even the relation between climate and happiness is investigated (see Rehdanz and Maddison, 2005).

¹¹ Age, occupation, gender, education and religiosity explain even less (Andrews and Withey, 1976).

¹² Among other things, Diener and Tov (2007) conclude that research among the Maasai and Inughuit reveals that their happiness is at about the same level as that of the richest Americans.

et al. (2001) conclude that people appear happier when inflation and unemployment are low. Wolfers (2003, p. 24) concludes the same and asserts that: 'Further effort to tame the business cycle might increase well-being by an amount equivalent to reducing the unemployment rate by a quarter of a percentage point.' Di Tella *et al.* (2003) find more evidence that macroeconomics matter. 'People's happiness answers *en masse* are strongly correlated with movements in current and lagged GDP per capita' (Di Tella *et al.*, 2003: p. 823). Bjørnskov *et al.* (2008b, p. 317) find evidence that accelerations in GDP growth affect trends in well-being (in 15 European countries). Faster GDP growth and faster growth of government consumption (than in neighbor countries) induces positive trends in life satisfaction. Di Tella *et al.* (2003) also investigate a political determinant,¹³ namely the role of the welfare state in affecting happiness. Their conclusions are straightforward. The coefficient on the indicator of generosity of publicly provided unemployment insurance is positively related to happiness. Even after dividing the sample into employed and unemployed people, unemployment benefits still positively correlate with happiness of both subsamples. Pacek (2005) and Pacek and Radcliff (2008) also provide evidence that the welfare state has a tangible positive impact on happiness. Furthermore, Di Tella and MacCulloch (2008) find that happiness responses of around 350,000 people living in the OECD between 1975 and 1997 are positively correlated with the welfare state. In a somewhat different vein, Zimmerman (2002) investigates the relation between public welfare spending and suicide rates.¹⁴ The findings are that suicide rates increased in states that reduced their per capita expenditures for public welfare during the period 1960 to 1995.

These previous results are in marked contrast with Ouweneel and Veenhoven (1995), Veenhoven (2000) and Ouweneel (2002). The latter examines the relation between well-being and social security. The author finds hardly any relation between the level of social security and well-being of the unemployed. Veenhoven's (2000) replication¹⁵ of Ouweneel and Veenhoven's (1995) analysis finds no link between the size of the welfare state and the level of well-being within it. This means that people living in countries with generous social security schemes are not happier than people living in countries where the state is less magnanimous.

1.4 Relevance and General Approach

In the same news paper article from Section 1.1 Veenhoven, who merely bases his statement on his own and Ouweneel's empirical findings and ignores contrary outcomes, alleges that countries with higher social services are in general not happier. Professor Esther-Mirjam Sent¹⁶ claims the opposite. In an interview with the Dutch daily newspaper 'de Volkskrant'¹⁷ she remarks that the welfare state is conducive to happiness and that smaller income differences lead to higher average levels of happiness.

¹³ Surprisingly little is known about political factors on happiness (see Radcliff, 2001).

¹⁴ Suicide rates can be a proxy for unhappiness (see Appendix 2).

¹⁵ Using a larger set of nations.

¹⁶ Sent is professor of Economic Theory and Policy at the Radboud University Nijmegen in the Netherlands.

¹⁷ De Volkskrant, 8th of May 2009.

However, the previous paragraphs show that both statements are not by any manner or means unequivocally true since different studies come to precisely opposite conclusions. Therefore, this thesis wants to elucidate these ambiguities and expand the existing literature on the influence of the welfare state on happiness. The main question which I empirically test is therefore:

What is the influence of the welfare state on self-reported happiness in advanced industrial democracies? To be more precise, how does the welfare state affect specific subgroups in society like the employed/unemployed, the rich/poor and the healthy sick and how does it affect the difference in happiness between these subgroups (i.e. the happiness gap between the employed and unemployed, the rich and the poor and the healthy and the sick)?

Veenhoven's (2000) study gave rise to this thesis and it forms the starting point for the present analysis. I agree with Veenhoven (2000, p. 92) where he argues that: 'This belief [that the welfare state is beneficial to happiness] is not just a theory. It is one of the ideological foundations of the welfare state and a major legitimization of resistance against reform. As such, probing its truth is worthwhile.' However, his study shows some serious shortcomings which this analysis tries to anticipate. First of all, Veenhoven comes to his results by simply looking at correlations.¹⁸

Second, Veenhoven (2000) focuses only on general population averages. This is rather strange since one might expect that the impact of the level of social spending is dissimilar for different subgroups within society. For example, effects on happiness of the unemployed can be cancelled out by the effect on happiness of the employed. If the general population sample is represented by more net taxpayers than net tax recipients the effect of social security schemes could be distorted. Therefore, the subjects of Ouweneel's (2002) study are the unemployed since they are likely to benefit most from high levels of social security. But what about the poor and the sick? Do they not benefit?

A third shortcoming is that Veenhoven (2000) tests his hypothesis in a comprehensive study of 41 countries (from 1980 to 1990). He makes no distinction between first (rich), second and third (poor) world nations. This is remarkable since wealthy nations differ from poorer nations in many ways. These differences may distort the correlation between the welfare state and happiness (Diener *et al.*, 1999: p. 288). Therefore, this study only uses European countries which are (except for Slovenia) members of the Organization of Economic Cooperation and Development (OECD). These first world countries are characterized by higher homogeneity with respect to the political (they are affluent democracies) and cultural structures and with respect to wealth. Possible spurious effects or errors are therefore minimized (Ouweneel, 2002: pp. 174-175).

The fourth and last, and probably most important shortcoming, is the shortfall in theory on which Veenhoven and others ground their hypotheses. 'The level of well-being is believed to be higher in welfare state' (Veenhoven, 2000: p. 91). 'It is generally believed that life is better in nations with a high level of social security' (Ouweneel, 2002: p. 167). However, why this is (not) the case

¹⁸ 'He relies on crude statistical techniques', according to Pacek (2005, p. 6).

becomes not apparent to the reader. Pacek (2005) and Pacek and Radcliff (2008) also lack in sufficient theoretical foundation. They just deal with the dispute between politics and markets (cf. Lindblom, 1977) and the argument ‘whether to supplement the presumed inequalities of market distribution with the presumed equality of citizenship rights, i.e. whether to make citizen entitlements rather than market contracts the basis of the allocation of well-being’ (Pacek, 2005: p. 5). According to Pacek (2005) and Pacek and Radcliff (2008), welfare states are able to ‘decommodify’¹⁹ citizens and therefore they should contribute to greater well-being.

Summarizing, we can say that our main contribution will be that (i) we use extensive literature and comprehensive theory as a solid ground for our hypotheses; (ii) we use more appropriate dependent variables, (iii) we use a more homogenous set of nations and (iv) we use a more suitable research design. To conclude, we want to notice that identifying the optimal size of the welfare state is beyond the scope of this thesis. Instead, we try to answer the question of whether, on average, people (in different situations) are more happy with their lives in countries that are ‘bigger’ welfare states.

1.5 Structure of the Thesis

In order to answer the main question of this thesis, we first examine the concepts of happiness and the welfare state.²⁰ Chapter 2 elaborates on the matter of happiness. It describes what happiness is, why it is important to study, the difference between utility and happiness and different measures of happiness. Chapter 3 discusses the welfare state and in particular the rationale behind it (i.e. the redistributive and insurance argument). Furthermore, we discuss different welfare state regimes, reasons for their convergence and some major criticism on the welfare state. Subsequently, Chapter 4 gets to the heart of this thesis and renders the various hypotheses and the theory on which they are based. Chapter 5 outlines the different variables and the methodology used in this study to investigate the relation between happiness and the welfare state. The results of these analyses are also considered in that chapter. The study ends with a discussion of the findings and some concluding remarks in Chapter 6.

¹⁹ See Esping-Andersen (1988, 1990). Furthermore, Chapter 3 of this thesis explains this term.

²⁰ Since this thesis is intended for laymen too we have chosen to deal with the subject of happiness and that of the welfare state in a somewhat comprehensive way. Readers who are familiar with these subjects might therefore find the following two chapters somewhat extensive. For them Chapter 2 and 3 are superfluous and they can skip it.

2. Happiness

When dealing with 'happiness' it is first and foremost necessary to make clear what is meant by that concept. The word happiness is used in different meanings that are often used interchangeably. To avoid such confusion, this chapter scrutinizes the notion of happiness. Section 2.1 briefly considers the question 'what is happiness?' and Section 2.2 makes the important distinction between 'happiness' and 'utility' as commonly understood by economists. Section 2.3 subsequently, deals with the question why happiness is important and Section 2.4 discusses some measures of happiness.

2.1 What is Happiness?

'What is happiness?' Some of the greatest human minds have struggled with this issue and the question is not as easy to answer as one might expect it to be. This is probably due to the fact that there exists multiple meanings in the literature and they also change over time (see McMahon, 2006 and Sirgy *et al.*, 2006).²¹ Although subjective well-being (SWB) is the preferred name in the academic literature (see Minkov, 2009: p. 152) this thesis chooses to use the word *happiness* because this term covers the overtone more. Moreover, the term is interchangeably used with SWB. Here, only the most common definitions of the notion of happiness are enunciated.

Happiness actually corresponds to how good or bad we feel (Layard, 2003). Richard Layard (2005: p. 12) puts it as follows: 'By happiness I mean feeling good – enjoying life and feeling it is wonderful. And by unhappiness I mean feeling bad and wishing things were different.' In a similar vein, Diener *et al.* (1997, pp. 2-3) state that a person is said to be happy if she or he 'experiences life satisfaction and frequent joy, and only infrequently experiences unpleasant emotions such as sadness or anger. Contrariwise, a person is said to be not very happy if she or he is dissatisfied with life, experiences little joy and affection and frequently feels negative emotions such as anger or anxiety.' Veenhoven (2007, p. 8) is like-minded when he claims that 'happiness [...] is the degree to which someone evaluates positively the overall quality of his or her present life as a whole or how much one likes the life one lives.' These definitions reflect the meaning of 'happiness' and they are close to that of the philosopher of the Enlightenment Jeremy Bentham (1789) who defined happiness as 'the sum of pleasures and pains', which also involves the notion of an 'affect balance'.

When used in a broad sense, the word happiness could be synonymous to 'well-being' or 'quality of life'. In this meaning it denotes that life is good, but does not specify what is good about life. Veenhoven (2001, 2006) proclaims that enduring satisfaction with one's life-as-a-whole is commonly referred to as 'happiness' or as 'SWB'. In the same way Diener *et al.* (1997), Diener and Seligman (2004) and Frey and Stutzer (2002, 2006) refer to happiness and SWB as how an individual

²¹ For an overview of this change in meaning over time, the history of happiness and contemporary happiness studies, see McMahon (2006). For a further historical overview of research on happiness see Sirgy *et al.* (2006).

evaluates his or her life taken as a whole. They all agree that it is a broad and reflective appraisal the person makes of his or her life.

However, a distinction is made between narrowly interpreted happiness and life satisfaction. The latter is seen more as the outcome of an evaluation process including material and social aspirations and achievements and happiness as an outcome of positive experiences and particularly close personal relationships (Haller and Hadler, 2006). Economists who work in the area of happiness broadly define happiness and/or SWB as satisfaction with life in general. Because the three sets of terms have the same denotation and are used interchangeably in most studies (cf. Graham, 2004), the term 'happiness' in this paper is also used in the particular meaning of satisfaction with one's life-as-a-whole, and it will be used interchangeably with 'subjective' or 'self-reported individual well-being'.

2.2 Why is Happiness Important?

Happiness research receives more and more attention these days (see Diener *et al.*, 1999 and Van Praag, 2005). One of the main reasons for the recent surge of interest in happiness among economists (Frey and Stutzer, 2002; Layard, 2003; Oswald, 1997) and psychologists (Diener and Seligman, 2004) has been the fact that certain assumptions of neo-classical economic theory are not confirmed by research findings (Duncan, 2005).

Nevertheless, knowing why there is a resurgence of interest in the concept of happiness leaves unanswered the question why happiness is important. First of all happiness can be used as a guide for policy. The distribution of happiness can be used to identify social categories that need special care. On the other hand periodically assessed levels of happiness can prevent a large scale discontent within a society of coming into existence (Veenhoven, 1988: p. 1). Frey and Stutzer (2002) also stress the importance of studying happiness as a causal factor in good outcomes, and empirically measuring its distribution among persons and countries and assessing its development over time. First it could be interesting, for example, how happy low-income people are compared to the rich, or, how happy the young are compared to the old. Frey and Stutzer (2002, p. 6) distinguish 'typical' persons who differ greatly with respect to their characteristics. Their purpose is to show how certain life circumstances such as losing one's job or suffering from an illness affect happiness. Once the determinants of happiness have been measured, it is (in principle) feasible to construct happiness schedules for every conceivable type of person. The general use could then be to get a better understanding of how to increase one's happiness. Economically it is interesting because happy citizens tend to work harder and are healthier (Veenhoven, 1988: pp. 12-13). Societies therefore flourish to a greater extent with happy citizens than with unhappy ones (Helliwell, 2002).

It is also intriguing to know how happiness has changed over time. Are economists right when they take it as a matter of course that the strong increase in per-capita real income over the past decades (and centuries) has made people happier? Japan's per-capita real income multiplied by six between 1958 and 1991. Nevertheless, the reported satisfaction with life of the Japanese remained

largely unchanged over this period (Frey and Stutzer, 2002: p. 8). Studying happiness may lead to an explanation for this phenomenon.

Finally, it could be important to know how rich and poor countries compare with respect to their SWB. Is it really true that people in underdeveloped countries are quite happy despite their low real per capita income? Only when it is known if people in rich and poor countries differ with respect to happiness and how they compare, things can be done to increase happiness of particular inhabitants. Therefore, happiness research can deepen our understanding of poverty.

Now that it is clear what is meant with happiness and why it could be important for (welfare) economics, the next section goes more deeply into the relation between utility and happiness.

2.3 Happiness and Utility

Before going into the measurement of happiness, a remark has to be made about the difference between 'happiness' and 'utility'. At first glance they seem to refer to the same concept. Happiness is not the same thing as utility, however, though it has a systematic relationship to it.²² As Kimball and Willis (2006, p. 45) put it: 'Utility is the extent to which people achieve what they care about, as indicated by their choices; happiness is how they feel.' In this sense utility is *decision utility* because it is inferred from observed choices. Happiness is *experienced utility* and refers to experiences (like the 'pleasures and pain' from Bentham, 1789) (Kahneman and Tversky, 1984; Kahneman, 1999, 2000).

Many twentieth-century economists have for a long time been sceptical about direct measures of experienced utility or happiness and in particular 'happiness' research in economics (van Praag and Frijters, 1999). The main criticism is that happiness cannot be compared between individuals, that it cannot be expressed on a scale, and that it cannot be summed. This is because happiness is a private experience which is felt in many different ways and therefore it cannot be used to measure individual welfare and aggregate social welfare (see Frey and Stutzer, 2006). Economists use the concept of 'utility' as an alternative for the direct statements of individuals. This utility is derived indirectly by looking at behaviour (revealed preferences) of individuals.²³ According to Van Praag (2007, p. 42) the influence of Behaviourism in general and the work of Robbins (1932) and Hicks and Allen (1934) laid the foundations of the fundamental aversion among economists towards the concept of well-being and happiness. 'The success of the ordinalist revolution of Lionel Robbins (among others) in 1932 has fixed the meaning of 'utility' for more than a half-century of economists as a representation of an individual's preferences over alternatives. The practice of economics has made this concept of utility immensely valuable in thousands of applications' (Kimball and Willis, 2006: p. 3).²⁴

²² In particular, Kimball and Willis (2006) propose that happiness is the sum of two components: (1) *elation* (or short-run happiness) which depends on recent news about lifetime utility and (2) *baseline mood* (or long-run happiness) which is a sub-utility function much like health, entertainment, or nutrition.

²³ Also called 'revealed preferences' by Samuelson (1947).

²⁴ This utility is ordinal utility and according to Van Praag (2007) the tract of Robbins (1932) lead to the erosion of the cardinal utility concept and thereby economic science lost its relevance for socio-economic policy.

Although the ordinalist revolution recognized the role of psychology in the explanation of economic behaviour,²⁵ it did (at that time) not recognize the idea that feelings could be measured in an operational way. Measuring individual welfare occurs in an ordinal way (not cardinal) so interpersonal comparisons of utility make no sense. Results of a choice process are observed by an economist but the underlying components of the choices are not observed. ‘In terms of the traditional consumer model, he (the economist) observes only the preferred commodity bundle, but not the indifference curves behind it. Happiness economics makes an attempt to observe and estimate the indifference curves on a space of alternatives. Such a space may involve various combinations of income, family size, health, etc.’ (Van Praag, 2007: p. 43).

Ng (1997, p. 1848) similarly argues that ‘happiness is more important than the more objective concepts of choice, preference and income.’ The author gives two reasons for this. First, happiness is the ultimate goal of most (if not all) people and second, it seems that for most economically advanced countries evidence suggests that money does not buy happiness (for the whole society in the long run). It is this concept of happiness which has attracted increasing interest among economists in the last decades. It stems from the counter revolution of happiness and originated from the Hedonic Psychology literature (see Kahneman *et al.*, 1999). Following Kimball and Willis (2006, p. 2) in this ‘the meaning of utility is determined by the tradition in economics, while the meaning of happiness is determined by the tradition in Hedonic Psychology.’

However, for policy making and the construction of social welfare functions the step from ordinality to cardinality is important (see also Ng, 1997: pp. 1850-1854). Only if happiness can be interpersonally compared and if it can be cardinally measured, can aggregate social welfare be obtained by the sum of individual cardinal happiness. Frey and Stutzer (2006) do not take position here but they point out that on a practical level both cardinality and comparability is less of a problem (see also Ferrer-i-Carbonell and Frijters, 2004). Van Praag (2007, pp. 59-62) is more optimistic and argues that it is meaningful to accept the cardinal significance of happiness and contends that measuring of cardinal satisfaction of utility by means of questioning individuals will in the future become a matter of routine.

2.4 Measuring Happiness

Social scientists and in particular economists have traditionally been most sceptical about these direct measures of individual well-being (see Diener and Seligman, 2004). Therefore economic analysis derived utility indirectly by looking at revealed preferences. The situation has actually changed dramatically (see Graham, 2005) since great advances have been made in measuring happiness. There is now a wide-spread consensus among scholars dealing with happiness that it can be measured with

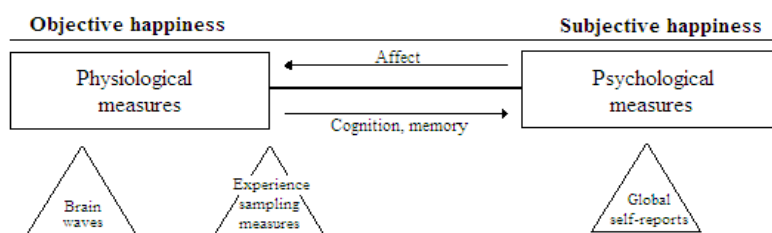
²⁵ See also Kahneman (2003).

some accuracy (e.g. Diener and Seligman, 2004; Kahneman and Krueger, 2006; Kahneman *et al.*, 2006; Frey and Stutzer, 2006) (see also Section 2.4.2).

2.4.1 Objective and Subjective Happiness

Distinguishing objective from subjective happiness is the first step one has to make when describing different types of measuring happiness. The distinction between these two is important because each requires different types of measurements. Frey and Stutzer (2002) present a figure which represents these two polar concepts of happiness. At one extreme, there is *subjective happiness*, which can be captured by surveys, and is indicated on the right-hand side of Figure 2.1. With the help of questions (single-item or multi-item) of global self reports, it is possible to get indications of individuals' evaluations of their satisfaction with life or happiness. Behind a person's score lies a cognitive process by which he or she evaluates happiness compared to other persons, past experience, and expectations of the future. At the other extreme, there is the concept of *objective happiness*,²⁶ which is indicated on the left-hand side of Figure 2.1. It refers to physiological approaches. These measures endeavour to capture happiness, particularly by measuring brain waves. 'This approach comes close to the idea of a *hedonimeter*, which directly measures cardinal utility' (Frey and Stutzer, 2002: p. 5).²⁷

Figure 2.1 Concepts of Happiness and its Types of Measuring



Note: (source: Frey and Stutzer, 2002: p. 4).

Kahneman (1999, 2000) also distinguishes these two notions of happiness. *Subjective happiness* is the same as in the previous paragraph (asking people to state how happy they are). However, *objective happiness* differs from the definition by Frey and Stutzer (2002). According to Kahneman (1999, pp. 4-5) objective happiness can be derived from the recording of instant utility over a particular period. Instant utility is the strength of the tendency to continue or to interrupt a particular experience. Kahneman admits that objective happiness is ultimately based on subjective data but it is labelled 'objective happiness' because 'the aggregation of instant utility is governed by a logical rule and could

²⁶ See Appendix A for an elaboration of this objective happiness.

²⁷ Figure 2.1 also indicates another measure of happiness in between the two polar extremes: experience sampling measures. These measures are typically carried out several times a day for many days, ascertain emotions, moods, and other feelings at random moments in the everyday lives of people.

in principle be done by an observer with access to the temporal profile of instant utility' (Kahneman, 2000: p. 5).

2.4.2 Measures of Subjective Happiness

Now that the difference between objective and subjective happiness is apparent, this section describes some measures of subjective happiness (e.g. surveys of so-called self-reported or avowed happiness).²⁸ Many sources of data exist that have for many years recorded individuals' survey responses to questions about SWB or happiness.²⁹ In the World Values Survey (WVS), for example, respondents are asked, 'All things considered, how satisfied are you with your life as a whole these days?' Respondent can answer on a 1 (dissatisfied) to 10 (satisfied) scale. The feeling of happiness is assessed by the question 'Taking all things together, would you say you are (...)?' Respondents can choose between 'very happy' (1), 'quite happy' (2), 'not very happy' (3), or 'not at all happy' (4).³⁰ Another source is the General Social Survey (GSS) of the United States,³¹ which has for many years been interviewing people annually about their levels of happiness.³²

On average, respondents have little trouble answering these questions. In the 1998 GSS, for example, less than 1 percent of respondents refused to provide an answer; by contrast, 17 percent of respondents refused or were unable to provide answers about earnings (Kahneman and Krueger, 2006 and Layard, 2003).

Another example is to study psychiatric measures of mental distress. The British Household Panel Study (BHPS) gives mental well-being scores from a form of psychiatric evaluation known as the General Health Questionnaire (GHQ). The first sweep of the BHPS provides information, for the year 1991, about a random sample of approximately 6,000 working Britons. One way to assess these people's feelings of SWB is to use their scores from the GHQ section of the survey.³³ The data then

²⁸ Veenhoven (2005, 2006) also pleads for the use of the so called 'happy life years'. In this measure answers to happiness questions and the expected life expectancy are combined. Van Praag (1971) introduced the Leyden approach which focuses on the evaluation of income (also called utility of income, income satisfaction or economic welfare) (Van Praag and Frijters, 1999: p. 417).

²⁹ Different question have been developed to measure happiness by self-report. For a review of scales and items, see Veenhoven (1984, chapter 4, 2005, 2006). Sometimes also the Mood level is measured by using the Affect Balance Scale (ABS) (see Bradburn, 1969).

³⁰ These measures resemble the 'Ladder of Life' rating developed by Cantril (1965).

³¹ For European countries, there is similar information available. The Eurobarometer Survey Series asks: 'On the whole, are you satisfied, fairly satisfied, not very satisfied, or not at all satisfied with the life you lead?' Answers are available for random samples, from 1973 to the present, of approximately 1,000 people per year per country (Oswald, 1997: pp. 1817-1819).

³² These surveys are of randomly selected samples of Americans, so the information they provide can be treated as representative of the nation as a whole. A question from the US General Social Survey is 'Taken all together, how would you say things are these days: would you say you are very happy, pretty happy or not too happy?'

³³ In its simplest form this assessment weights the answers to a set of 12 questions. The answers to the questions are coded on a four-point scale running from 'disagree strongly' to 'agree strongly'. Then they are combined into a total GHQ level of mental distress in which high numbers correspond to low feelings of well-being (Oswald, 1997: p. 1820).

provides a mental stress or unhappiness level for each individual in the sample. Argyle (1989) argues that a GHQ assessment is one of the most reliable indicators of psychological or mental distress.

How should a social scientist interpret answers to questions concerning happiness? After all, happiness is neither a direct, verifiable experience nor a known personal fact like one's phone number or address (see Dutt, 2006). First of all, it might be argued that interview responses to happiness and satisfaction questions do not mean anything valid (Graham, 2004, 2005). Kahneman and Krueger (2006, p. 6) contend that 'it is a global retrospective judgement, which is determined in part by the respondent's current mood and memory, and by the immediate context.'³⁴ In addition to this, reported satisfaction or happiness can also be strongly affected by earlier questions in a survey. Another disadvantage³⁵ of surveys (especially from the Eurobarometer) are cultural and linguistic differences. Large differences in survey outcomes in Europe can be a consequence of linguistic dissimilarities. This is partly the problem of translation (words like 'happiness', 'contentment' and 'satisfaction' have subtle denotations in English, and other languages). Inglehart and Klingemann (2000, pp.168-169) examine these cultural and linguistic dissimilarities and conclude that cross-cultural differences in SWB are originated from societies' historical experiences and not from translation. Diener *et al.* (1995, 1999) and Veenhoven (1989, 1996, 2002) also extensively discuss the reliability of subjective evaluations of life and conclude that they are reliable. For example, there are correlations between self-reported happiness and being rated as happy by one's family or friends, smiling a lot, and increased blood-flow in certain parts of the brain. Frey and Stutzer (2002, p. 26) even conclude that 'self-reported happiness has turned out to be the best indicator of happiness.' Kahneman and Krueger (2006, p. 7) show themselves moderately optimistic, arguing that 'considerations of the effects of context, mood and duration neglect indicate certain limits on the reliability of the standard life satisfaction and happiness questions, but that they are not necessarily grounds for dismissing the method altogether.' Oswald (1997) also acknowledges these shortcomings of surveys. 'But, if the aim is to learn about what makes people tick, listening to what they say seems likely to be a natural first step' (Oswald, 1997: p. 1816).

³⁴ For an example of the power of context, see the elegant demonstration of Schwarz (1987) in Kahneman and Krueger (2006, p. 6).

³⁵ The relevance whether this is a major or minor disadvantage is beyond the dispute of this thesis.

3. The Welfare State

What exactly is the welfare state? This chapter deals with the subject of the welfare state. The first section expounds the general concept of the welfare state. The second section deals with explaining the forces behind the realization of the welfare state. Section 3 considers different welfare regimes and forces for convergence and divergence (some criticism).

3.1 The General Concept of the Welfare State

Although the origin of the word ‘welfare state’ as well as the origin of the welfare state as such is still in dispute,³⁶ Germany is generally held to be the first modern social welfare state.³⁷ In Germany, the term ‘social state’ (*sozialstaat*) has been used since approximately 1890. The implementation of Otto von Bismarck’s ‘state socialism’ and the social legislation in Germany at the end of the nineteenth century aimed at supplying the economically active population with insurance against old age and different risks like sickness, disability and industrial accidents (Khoudour-Castéras, 2005). The development of increased public welfare spending can be seen as an outcome of the industrialization and urbanization process and its effects (De Mooij, 2006). Traditional institutions (e.g. family, guild and village communities) declined, more risks arose (e.g. risk at work and the risk of *living longer*) and the state’s ability to contribute to the demand of its population (due to tax income as a consequence of the emergence of the monetary economy) are some examples of these effects (see Overbye, 1994: pp. 324-326). During the post-war period, when many countries in Europe moved from selective or partial provision of social services to relatively comprehensive coverage of the population, the actual development of the modern welfare state took place (Haveman, 1985; Esping-Andersen, 1990, 1999; De Mooij, 2006).

Defining a welfare state is not an easy task. Barr (1992, p. 741) states: ‘Defining the welfare state continues to baffle writers and, as with poverty, much effort has been wasted in the search.’ In a more recent book (entirely dedicated to the welfare state) Barr (2004, p. 21) also puts forward that the welfare state ‘defies precise definition’. The problem of defining the welfare state comes from three areas of complication. First, individual welfare derives not only, nor necessarily primarily, from state institutions, but also from other sources.³⁸ Second, modes of delivery are diverse. Even though a service may be funded by the state, it does not follow that it must necessarily be publicly produced.

³⁶ The origin of the word is not clear and actually debatable (see Gould, 1993). Although some believe that the term is coined by Archbishop William Temple during World War II. Hayek (1960, p. 502) asserts that the term stems from German nineteenth century historians. They described it with the older German word ‘wohlfahrtstaat’.

For an historical overview of the evolution of the welfare state (and comparable early versions) see Esping-Andersen (1990) and Barr (1987, 1992).

³⁷ See Fay (1950). There is also vast literature containing a widespread tendency to portray Keynes as the founding father of the Welfare State (see Buchanan and Wagner (1977) in Marcuzzo, 2005).

³⁸ 1. Wage income/ occupational welfare, 2. welfare by private provision, 3. voluntary welfare (Barr, 1992).

The third complication arises when drawing the boundary for the welfare state. Expenditures that are typically excluded such as environmental policies are very similar in purpose to activities that are included (Barr, 1992).

Nevertheless, Rice *et al.* (2006) define the welfare state as a distinctive combination of democracy, welfare and capitalism. This is rather a broad definition. According to Lampman (1984) and later Barr (2004) the term welfare state is used as a shorthand for the state's activities in four broad areas: (i) cash benefits, (ii) health care, (iii) education, (iv) and food, housing and other welfare services. The term is not, however, applied to a state run economy. As Veenhoven (2000, p. 98) puts it: 'The term welfare state is used for modern societies in which many welfare services are produced and distributed under state control. The word does not indicate the kind of services that are being provided.' Veenhoven (2000) distinguishes two senses of the welfare state, i.e. the narrow and the broad sense. The narrow sense includes financial services, i.e. insurance for illness, unemployment and disability in particular. The broad sense comprises collective provisions concerning education and culture.³⁹

As early as 1965, another distinction has been made between two different types of the welfare state. Wilensky *et al.* (1965) distinguish the residual from the universal welfare state, a distinction which has been widely used and which still holds today.⁴⁰ The residual welfare state (in which the U.S. is frequently placed) is intended mainly as a safety net for the poor. Characteristics are private provisions for the non-poor and income testing of publicly provided services. In contrast, a universal welfare state is characterized by services intended for all socio-economic groups. Germany is for example a country for which this type of welfare state applies.

In the view of Gatti *et al.* (2006) the role of the welfare state is simply to improve individual and collective well-being. This objective, achieved by regulation and spending, is threefold; the first is the protection of workers in the workplace (e.g. regulation of working hours, safety and health) and employment protection; second, income support for workers in low-paid jobs; and third (to which most welfare spending is directed), to provide insurance against loss of income and caring services related to unemployment, sickness and retirement (see Esping-Andersen, 1990: p. 1).

3.2 Grounds for the Welfare State

3.2.1 Redistribution

'Because it taxes and spends, the welfare state is by definition redistributive [...]' (Esping-Andersen and Myles, 2008: p. 1). In the view of Moene and Wallerstein (2003, p. 485) most scholars consider

³⁹ This is similar to the OECD's definition of the welfare state, which includes spending on health, social services and social security, but not on education, see also Gatti (2006, p. 306).

⁴⁰ This distinction is also made by De Mooij (2006). Moreover the author introduces the 'diversified welfare state' which emphasizes commitment, long-term relations and decentralized solidarity in small collective groups (De Mooij, 2006: p. 155).

the welfare state in redistributive terms. This means that higher levels of political support for redistributive policies is generated by higher inequality of market incomes. Expansion of welfare spending leads to more gains and less losses of low-income earners (relative to high-income earners) so that the poorer the majority of the voters relative to the average income the greater the expected support for welfare expenditures (Overbye, 1994).

Overbye (1994) distinguishes two different redistribution approaches when trying to explain welfare expenditure. The first is the 'self-oriented redistribution' approach. Welfare spending results from the rent-seeking activity on behalf of the bureaucrats and beneficiaries. The second approach is the 'altruistic redistribution'. In the latter approach altruistic (other-regarded) preferences underlay demand for welfare expenditures. In addition, it can also be the benevolent paternalism of the politicians by which welfare spending is motivated. However, these two approaches are faced with some problems (e.g. relative increase, see Overbye, 1994: pp. 314-316). What is more, they are unable to explain welfare expenditures. Hence the author constructs a theory which is able to explain different welfare schemes and their stability: the insurance approach to welfare spending (see Section 3.2.2).

The welfare state's redistributive intention and more equality in consequence also has a downside. According to most economists redistributive transfers increase equity but cause a loss in efficiency (for substantial empirical evidence see Burtless, 1986 and Blank, 2002). According to Freeman (2001, p. 4) equity and efficiency are inversely related 'because the supply of effort or other resources needed for efficient production is highly responsive to the incentive that are the flipside of inequality.' The fact that greater equity must come at the inevitable cost of loss of efficiency is called the efficiency/equity tradeoff. In his book 'Equity and Efficiency: The Big Tradeoff' Okun (1975, p. 23) describes that a one dollar transfer from a rich individual to a poor one results in a less than one dollar increase in the income of the poor individual. This is called the 'leaky bucket experiment' (the money from the rich to the poor is carried in a leaky bucket). Okun identifies four reasons for this. First there are administrative costs: in order to collect taxes and distribute transfers, the federal government has to hire people and buy computers. The second 'leak' is the change in work effort: as a result of an increase in income taxes a (rich) individual might choose to do less work, enjoy more leisure than he or she would otherwise do or shift his or her effort towards less taxed services. The third reason is the change in saving and investment behavior induced by redistribution: the impact that high tax rates have on the willingness to invest and save (see Okun, 1975: p. 98). The fourth and final reason is the socio-economic leakage or the changes in attitudes: these leakages focus on adverse effects of attitudes rather than on the loss of real GNP. For instance, the high tax rates caused by redistribution may lower the motivation to acquire human capital. These tax rates may adverse ethical judgment of talented youths on economic success and curb them in their development (Okun, 1975: p. 102).

So there is a tradeoff between efficiency and equity depending for example on different institutional arrangements. The steepness of this tradeoff is unclear. However, one can imagine that if

this tradeoff is sufficiently steep a more unequal distribution of income is desirable because it increases efficiency in terms of income of all citizens (Freeman, 2001). The important question is how much inefficiency or losses (or leakages) a society is willing to accept in order to achieve a particular level of equity within a society (see also Berg, 2007).⁴¹ Freeman (2001) advances the importance of different values across countries (e.g. different preference of Europeans than of Americans for economic security and equality)⁴² (see also Alesina *et al.*, 2004 and Di Tella and MacCulloch, 2005). Fong (2001, p. 225) asserts: ‘the reason why citizens of democratic countries support or oppose redistribution to strangers remains poorly understood, despite much research on the public sector of the welfare state.’ This is in line with Putternam *et al.* (1998) who stress that preferences for equality may be an important area for future research.⁴³

However, there are studies concerning these preferences (e.g. Lindbeck *et al.*, 1999). Luttmer (2001, p. 519) finds evidence that interpersonal preferences can explain redistribution. Income redistribution is higher in relatively (demographic) homogenous areas. Corneo and Grüner (2002, p. 106) present evidence that preferences for redistribution are shaped by more than just pecuniary gain. The desire to obtain high social standing or to act in accordance with public values are also factors that shape individual preferences for redistribution (see also Corneo and Grüner, 2000 and Alesina, 2007). According to Alesina and La Ferrara (2005) individual perceptions about equality of opportunities are important features in the determination of redistribution preferences. They also find a negative correlation between redistribution preferences and an objective index of future income and subjective index of future upward mobility. Garcia-Valinas *et al.* (2008) state that it is reasonable to assume that lower necessity of equality implies smaller preference for redistribution and therefore for social programs. Conversely, redistribution will be supported by groups who expect to get benefits out of it in the near future. The authors find that regional conditions (higher income equality leads to preferences for income equality), socio-demographic factors (more educated people are more opposed to redistribution) and, ideological factors (orientation to the right correlates with lower preferences for income equality) matter (Garcia-Valinas *et al.*, 2008: p. 31).

It seems that there are many possible factors that influence individual preferences for redistribution (like ideology, fairness perceptions, trust in institutions, reciprocity and political interest) that need to be considered and studied in a more detailed and comprehensive manner.

⁴¹ Okun (1975) pays no attention to how the leakages in the bucket can be minimized. For an elaboration of whether and under which circumstances efforts to produce greater equity must inevitably lead to greater inefficiency see Blank (2002). The author argues that the level of leakage can vary substantially across programs.

⁴² Where these different preferences come from is unclear but according to Freeman (2001, p. 45) they likely result from past history and path dependent changes in preferences or experiences about aversion to risk.

⁴³ For an overview of some recent studies see Garcia-Valinas *et al.* (2008).

3.2.2 Insurance

An alternative ground next to the redistributive view of welfare spending is that of social-insurance policies. Though insurance policies also have a redistributive character they are not redistributive ex ante (Moene and Wallerstein, 2003). Mueller (1989) argues that the insurance aspect may be of larger significance and that the redistributive aspect may not be the crucial trait of welfare spending. In a study of the genesis of the welfare state in different European countries, Baldwin (1990, p. 18) asserts the same: 'Protection against risk has been sought more universally than a redistribution of resources.' According to Esping-Andersen and Myles (2008, p. 3) economic theories see the welfare state as replacing insurance markets. The authors argue that in situations with strong adverse selection and information asymmetries the government may be a better insurer of risks with respect to efficiency.

As already stated in the previous subsection, Overbye (1994, p. 318) argues that redistribution is not necessarily the ultimate purpose of welfare schemes and that the demand for insurance in the electorate actually determines welfare expenditures. Voters want to insure themselves against various social risks (i.e. life situations or conditions in which an individual's life situation may be at risk, cf. Baldwin, 1990). Overbye (1994) contends that due to adverse selection bad risk will drive good risk out of the market leading to higher insurance premiums which in turn drives more good risk out of the market. Eventually, the average premium of the remaining bad luck is driven above the level that the risk averse medium voter would have to pay in a compulsory scheme (see Overbye, 1994: p. 20). So, situations of adverse selection in the end lead to a situation in which the larger part of the electorate will prefer a compulsory and not a voluntary market solution for their insurance demand.

The risk of becoming unemployed or sick is a social risk which involves 'interdependence'. The risk of sickness or unemployment increases with the risk of other people becoming unemployed or sick (think of periods of recession and infectious diseases, a topical subject at the time of writing this thesis). These situations are problematic when providing insurance through the market and lead the electorate to seek political means to satisfy its demand for unemployment and health insurance.

Finally, it is not clear whether redistribution or the insurance motive as such can explain welfare spending. It could be a mixture of the two motives. Moene and Wallerstein (2003, p. 487) argue that this is the case and that this mixture determines the support for welfare expenditures.

3.3 Welfare State Regimes

Esping-Andersen and Myles (2008, p. 5) present a figure depicting the relation between net social expenditures and the change in income inequality in 15 OECD countries for the year 2000. The regression estimation shows that a 10 percent increase in social spending would lead to a one percent point reduction in inequality. However, the authors argue that the reader has to be cautious when interpreting this result as unequivocal evidence for the size-redistribution thesis (the strong correlation between welfare state size and equality) and that merely looking at the size of welfare states is not adequate. Countries also differ in their institutional design.

According to a broad field of literature on the political economy of the welfare state, the welfare state can be seen as a collection of different institutional arrangements aiming to embed a viable 'political compromise' (Amable, 2003). As Gatti (2006, p. 309) asserts: 'This emerges out of heterogeneous (and frequently opposed) interests of social and/or ethnic groups within the political arena.' Esping-Andersen (1990) concludes the same. He views different sorts of class coalitions and political partisanship as the source of various welfare state configurations. 'To fully understand welfare states we need to situate them in the full context of welfare production and consumption. I term this welfare regimes' (Esping-Andersen and Myles, 2008: p. 7). Esping-Andersen (1990, 1999) and Esping-Andersen and Myles (2008) distinguish three different regimes, i.e. the liberal regime, the social-democratic regime, and the conservative regime.

The liberal regime is represented by the Anglo-Saxon countries (e.g. Canada, Ireland, U.K. and the U.S.) and is characterized by minimal public intervention. The role of the government is to supervise market transactions and it is assumed that the majority of the inhabitants can obtain adequate levels of welfare from this market. In this regime the labor markets are also unregulated leading to higher employment growth. However, the shady side is that there is high social insecurity, high wage inequality, and social benefits to the poor are ungenerous in Anglo-Saxon countries. This all leads to increased risk of poverty.

The second regime, the social-democratic regime, is the opposite of the previous regime and is represented by the Nordic countries (e.g. Denmark, Finland, Norway and Sweden). The main characteristic is universal entitlements and the high expenditures on welfare. 'Excluding health care, social services now account for more than 20 percent of all social expenditures in Denmark and Sweden (compared to a 4-5 percent average for the OECD countries)' (Esping-Andersen and Myles, 2008: p. 10). The labor market is in terms of wage setting and hiring and firing fairly regulated and in promoting maximum employment social policy has played a large role (e.g. high female participation and the participation in training, retraining and job relocation programs).

Most of the Continental European countries like Austria, Belgium, France, Germany, Italy, the Netherlands and Spain belong to the more heterogeneous welfare state regimes with conservative origins and built on social insurance.⁴⁴ This welfare regime is 'transfer-heavy and service-lean' (Esping-Andersen and Myles, 2008: p. 11), and heavily based on family ties since the responsibility of welfare lies within the family. As in the social-democratic regime, the role of private welfare is marginal and social insurance offers benefits to the employed population. Labor market regulation is very strong within this regime leading to high labor costs and low unemployment among older workers and high youth unemployment (Esping-Andersen and Myles, 2008).

⁴⁴ Greece and Portugal are omitted by the author. For a discussion of whether the Mediterranean countries fit within a special fourth model see Esping-Andersen (1990, 1999).

3.3.1 Convergence of Welfare State Regimes

The three regimes described differ in their institutional structure and a careful look at Table 3.1 reveals that countries that can be classified as a liberal regime are characterized by relatively low social spending. In the liberal economies the increase in social spending was less than in the Northern European countries. These countries had higher social spending in 1980 which suggests strong social democratic influences (Esping-Andersen, 1990).

Table 3.1 Social Spending (% GDP) in some OECD Countries in 1980 and 2001

	1980	2001
France	21.1	28.5
Germany	23.0	27.4
Japan	10.2	16.9
Sweden	28.8	28.9
United Kingdom	17.9	21.8
United States	13.3	14.8
OECD mean	18.3	22.5
OECD std dev.	5.8	4.6
N. Europe (means)	22.6	26.4
S. Europe	14.2	22.4
Liberal economies	15.2	17.4

Note: (Source: OECD, Social Expenditure Database) Social expenditure includes unemployment and pension benefits, health, and social services, but not education. The OECD standard deviations and mean refer to 21 countries: Northern-Europe to 10 countries; Southern-Europe to Greece, Spain, Portugal, and Italy; and liberal economies refer to Australia, New-Zeeland, Ireland, Canada, the U.S., and the U.K.

Nevertheless, the difference in the institutional framework of the Continental and Nordic regime converged somewhat (in terms of spending) between 1980 and 2001.⁴⁵ The literature discusses several reasons and important influences for the convergence of the different regimes in the recent decades.

Cusack *et al.* (2006) find that unemployment and loss of industrial jobs (caused by deindustrialization) are strongly associated with higher transfer spending in OECD countries. Another important influence is the rise in income inequality in many OECD countries. This holds particularly for the U.S. and the U.K. for the past two decades. This leads to the presumption that as median voters find their income sinking further below the mean they tend to increase political pressure for redistribution (see Moene and Wallerstein, 2001).

Globalization can also be seen as an influence. First and foremost because it has played some role in growing income inequality and deindustrialization and furthermore it can be seen as a source

⁴⁵ The table also shows some convergence between countries' spending (as shown in the decline of the standard deviation).

for high unemployment. Rodrik (1997) argues that globalization leads to economic instability in countries and therefore increases demand for unemployment insurance (see also Sandmo, 2002).

Another major impact on many types of welfare spending, is the size of the dependent population (children and the retired) relative to the population of working age. The virtually proportionate effect on the growth of share of government spending in GDP is confirmed by correlating public spending trends across OECD countries with growth of the dependent population (see Gatti, 2006: p. 304).⁴⁶

3.3.2 Welfare State and Economic Performance

There have also been factors pushing in the opposite direction: the increased budget deficits and the slowdown of growth in the 1970s and the fear that arose about worsening economic performance by welfare spending. The idea that certain welfare-state programs have adverse effects on economic performance has a growing influence on policy makers (see Cowen, 2000 and De Mooij, 2006). In fact, from the 1980s onwards criticism arose about the effectiveness of welfare states in fulfilling their objectives (Murray, 1984). These criticisms are, especially in European countries, largely motivated by weak economic performance, affected by state regulation and the disincentives that could result from high tax rates and benefit levels. 'The idea is that citizens would get too dependent and less inclined to work, causing growth to decrease' (De Mooij, 2006: p. 37).

These are plausible mechanisms through which higher social spending might diminish economic growth, but there are also arguments in the other direction, i.e. if the provision of welfare improves human capital or the allocation of labor (Gatti, 2006 and De Mooij, 2006). Despite the fact that the impact of welfare spending on growth is examined by a number of studies, the results still seem diverse. Arjona *et al.* (2002) find that in OECD countries with high social spending, growth rates declined over the period since 1970. Their outcomes are: an extra social expenditure worth 1 percent of GDP is associated with a decline of the growth rate by roughly 0.1 percentage point. The similar result is found by Alesina *et al.* (2002) who conclude that public spending increases labor costs (through government wage bills) and thereby reduces profits and investment: a 1 percent of GDP increase in social spending corresponds to a decline of the profit share by 0.3 percent and the investment share of GDP by 0.6 percent. By contrast, other studies find no association between economic performance and welfare expenditure in developed countries. Furthermore, there is no evidence that welfare states impede progressive social development or lead to lower growth, lower productivity and higher unemployment (see Atkinson, 1995 and Goodin, 1999). In fact, in an overview paper, Arjona *et al.* (2002) outlines several studies: four were insignificant, *seven* showed positive effects of social spending on growth and four were negative.

⁴⁶ Although this factor has a major influence on welfare spending over recent decades, this growing burden will become a problem for the future of many welfare states. This thesis will not examine this matter. For a discussion about the sustainability of the welfare state see Kuhnle (2000), De Mooij (2006) and Gatti (2006).

Other criticisms refer to *not* helping the poor, inefficiency and costs (see Murray, 1984).⁴⁷ There is the belief that services provided by the state are more expensive and that the provision is less efficient than when provided by private businesses. However, conclusive evidence is missing. The critique that welfare states result in high taxes to finance them is usually true; see for example Denmark and Sweden with both a tax level of over 50 percent of GDP in 2002⁴⁸. Nevertheless, these high tax levels do not necessarily imply less income for the nation overall, since the state taxes go back directly to the people it is taxed from (see Esping-Andersen and Myles, 2008 and Barr, 1992: p. 748).

⁴⁷ See Cowen (2000) for a discussion of Murray's argument.

⁴⁸ 50.4% and 50.2% of GDP, respectively (*source: OECD*).

4. The Welfare state and Happiness

This chapter elaborates the theoretical relations between the welfare state and happiness. The first section considers some previous empirical research on this subject, i.e. particular attention is paid to the outcomes of these studies. Thereupon, Section 2 to Section 4 deals with specific aspects of the welfare state and their hypothesized relationships with happiness viz. income and inequality and happiness, unemployment and happiness and health and happiness. At the same time, these sections provide the hypotheses of this thesis, which are tested in the next chapter.

4.1 Previous Empirical Research

The introductory part of this thesis made clear that previous research has shown a number of indicators to be significant with happiness at the individual level. This section elaborates upon previous research in the field of the welfare state and happiness.

In a comparative study of 35 nations, Ouweneel and Veenhoven (1995) test the thesis that levels of well-being are higher in welfare states. In his article *Well-Being in the Welfare State*, Veenhoven (2000) replicates this analysis using a larger set of nations and tests the theory whether the level of well-being is higher in welfare states and if its distribution is more equitable. Although this relation was not undisputed theoretically, Veenhoven was actually the first who tested it empirically.⁴⁹ The motivation for his study originates from the simple assumption that the development of the welfare state (i.e. the development of welfare services and arrangements under state control for the unemployed, the sick, and the elderly) contributes to well-being and happiness.⁵⁰ As Veenhoven (2000, p. 91) puts it: ‘In this view, well-being will be higher and more evenly distributed in ‘advanced’ welfare states, such as Sweden, than in welfare ‘laggards’ such as the United States.’ He tests this theory in a comparative study of 41 nations from 1980 to 1990. He measures the size of the welfare state by social security expenditures as a percentage of GDP and the well-being of the citizens in terms of the degree to which they lead healthy and happy lives.

Contrary to Veenhoven’s (2000) expectation, these results show no relation between the size of the welfare state and the level of well-being within it. People are not less healthy or less happy in countries with less magnanimous states than in countries with generous social security schemes. Furthermore, reductions or increases in expenditures on social security had no effect on the level of health and happiness. These results are to a large extent in line with the results by Ouweneel and Veenhoven (1995).

⁴⁹ By own acclaim (Veenhoven, 2000: p. 92).

⁵⁰ This notion is also quite current in public opinion. It is believed by a majority of the Dutch population that the social security system makes people live more happily (Veenhoven, 2000: p. 92).

In contrast with the results of Ouwenel and Veenhoven (1995) and Veenhoven (2000), Di Tella *et al.* (2003) find that higher unemployment benefits have a positive and significant⁵¹ effect on life satisfaction. A similar study by Radcliff (2001) finds the same results: in a time-series analysis of 11 European countries over the period 1973-1990 he finds a statistically significant relationship between life satisfaction and welfare spending.

Ouwenel (2002) examines the link between social security and the well-being of the unemployed. The author investigates data in 1990 for 42 countries. Social security is measured as expenditures in percentage of GDP and well-being is measured by self-reported health, overall happiness, life satisfaction and mood. Contrary to his expectations, Ouwenel (2002) finds that in general the level of social security has hardly any beneficial (or detrimental) effect on the well-being of the unemployed; the unemployed in welfare states report about the same levels of well-being as the unemployed in non-welfare states. Bjørnskov *et al.* (2007) investigate the link between life satisfaction and government size empirically. They use data from the WVS for a cross-section of 74 countries (aggregated at the country level). Their outcomes are straightforward; life satisfaction decreases with government consumption and more important social spending has no significant impact on life satisfaction.

In another paper Bjørnskov *et al.* (2008a) explore a wide range of cross-country determinants of life satisfaction. The authors investigate the importance of different variables on individual life satisfaction. The potential determinants of satisfaction are classified into four groups. These groups of aggregate variables are (i) political, (ii) economic, (iii) institutional, (iv) and human development and culture. With respect to the economic factors the results are clear: well-being robustly increases with higher subsidies (welfare transfers) and higher marginal tax rates. Higher per capita GDP is positively and robustly associated with life satisfaction and more government consumption is negatively associated with life satisfaction (the latter detrimental influence supports previous findings reported in Bjørnskov *et al.*, 2007). Unemployment is prejudicial to life satisfaction while greater globalization leads to an increase in life satisfaction. Finally, public debt only reduces life satisfaction of high income people. A remarkable outcome is that economic growth reduces life-satisfaction of people belonging to the middle income group (see Bjørnskov *et al.*, 2008a: p. 152).

Now it is time to take a closer look at our hypotheses. As already pointed out in the introductory chapter, this thesis wants to procure more theoretically grounded hypotheses. The next three sections form the foundation for this and every section focuses on specific welfare state elements and their effect on a different subgroups in society.

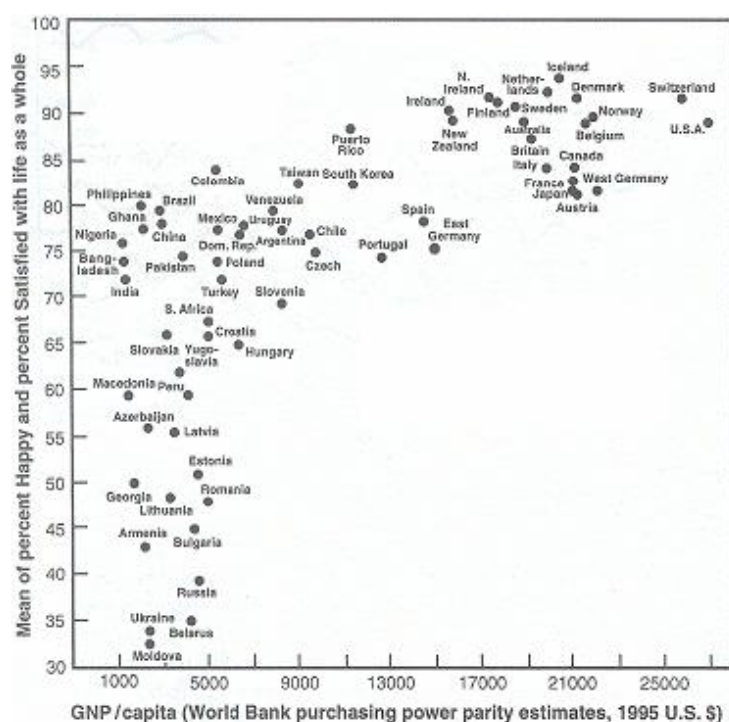
⁵¹ Significance could only be accomplished by pooling all the separate year samples into one large sample (see also Ouwenel, 2002: p. 169).

4.2 Income, Inequality and Happiness: Hypothesis 1

4.2.1 Income and Happiness

As mentioned, most economists take it as a matter of course that higher income leads to higher happiness. And why not? A higher income expands individuals' and countries' opportunity sets, that is, more goods and services can be consumed. Little support for this argument can be found in a paper by Oswald (1997) which suggests that, in a developed nation, economic growth buys a (small) amount of extra happiness.⁵² More support can be found in a paper by Di Tella *et al.* (2003) in which the authors expose that macroeconomic movements have strong effects on the happiness of nations. The authors argue that macroeconomics matters. This is the main finding of their article. An important conceptual issue is whether improvements in national income lead to permanent or just temporary gains in national happiness, i.e. is it the level or the change in GDP that influences well-being? The writers conclude that there is statistical support for both channels.⁵³

Figure 4.1 Income and Happiness



Note: (source: World Values Survey).

⁵² The author offers four main pieces of evidence for this claim: (1) Reported happiness in the United States has gone up only fractionally over the post-war period. (2) Reported levels of 'satisfaction with life' in Europe are only slightly higher than they were twenty years ago. (3) The number of men committing suicide has risen, in almost all Western nations, from the 1970s to the present. (4) Job satisfaction has not increased in the United States and the United Kingdom (Oswald, 1997).

⁵³ The persuasive evidence for a change-in-GDP effect upon a country's happiness is consistent with theories of adaptation. Therefore, it seems likely that some of the well-being gains from extra national income wear off over time. The authors' conjecture is that there are strong habituation effects so that human beings get used to a rise in national income, but that not all of the benefits of riches dissipate over time. 'Future research, with longer runs of data, will have to revisit that conjecture' (Di Tella *et al.*, 2003: p. 823).

Support for the fact that people with higher income are, on average, happier than low-income people can be found in Frey and Stutzer (2002). Their view is also shared by Layard (2003, 2005) who states that 41% of people in the top quarter of income are 'very happy' compared with only 26% of those in the bottom quarter of incomes. 'The problem is that over time the proportions of each group who are very happy have not changed at all although the real incomes in each group have risen hugely. This is true of all the main Western countries' (Layard, 2003: p. 3). Further evidence on income and happiness comes from comparing different countries (see Figure 4.1). As the figure shows, people in rich countries are clearly happier than are those in poor countries.

This positive relation is especially strong with countries below a GNP per capita of \$15,000; extra income per head does help if your income per head is below \$15,000 a year, but makes little difference above that level (Oswald, 1997; Layard, 2003; and Frey and Stutzer, 2000, 2002).⁵⁴

In contrast, there are some economists and psychologists (e.g. Diener *et al.*, 1997; Frey and Stutzer, 2006; Branchflower and Oswald, 2000) who do not subscribe to the idea that higher income produces higher happiness. The often dramatic increase in per-capita income in recent decades in most Western countries has not raised happiness in general (Frey and Stutzer, 2006 and Diener *et al.*, 2004). Diener *et al.* (2004, p. 3) argue that the national indices for subjective well-being have remained virtually flat over time; there has been no rise in life satisfaction during this period, and there has been a substantial increase in depression and distrust (see also Branchflower and Oswald, 2000). Richard Easterlin (1974, 1995, 2001) also concludes that 'money does not buy happiness.'⁵⁵ In order to explain the 'Easterlin Paradox' different theories exist. The *relative theory* (cf. Easterlin, 1974, 2001) suggests that happiness is relative and that it depends on a comparison of oneself with others. When income increases it increases for low as well as for high income groups so it causes no rise in happiness. The *adaptation theory* describes that people adapt to additional income. Initially, people's happiness rise with additional income. However, after some time the rise in happiness fades away due to adaptation (Brickman and Campbell, 1971). Michalos (1985) introduced the *aspiration theory*⁵⁶ which states that happiness relates to the difference between what people desire (e.g. consumption or income) and the level of what is actually achievable. Material aspirations (on which happiness judgement is based) increase in the same proportion as the actual income of the society. 'Subjective well-being varies directly with income and inversely with material aspirations' (see Easterlin, 2001: p. 481). A relatively new explanation for the happiness paradox can be found in a paper by Drakopoulos (2008). The author argues that the hierarchical structure of needs leads to the fact that satisfaction of basic needs provides a substantial increase in happiness compared to satisfaction of secondary needs.

⁵⁴ A marginal comment is that, as Figure 4.1 shows, there are also some exceptional countries with low per capita income that report reasonable high average satisfaction scores. The relationship between happiness and per capita income across countries is thus more complex and might be not as unambiguous as the authors depict.

⁵⁵ This is often called the 'Easterlin Paradox' (Easterlin, 1974).

⁵⁶ See also Vendrik and Hirata (2003).

According to Barr (1992, p. 745) a strategic aim of the welfare state is to support certain living standards. Different objectives can be distinguished. There is poor relief i.e. the guarantee of a certain income. No individual or household should fall below a minimum standard of living. Besides, there is protection of accustomed living standards i.e. no one should face an unexpected and unacceptably large drop in living standard (this is a major objective for unemployment and health related benefits, see Sections 4.3 and 4.4).

Thus, the bigger the size of the welfare state, the higher the absolute income position of the low income groups (since they are above a certain poverty line, i.e. a minimum standard) and the less the amount of poor people within the country. Given the earlier indicated fact that extra income per head does help if your income per head is below \$15,000 a year, one could conclude that happiness of low income groups should be higher in countries characterized by larger welfare states (see also Schyns, 2002).

But what about relative income? We compare ourselves constantly to some other group of people. For example, what that other group can buy influences the choices of what we want to buy⁵⁷ (Bruni and Porta, 1999). So the actual difference between our level of income and the level of income of others influences our consumption choices, instead of the absolute income level.⁵⁸ Clark *et al.* (2008, p. 120) present evidence for strong positional concerns over income. Individuals are willing to give up absolute income in order to gain status and have a better relative income position (see also Solnick and Hemenway, 1998, 2005). Since the welfare state is by definition redistributive it increases the relative income positions of the poor (more towards the median) and weakens the relative position of the rich (see also Diener *et al.*, 1997, 1999; Frank, 1997, 2005; Seghieri *et al.*, 2006; Dean, 2007; Layard, 2008).

4.2.2 Inequality and Happiness

In line with subsection 4.2.1 is the issue of inequality. The actual degree of income inequality and related redistributive government policies (i.e. welfare transfers and subsidies financed by high marginal tax rates and progressive income taxes) affect socio-economic positions and perceived fairness (Bjørnskov *et al.*, 2008b: pp. 125-126). It is the personal income distance to a comparison group that matters for happiness (e.g. Fox and Kahneman, 1992).

Morawetz (1977) finds evidence that the more unequal the income distribution the lower the individual's self-rated happiness. Alesina *et al.* (2004) argue that individuals have a lower tendency to report themselves 'happy' when inequality is high, even when individual income, personal characteristics, and year and country fixed effects are controlled for.⁵⁹ Moreover, Haller and Hadler

⁵⁷ This scenario is called 'keeping up with the Joneses'. See Duesenberry (1949, p. 32).

⁵⁸ 'You know what happiness is? It's having a little more money than your colleagues.' The words of Paul Samuelson in an interview with in 'the Atlantic' (June 18 2009). www.theatlantic.com.

⁵⁹ See also Hopkins (2008) for the relationship between inequality and happiness and the role of relative concerns.

(2006, p. 181) contend that a country with high degrees of social and economic inequality is not very attractive. This high inequality could lead to additional social problems and conflicts (e.g. high levels of violence and crime and sharp industrial and political conflicts).⁶⁰

Thus, the importance of the welfare state is again quite evident: this societal institution secures a decent standard of living to all members of a society and the extend of welfare state provisions (measured by social expenditures) *reduce* (income) inequality within a society and should therefore also be relevant to happiness (Bjørnskov *et al.*, 2008b: p. 126) This and the previous subsection lead to the following set of hypotheses:

Hypothesis 1a: Happiness of the low income group is higher in countries characterized by a larger welfare state due to more poverty relief, more income smoothing and less inequality.

Hypothesis 1b: Corollary hypothesis 1a and the fact that happiness of the high income group is lower due to higher associated marginal tax rates and lower absolute and relative income, the gap in happiness between the poor and the rich is smaller in countries characterized by a larger welfare state.

4.3 Unemployment and Happiness: Hypothesis 2

The relation between unemployment and happiness is unequivocal. All studies using happiness data find that unemployment causes major unhappiness for the persons affected. Support for the fact that unemployment appears to be a primary economic source of unhappiness can be found in Clark and Oswald (1994), Oswald (1997), Winkelmann and Winkelmann (1998), Frey and Stutzer (2000), Di Tella *et al.* (2001, 2003), Clark (2003), Böckerman and Ilmakunnas (2005), and Dockery (2005).

The sharp impact of unemployment on SWB is illustrated by data on 6,000 British workers in 1991 that show that mental distress is twice as high among the unemployed as among those who have work (Oswald, 1997: pp. 1827-1828). Interestingly, research (see Di Tella *et al.*, 2001) suggests that the worst thing about losing one's job is not the drop in take-home income. It is the non-pecuniary distress. This view is also shared by Dockery (2005) and Frey and Stutzer (2000) when they argue that the influence of a major economic variable, unemployment, on happiness is clear-cut. The authors also contend that, as the income level is kept constant, that influence is not due to lower revenue, but to non-pecuniary stress. So, an enormous amount of extra income would be required to compensate people for having no work (Oswald, 1997: p. 1821).

Frey and Stutzer (2002, p. 107) argue that unemployment needs to be considered in a wider context than is usually done in economics. The costs arising from unemployment are both psychological and social in nature. The latter has to do with the fact that one's work defines one's position in life. Not having work leads to isolation, which makes it difficult or impossible to lead a

⁶⁰ Also called *Social Evil* by Alesina *et al.* (2004: p. 2010).

satisfactory life. Di Tella *et al.* (2001, p. 340) argue that unemployment belongs in a well-being function (the inflation-unemployment trade off in well-being functions). They propose an approach that examines how respondents' reports of their well-being vary as levels of unemployment and inflation vary. The authors conclude that people appear to be happier when unemployment is low. Randomly sampled individuals mark systematically lower in well-being surveys when there is high unemployment in their country.

So what is the effect of the welfare state on unemployment and on the happiness of the unemployed? Although the unemployed are less happy than the employed (regardless the size of the welfare state) there can be a difference in average happiness of the unemployed in varied countries. In countries that are characterized by larger welfare states the level of social security is higher. There is a greater collective system of compulsory insurances for illness (see also Section 4.4) and unemployment (Ouweneel, 2002). So affluent social security can soften the burden of unemployment and thereby provide higher levels of happiness for those being involved. This all leads to the following hypothesis:

Hypothesis 2a: The absolute level of happiness of the unemployed is higher in countries characterized by a larger welfare state due to more unemployment benefits (ceteris paribus) and therefore the happiness gap between the employed and the unemployed is smaller.

Nevertheless, an important contribution of this thesis is to stress the significance of preferences of the population within a country (see Chapter 3). According to the standard neoclassical view a government plays a unequivocal positive role for the quality of life of individuals (aiming at maximal social welfare) by providing an institutional framework, levy taxes and producing major public goods. The optimal size of the welfare state depends therefore on the actual preferences of its citizens (and consequently its size presumably varies between countries). For example, if (for whatever reasons⁶¹) getting unemployed causes more pain to people in Denmark (a relative large welfare state) than to people in the UK (relatively low welfare state), people in Denmark will probably prefer and vote for a government sector typified by a large welfare state. This means that in equilibrium the size of the welfare state is 'optimal' because it is in line with the citizens' preferences (Bjørnskov *et al.*, 2007: pp. 268-269). Freeman (2000, p. 6) also stresses the importance of differences in values across countries leading to a variety in institutions when he argues 'greater preference of Europeans than of Americans

⁶¹ Conjecturing about possible reasons is beyond the scope of this thesis. According to Freeman (2000, p. 45) preference differences result from path dependent changes in past history (i.e. experiences about different outcomes and aversion to risk).

for economic security and equality arguably produces different valuations of landscapes⁶² that allows each to prefer their own institutions.⁶³ Consequently, the following hypothesis can be formulated:

Hypothesis 2b: Happiness of the employed and unemployed does not depend on the size of the welfare state (the neoclassical view⁶⁴) and therefore the size of the happiness gap between the employed and unemployed is independent of the size of the welfare state.

4.4 Health and Happiness: Hypothesis 3

‘People are very much concerned with health and they name good health as one of the major ingredients of happiness’ (Frey and Stutzer, 2002: p. 29). Good health obtains the highest ratings when people are asked to evaluate the importance of various areas of their lives. According to the authors, persons in bad health report a 13.3-percentage-point lower probability of being completely satisfied than those in good health (*ceteris paribus*) (Frey and Stutzer, 2002: p. 65).

Other studies indicate the same relation and there is abundant evidence in the literature. Larsen (1992) concludes that neurotic persons recalled more symptoms of bad health and they indicated a lower level of happiness than persons with no neurotic symptoms. Mehnert *et al.* (1990) examine the life satisfaction of persons reporting disabling conditions and compared them with a sample of nondisabled persons. They find that self-reported life satisfaction of those with disabilities is, on average, significantly less than those who report no disabilities. Second, self-reported happiness is less for those who are more disabled (in the disabled group). And third, if one’s disability is more likely to be noticed by persons who know the respondent very well, life satisfaction is lower⁶⁵ (see also Brinkman *et al.*, 1978).

Wilson (1969) already concluded that health strongly correlates with SWB. However, this only holds when health is measured by self-reported health (subjective). When ratings by physicians are examined, the correlation weakens substantially (Diener *et al.*, 1999). An important reason for this is that self-reported happiness and self-reported health are both to a large extent influenced by personality (Frey and Stutzer, 2002). Thus, happiness and health are highly correlated when health is measured by self-reported health (see also Argyle 1989; Diener *et al.*, 1999; Blanchflower and Oswald 2000; and Easterlin 2005).

Objective measures of health (i.e. mortality rates) correlate negatively with the welfare state. Wilkinson (1996) finds a positive relation between income inequality and mortality rates. Bambra (2006) finds that health status varies across welfare states and that there is a significant difference in

⁶² An example of a landscape is the efficiency-equity trade-off where equitable distributions and higher output are inversely related (see Freeman, 2000: p. 4 and 36).

⁶³ See also Alesina *et al.* (2004) and Di Tella and MacCulloch (2005). The former find evidence that inequality hurts the poor and left-wing voters in Europe more than in the US.

⁶⁴ In line with Bjørnskov *et al.* (2007) I dub this the “neoclassical view”.

⁶⁵ For a discussion about validity and the direction of causality (health to life satisfaction or life satisfaction to health) see Easterlin, 2005; p. 32.

terms of health between welfare states (looking at infant mortality). Kennedy *et al.* (1996) point out that US states characterized by high income inequality have higher death rates even after controlling for differences in welfare.⁶⁶ In the literature there are different plausible causes. Income inequality could lead to unwholesome frustrations (Kawashi and Kennedy, 1997) and higher inequality could harm the level of trust within a society and undermine social cohesion (Putnam, 1993). Furthermore, Berg (2007) contends that it is a household word that the lifestyle of the lower classes in a country is less healthy than the lifestyle of other classes. High income inequality means a comparatively large fraction of the population having an unhealthy style of life. More objective measures of health (i.e. absence of diseases) are provided by medical statistics (e.g. World Health Organization (WHO) data). However, Ouweneel (2002, p. 170) contends that these statistics are difficult to use when constructing universal health scales for nations. The reason is that some diseases are typical for the first world while others are only prevalent in the tropics.

Furthermore, health is also influenced by insecurity (see Lindblom, 1977). Insecurity and uncertainty are believed to be substantial and prejudicial determinants of health and thereby happiness. According to Esping-Andersen (1990, p. 36) market economies go hand in hand with personal loss of autonomy and economic insecurity. Radcliff (2001, p. 941) supports this view when he states: ‘It is certainly the case that the great mass of people in the industrial world depend for their livelihood on the sale of their labor power as a commodity, and that the market for that commodity is characterized by uncertainty.’ Brenner (1977) gives proof that these insecurities translate into chronic psychological stress which is clearly unfavorable to happiness. So by insulating people from market dependence, the state insulates them from stress and anxiety from the market. This is why Radcliff (2001, p. 943) argues that life satisfaction should increase as one moves from a less to a more social democratic welfare state (the direct positive effect of the welfare state on health).

‘By providing a financial safety net for everybody, the welfare state precludes the occurrence of irrevocable damage, such as chronic illness due to lack of medical treatment in years of economic recession’ (Veenhoven, 2000: p. 114).⁶⁷ Furthermore, a more developed welfare state spends more money on healthcare and thereby can contribute to more, (financially) easily accessible and better health (e.g. the more developed healthcare system should lead to an increase in longevity and lower infant mortality and disability⁶⁸) and thereby to higher self-reported happiness (Bjørnskov *et al.*, 2008: p. 128). This final subsection can be recapitulated in the third hypothesis:

Hypothesis 3: Although the average happiness of the sick is lower than the average happiness of the healthy (no matter what size of welfare state) the absolute level of happiness of the

⁶⁶ See also Sen, 1999: p. 137 for another example.

⁶⁷ See also Bartley *et al.*, (1997).

⁶⁸ Bjørnskov *et al.* (2008, p.159) find that higher infant mortality is detrimental to individual life satisfaction among all subgroups.

sick is higher in countries characterized by a larger welfare and therefore the gap between the happiness of the sick and the health is smaller.

4.5 Changes in Welfare Spending and Changes in Happiness: Hypothesis 4

Although the aim of this thesis is to investigate whether there is a link between the welfare state and happiness (for different subgroups in society, see the hypotheses above) we also look at changes within countries during the observed period (i.e. that changes in welfare state regimes in time lead to changes in happiness) since panel data are available. Corollary hypotheses 1 to 3 we formulate the fourth and final hypothesis:

Hypothesis 4: An increase in welfare spending within a country has a positive relation with the level of different subgroups in society and a negative relation with the gaps.

Now that the theory of happiness and the welfare state has been discussed and the hypotheses and their rationale are rendered, the next chapter pursues the matter of data and methodology in greater depth and the mentioned hypotheses are tested and the results are presented.

5. Empirical Analysis

This chapter deals with the method and empirical results of this thesis. Before going into the methodology we discuss the data employed (viz. the dependent and independent variables). Section 5.2 discusses the results and the answers to the preceding hypotheses.

5.1 Data and Methodology

5.1.1 Dependent Variable: Happiness Data

The principal variable of interest is *happiness* and this indicator is used in the present analysis. Most of the previous research on happiness, life satisfaction and SWB and the welfare state (e.g. Veenhoven, 2000; Ouweneel, 2002; Pacek and Radcliff, 2008) uses data from the different waves of the World Value Survey (WVS).⁶⁹ This thesis will employ a different and more recent survey; the European Social Survey (ESS).⁷⁰ The ESS is a biennial multi-country survey covering over 30 nations in its most recent (third) round. The data used in this study is derived from the ESS cumulative data file which contains data from countries that have fielded one, two or three rounds. Because of interest in changes in happiness over time only countries that are covered by two or three rounds (2002, 2004 and/or 2006) of the ESS are selected, leading to a selection of 22 first-world countries (see table 5.1a). The advantage of such ‘panel data’ is that it is possible to control for country fixed effects. Overall happiness is measured with one question: ‘Taking all things together, how happy would you say you are?’⁷¹. Respondents have to answer on a 10-point scale ranging from ‘0 = extremely unhappy’ to ‘10 = extremely happy’⁷².

To check whether the results are robust we use *Life satisfaction* as another independent variable. Life satisfaction is measured with the question: ‘All things considered, how satisfied are you with your life as a whole nowadays? Please answer using this card, where 0 means extremely dissatisfied and 10 means extremely satisfied.’⁷³ Here, the answers vary from ‘0 = extremely dissatisfied’ to ‘10 = extremely satisfied’. In both cases (happiness and life satisfaction) answers as ‘refusal’, ‘don’t know’ and ‘no answer’ are categorized as missing values.

We use both variables in different ways leading to different independent variables. First, the application of average Happiness and Life satisfaction scores as such, second the percentage of the

⁶⁹ As already mentioned in Chapter 2, answers to questions in this survey (self-ratings) seem to be reasonably valid and reliable.

⁷⁰ Source: <http://www.europeansocialsurvey.org>

⁷¹ Question number in all rounds is C1 HAPPY, How happy are you?

⁷² Another difference between the ESS and the WVS which measures happiness by an identical question but only uses a 4-point scale.

⁷³ Question numbers B24 and B29 STFLIFE, How satisfied with life as a whole?

respondents producing a score varying from 1 to 5 (percentage unhappy people),⁷⁴ and third, the calculation of different *gaps* which we need to answer the hypotheses from the former chapter. These *gaps* are the UnempEmpGap, SickHealthGap and the PoorRichGap and they display the difference in average happiness scores between the unemployed and employed, the sick and the healthy, and the poor and the rich within a society.⁷⁵

5.1.2 Independent Variables: Welfare State Data and other Variables

The main independent variable of interest is the size of the welfare state. In the literature, different methods of measuring the welfare state can be found (e.g. Castles, 1982; Hicks and Swank, 1992; Hicks, 1999; and Kenworthy, 1999). Veenhoven and Ouweneel (1995, pp. 8-9) distinguish two approaches. First, the right for welfare services guaranteed as in laws and second by the amount of money actually spend on welfare. The authors refer to these indices as ‘legal’ and ‘financial’ indicators. Veenhoven (2000, p. 98) adds a third measuring method namely the age of the system, based on Estes’ (1984) seniority indicator of social insurance laws.

Given that the existence of laws is hard to make operational we discard the legal indicators in this analysis. The level of state welfare is therefore measured by a financial indicator. Three categories of government expenditures emanating from the OECD Social Expenditure Database (SOCX) are used. The first measure is the total expenditure on social security per capita (as a percentage of GDP and the absolute level at current prices and current PPP’s in US dollars). This measure includes cash benefits as well as benefits in kind. The second measure is the public social expenditures on health per capita (as a percentage of GDP and cash benefits and benefits in kind at current prices and current PPP’s in US dollars).⁷⁶ Third, expenditures on unemployment benefits (as a percentage of GDP and the absolute social expenditures on unemployment benefits per unemployed).⁷⁷ The latter is calculated by taking the expenditures on unemployment benefits per capita and divide it by the unemployment rate.

Because there is growing skepticism about whether the level of social expenditure truly reflects the level of state’s welfare (see Bamba, 2006) Esping-Andersen’s (1990) *decommodification*

⁷⁴ Bases on the method applied by Berg (2007).

⁷⁵ People are categorized ‘healthy’ when the answer to the question ‘How is your health in general? Would you say it is ...’ is ‘very good’ or ‘good’. When the answer is ‘very bad’ or ‘bad’ they are categorized ‘sick’.

People are categorized ‘rich’ when the answer to the question ‘if you add up the income from all sources, which number describes your household’s total net income? (on a scale from 01 to 12)’ is 9 to 12. When the answer is 1 to 4 they are categorized ‘poor’.

People are categorized ‘employed’ when the answer to the question ‘which of these descriptions best describes your situation (in the last seven days)? ‘paid work’ or ‘community or military service’ or ‘retired’. When the answer is ‘unemployed, looking for a job’, ‘unemployed, not looking for a job’, ‘permanently sick or disabled’ or ‘other’ they are categorized ‘unemployed’.

⁷⁶ Source social expenditures (aggregated data): The OECD Social Expenditure Database (SOCX) <http://stats.oecd.org>.

⁷⁷ Per unemployed head, at constant prices (2000) and constant PPPs (2000), in US dollars. The OECD Social Expenditure Database (SOCX) <http://stats.oecd.org>.

scores (see Chapter 3) are also used. These scores offer a more comprehensive measure of welfare state commitment. A country like Sweden with a decommodification score of 39.1 can be seen as having generous and universal entitlements. Conversely, Ireland (23.3) is characterized by low levels of benefits and by rigid eligibility requirements. Unfortunately, the use of the Esping-Andersen measure also has its limitations. First, it is not available for many countries (only 13 used in the present analysis) and second, the indices are for one time-point only which makes it impossible to look at changes in welfare state regimes over time.⁷⁸

We also use different country level control variables namely: GDP per capita,⁷⁹ the unemployment rate⁸⁰ and the Gini index. The Gini index measures the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution. A Gini score of 0 represents perfect equality, while a score of 100 implies perfect inequality.⁸¹ Table 5.1a and 5.1b display the descriptive statistics of all variables and all countries for the year 2002.

5.1.3 Methodology⁸²

Multiple regression analysis⁸³ is the main statistical method used in this thesis. Multiple regression analysis is *linear* and a relation between independent variables (X_i) and a dependent variable (Y) is expressed in a linear regression equation. This equation is calculated by minimizing the squared distances between the different observations and the multidimensional plane (least-square method principle or ordinary least squares (OLS)). The difference between multiple regression and logistic regression analysis (used in Appendix B) is that the dependent variable in the latter analysis is dichotomous. Furthermore, logistic regression uses the independent variables to calculate the odds of belonging to one of the two categories of the dichotomous variable.

When using a number of assumptions, OLS produces so-called best linear unbiased estimators (BLUE, Gauss-Markov Theorem). These estimators are unbiased (i.e. expected to be equal to the true value) and efficient (i.e. estimated with smallest variances or confidence intervals). In short, these assumptions are: 1) there is no correlation between explanatory variables and residuals (no simultaneity), 2) the expected or mean value of the residuals equals zero, 3) residuals are homoskedastic (no heteroskedasticity), 4) residuals are independently distributed (no serial correlation) and 5) explanatory variables are independent (no multicollinearity) (see Carter Hill *et al.*,

⁷⁸ Scruggs (2005) offers time-serial decommodification data. Regrettably, the data covers the period 1971-2002 and it is therefore of no use for the present analysis.

⁷⁹ At market prices. Source: Eurostat <http://nui.epp.eurostat.ec.europa.eu>

⁸⁰ Annual harmonized unemployment rate (as percentage of civilian labor force). Source: EU economic data pocketbook - No. 1/2007 <http://epp.eurostat.ec.europa.eu>

⁸¹ Source: Worldbank <http://devdata.worldbank.org>

⁸² Methodological approach based on (de Vocht, 2007: pp. 187-228)

⁸³ All regressions were executed with SPSS 15.0

2001: pp. 145-193). Before running any regression these assumptions are checked and adjusted for because failure of these assumptions results in inefficient estimates and biased tests of the hypotheses.

Table 5.1a Descriptive Statistics (dependent variables)

Country	AvHappy	AvHapEmpl	AvHapUnempl	UnEmpEmp Gap	AvHappyHealth	AvHappySick	SickHealth Gap	AvHappyRich	AvHappyPoor	PoorRich Gap	PerUnhappy
Austria	7.58	7.67	7.39	0.28	7.86	5.77	2.09	7.84	7.13	0.71	15.4
Belgium	7.76	7.80	7.62	0.18	7.97	6.29	1.68	7.89	7.27	0.62	9.5
Switzerland	7.98	7.89	7.79	0.10	8.14	6.66	1.48	8.09	7.92	0.17	7.7
Czech Republik	6.75	6.95	6.62	0.33	7.30	5.29	2.01	7.29	6.63	0.66	28.9
Germany	7.16	7.36	6.53	0.83	7.52	5.94	1.58	7.66	6.15	1.51	20.4
Denmark	8.32	8.45	7.91	0.54	8.47	7.19	1.28	8.54	8.08	0.46	5.7
Spain	7.30	7.50	7.04	0.46	7.61	6.00	1.61	7.69	6.81	0.88	15.6
Finland	8.03	8.02	7.98	0.04	8.26	7.16	1.10	8.25	7.64	0.61	7.0
France	7.34	7.52	6.90	0.62	7.70	6.06	1.64	7.76	6.37	1.39	18.8
United Kingdom	7.54	7.50	7.10	0.40	7.74	6.74	1.00	7.67	7.21	0.46	14.7
Greece	6.50	6.70	6.38	0.32	6.85	4.92	1.93	7.07	6.07	1.00	32.2
Hungary	6.32	6.67	5.98	0.69	7.16	4.64	2.52	8.75	5.79	2.96	39.8
Ireland	7.89	7.92	7.68	0.24	8.04	6.04	2.00	8.17	7.21	0.96	11.0
Italy	6.46	6.77	5.87	0.90	6.85	4.21	2.64	7.08	5.69	1.39	28.3
Luxembourg	7.92	7.92	7.69	0.23	8.22	6.44	1.78	8.14	6.56	1.58	13.6
Netherlands	7.79	7.87	7.67	0.20	8.01	6.23	1.78	7.96	7.31	0.65	6.3
Norway	7.88	7.91	7.67	0.24	8.04	7.12	0.92	8.03	7.70	0.33	8.7
Poland	6.43	6.56	6.26	0.30	6.98	5.05	1.93	6.93	6.32	0.61	35.9
Portugal	6.84	7.11	6.51	0.60	7.55	5.19	2.36	7.45	6.31	1.14	23.7
Sweden	7.88	7.92	7.61	0.31	8.14	6.44	1.70	8.15	7.45	0.70	8.9
Slovak Republik	6.24	6.41	5.86	0.55	6.79	4.46	2.33	6.67	6.19	0.48	39.1
Slovenia	6.93	7.11	6.65	0.46	7.49	5.40	2.09	7.83	6.41	1.42	27.7
Mean	7.35	7.48	7.02	0.46	7.69	5.9	1.79	7.76	6.71	1.06	19.0

Note: The Mean is the mean score for the 22 countries for three years (2002-2006).
To keep the table conveniently arranged it only displays the data for 2002.

Table 5.1b Descriptive Statistics (independent variables)

Country	TotSocEx	SocExHealth	SocExUnempl	TotSocEx (%GDP)	SocExHealth (%GDP)	SocExUnempl (%GDP)	GDPpercapita	Unemplrate(%)	Decommscore	Giniscore
Austria	8,240	2,001	7,662	27.0	6.6	1.2	27,100	4.2	31.1	30.0
Belgium	7,850	2,020	11,513	26.2	6.7	3.1	25,900	7.5	32.4	25.0
Switzerland	6,410	1,922	8,669	19.2	5.8	0.7	40,800	2.6	29.7	33.1
Czech Republik	3,470	1,081	1,359	20.6	6.4	0.6	7,800	7.3	-	25.4
Germany	7,440	2,181	5,293	27.0	7.9	1.7	23,600	8.2	27.7	28.3
Denmark	8,170	1,680	18,643	26.6	5.5	3.0	34,400	4.6	38.1	24.7
Spain	4,900	1,244	4,467	20.4	5.2	2.2	17,700	11.1	-	32.5
Finland	6,890	1,550	6,153	25.0	5.6	2.1	27,700	9.1	29.2	26.9
France	7,930	2,114	4,932	28.6	7.6	1.7	25,100	8.7	27.5	32.7
United Kingdom	5,770	1,805	1,496	20.0	6.3	0.3	28,800	5.1	23.4	36.0
Greece	4,340	1,138	740	20.0	5.2	0.4	14,300	10.3	-	35.4
Hungary	3,150	782	1,179	21.7	5.3	0.5	6,900	5.8	-	26.9
Ireland	5,060	1,790	5,869	15.3	5.4	0.8	33,200	4.5	23.3	35.9
Italy	6,430	1,665	1,273	24.0	6.2	0.4	22,700	8.6	24.1	36.0
Luxembourg	12,660	3,531	14,441	22.0	6.1	0.7	53,800	2.7	-	30.8
Netherlands	6,530	1,770	14,196	20.5	5.5	1.3	28,800	2.8	32.4	30.9
Norway	8,740	2,284	5,510	23.6	6.2	0.6	45,000	3.9	38.3	25.8
Poland	2,580	521	481	22.3	4.5	0.9	5,500	19.9	-	34.1
Portugal	3,920	1,199	2,749	21.3	6.5	0.8	13,100	5	-	38.5
Sweden	8,560	2,003	6,153	29.5	6.9	1.1	29,600	4.9	39.1	25.0
Slovak Republik	2,300	650	220	17.7	5.0	0.3	4,800	18.7	-	25.8
Slovenia	5,160	1,350	4,246	19.2	4.9	0.3	12,300	6.3	-	28.4
Mean	6,830	1,864	5,877	23.8	5.9	1.2	26,183	7.42	30.5	30.4

Note: The Mean is the mean score for the 22 countries for three years (2002-2006).

Columns 2 to 4 represents the total expenditure on social security per capita, the public social expenditures on health per capita (both absolute level at current prices and current PPP's in US dollars) and the expenditures on unemployment benefits (absolute social expenditures on unemployment benefits per unemployed). Columns 5 to 7 are percentages of GDP.

To keep the table conveniently arranged it only displays the data for 2002.

5.2 Results⁸⁴

5.2.1 General Statements with regard to Descriptive Statistics

Column 2 of Table 5.1a shows the average happiness scores⁸⁵ of the 22 countries over the year 2002. Denmark has the highest score (8.32) and Slovak Republic the lowest (6.24). To answer the question whether the unemployed, sick and poor are less happy than the employed, healthy and rich we split the file into unemployed and employed, sick and healthy, and poor and rich respondents and compare the average happiness level of the subsamples. Table 5.1a shows that the average happiness of the employed is higher than the average happiness of the unemployed. The same holds for the healthy vs. the sick and the rich vs. the poor. The difference in self-reported happiness between these subgroups in society is *the gap*. Table 5.1a displays all the *gaps* and shows that all the different *gaps* are positive for every country meaning that being unemployed, sick or poor relates negatively to avowed happiness irrespective of country or time. Furthermore, it is notable that the mean value of the *SickHealthGap* is larger than the mean value of the *PoorRichGap* and the *UnempEmGap*. These values indicate that being sick is most detrimental to happiness. Subsequent, being poor is more prejudicial than being unemployed.

Looking at the *gaps*, one notices the differences in these gaps between countries. For example, in Finland the difference between the happiness of the unemployed and the employed is very small (0.04) compared to Italy and Germany (0.90 and 0.83). With respect to the difference in happiness between the poor and the rich, the difference between Hungary (2.96) and Switzerland is remarkable (0.17). Furthermore, the variance in the *PoorRichGaps* is much higher than in the *UnempEmpGaps*. What is striking about Table 5.1b is the variation in the different independent variables. This variation is much higher when we use absolute measures of social expenditures instead of percentages of GDP.

Nevertheless, in order to answer the hypotheses the following subsections use multiple regression analysis and partial correlation to examine the relation between happiness and the welfare state.

5.2.2 Regression Analysis: Baseline Model

The first 16 models we estimate are our baseline models and they have the form:

$$Happiness_{it} = intercept + \alpha Welfare\ State_{it} + \mu_{it}$$

⁸⁴ Appendix B presents the empirical analysis and general results on the individual level data. Because of the little relevance for answering the hypotheses it is omitted from the main text.

⁸⁵ The average life satisfaction scores are omitted. The correlation between happiness and life satisfaction is 0.689 (Pearson's correlation; significant at 0.01 level. See Appendix F) and their mean values are 7.35 and 7.05 respectively.

where Happiness stands for different dependent variables and Welfare State for different independent variables measuring the welfare state (see Table 5.2a and 5.2b on the next page) both in country i and in year t . μ_{it} is an error term. The models do not include control variables and dummy variables. We distinguish two different measures of the welfare state. Namely, total social expenditures (1) as a percentage of GDP and (2) per head (in thousands of dollars). Table 5.2a and 5.2b show the results. Table 5.2a display that the first measure hardly yields any significant results. It just has a positive and significant effect on the average happiness of the whole population.

Table 5.2a Welfare state and Happiness (baseline model)

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent variable	AvHappy	AvHapUnempl	UnempEmpGap	AvHapSick	SickHealthGap	AvHapPoor	PoorRichGap	PerUnhappy
Independent variable								
Total Social Expenditures (% GDP)	.039* (.021)	.029 (.023)	.011 (.008)	.044 (.028)	-.010 (.015)	.016 (.025)	.031 (.021)	-.680* (.354)
Constant	6.482*** (.504)	6.382*** (.000)	.193 (.192)	4.911*** (.649)	2.016*** (.363)	6.583*** (.585)	.089 (.430)	32.839*** (8.326)
Adjusted R-squared	.038	.010	.013	.026	-.010	-.012	.036	.046
N	61	61	61	61	61	57	57	

Note: Entries are regression coefficients. Standard errors in parentheses. No dummies included.

*Significant at .1 level

**Significant at .05 level

***Significant at .01 level

Table 5.2b Welfare state and Happiness (baseline model)

Model	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Dependent variable	AvHappy	AvHapUnempl	UnempEmpGap	AvHapSick	SickHealthGap	AvHapPoor	PoorRichGap	PerUnhappy
Independent variable								
Total Social Expenditures (per head / 1000)	.158*** (.000)	.153*** (.028)	-.015 (.210)	.168*** (.034)	-.052** (.022)	.108*** (.032)	-.008 (.027)	-2.740*** (.418)
Constant	6.301*** (.000)	6.013*** (.204)	.545*** (.087)	4.778*** (.251)	2.130*** (.157)	6.195*** (.238)	.875*** (.198)	35.485*** (2.992)
Adjusted R-squared	.425	.342	.011	.290	.078	.167	-.018	.433
N	61	61	61	61	61	57	57	

Note: Entries are regression coefficients. Standard errors in parentheses. No dummies included.

*Significant at .1 level

**Significant at .05 level

***Significant at .01 level

Conversely, Table 5.2b shows that when we use absolute values of total social expenditures as a measure for the welfare state it provides significant coefficients (except for the UnempEmpGap and PoorRichGap) with the expected signs (also the adjusted R-squared is much higher). An increase in total social expenditures increases average happiness of the whole population, the unemployed, the sick and the poor. Furthermore, it reduces the percentage of unhappy people. These results are in line with Pacek (2005) and Pacek and Radcliff (2008) but they are in marked contrast with the results of Ouweneel (2002) who finds no relation between the welfare state and happiness of the unemployed.

5.2.3 Partial Correlations

If we leave our baseline model behind and look at partial correlations we see the same results (see Table 5.3). The table also includes the decommodification scores and shows a significant and positive relation between these measures of the welfare state and average happiness within a country. Furthermore, there is also a positive and significant correlation between the former and average happiness of the unemployed, the sick, and the poor. However, the present analysis finds mainly insignificant relations if the size of the welfare state is estimated by expenditures as percentage of GDP (see Columns 9 to 11). These latter results correspond with Veenhoven (2000) who also finds insignificant relations.⁸⁶

Table 5.3 Partial Correlations

	GDP pcapita	Decomm score	Gini Index	Total SocEx	SocEx Health	SocEx Unempl	Unempl rate	TotalSocEx (%GDP)	SocEcHealth (%GDP)	SocExUnempl (%GDP)
AvHappiness	.792**	.550**	-.292*	.659**	.586**	.768**	-.565**	.237	.128	.146
AvHapUnempl	.745**	.506**	-.261*	.595**	.519**	.786**	-.523**	.165	.024	.328
UnempEmpGap	-.350**	-.171	.031	-.169	-.162	-.428**	.142	.174	.264*	-.138
AvHapSick	.688**	.475**	-.301*	.551**	.487**	.689**	.142	.209	.137	.067
SickHealthGap	-.441**	-.238	.162	-.307*	-.292*	-.422**	.222	-.089	-.137	-.265
AvHapPoor	.627**	.544**	-.378**	.428**	.355*	.644**	-.462**	.089	-.134	-.075
PoorRichGap	-.268*	-.334*	.053	-.044	-.040	-.191	.079	.233	.250	.171
PerUnhappy	-.797**	-.573**	.216	-.666**	-.604**	-.755**	.584**	-.253	-.201	-.124

Note:

*Significant at .05 level (2-tailed)

**Significant at .01 level (2-tailed)

Columns 5 to 7 represents the total expenditure on social security per capita, the public social expenditures on health per capita (both absolute level at current prices and current PPP's in US dollars) and the expenditures on unemployment benefits (absolute social expenditures on unemployment benefits per unemployed). Columns 9 to 11 are percentages of GDP.

Table 5.3 also shows that the effect of the GINI coefficient, the unemployment rate and of income per capita on happiness is straightforward.⁸⁷ More equality and a lower unemployment rate are beneficial to happiness. All the Pearson's correlation coefficients are positive and significant at the 0.01 level

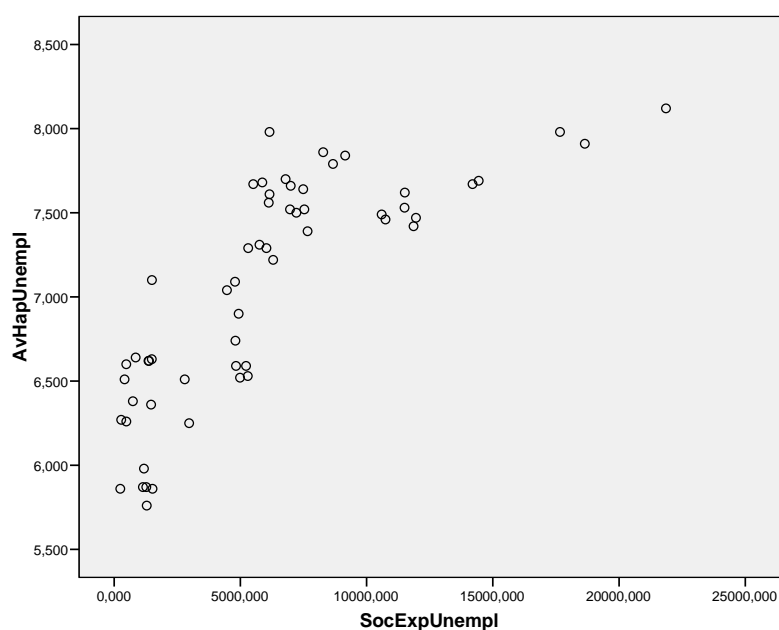
⁸⁶ Veenhoven (2000) measures the welfare state by total social expenditures as percentage of GDP.

⁸⁷ See also Appendix F.

and vary between 0.627 and 0.792 meaning that an increase in GDP per capita leads to an increase in average happiness of the different subgroups. The last coefficient in the second column shows that an increase in GDP per capita negatively relates to the percentage people who are unhappy.

The relation between the total social expenditures per head and the *UnempEmpGap* is negative but not significant. However, when the size of the welfare state is estimated by the social expenditures on unemployment benefits per unemployed, negative and significant correlations are attained. This means that an increase in unemployment benefits per unemployed correlates with a smaller *Gap* and a higher happiness score of the unemployed (see Figure 5.1).⁸⁸

Figure 5.1 Social Expenditures on Unemployment Benefits and average Happiness of the Unemployed



In addition, the different welfare state indicators relate significantly and negatively to the *SickHealthGap* meaning that the difference in happiness between the healthy and the sick declines when the welfare state is more generous. This does not hold for the gap between the poor and the rich (coefficient of the *PoorRichGap* is negative but not significant). The positive and significant decommodification score coefficients indicate the same correlation between the welfare state and happiness of the different subgroups.

Nevertheless, as Veenhoven (2000, p. 100) emphasizes: ‘The size of the welfare budget is, of course, not entirely independent of wealth of the nation. Rich countries can more easily afford higher expenditure on social insurance.’ This means that our baseline model and the rough correlations might

⁸⁸ It also increases the happiness of the employed by a smaller amount and therefore narrowing the *UnempEmpGap*.

be based on a spurious relationship. That is why we need to control for GDP per capita and other variables. We do this in the following subsection.

5.2.4 Multiple Regression Analysis: Extended Model

This subsection delves into the matter somewhat further. The models estimated have the form:

$$Happiness_{it} = intercept + \alpha Welfare\ State_{it} + \beta Gini\ score_{it} + \gamma GDP\ per\ capita_{it} + \delta Unemployment\ rate_{it} + \varepsilon_i + \zeta_t + \mu_{it}$$

where Happiness stands for the different dependent variables in country i in year t . Welfare State stands for different independent variables measuring the welfare state in country i in year t (see Table 5.4). We only use absolute measures since the previous subsections revealed that percentages do not yield significant results. Furthermore, we use the decommodification score as an additional measure for the welfare state. ε_i are country fixed effects⁸⁹ and ζ_t are year fixed effects and μ_{it} is an error term.

Gini scores in country i in year t , GDP per capita (in thousands of dollars) and the unemployment rate are the control variables. The latter is important. Clark and Oswald (1994) test whether the negative and strong impact of unemployment on happiness is mitigated by the unemployment of others and by one's own past unemployment. They show that this is the case and that the happiness of an unemployed male (in Great Britain) in a region with 20-25 % unemployment is almost similar to the level of happiness of an average employed male elsewhere. Clark (2003) further examines the role of others' unemployment. He contends 'While others' unemployment is often negatively correlated with the well-being of those in work, there is strong evidence of a positive correlation with the well-being of the unemployed' (Clark, 2003: pp. 245-246). Though a fall in unemployment has little (positive) effect of those who work, it reduces the happiness of those who remain unemployed.

Table 5.4 displays the results. Models 17 to 19 show the effects of the welfare state on the average happiness level of the whole population. In Model 17 total social expenditure per head is the independent variable. Contrary to Model 9, the sign of its coefficient is now negative meaning that an increase in public social spending reduces average happiness. The decommodification score is the independent variable in Model 18. The welfare state still has a detrimental effect on happiness (see also Model 38: an increase in the percentage unhappy people).

⁸⁹ For every country also a dummy variable is introduced (except for the reference category; the Netherlands) to account for economic, social, cultural and other country specific effects.

Table 5.4 Welfare state and Happiness (extended model)

Model	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
Dependent variable	AvHappy	AvHappy	AvHappy	AvHapUnemp	AvHapUnemp	AvHapUnemp	UnempEmGap	UnempEmGap
Independent variable								
Total Social Expenditures (per head / 1000)	-.092*** (.034)		-.016 (.068)					
Public Social Exp. Health (per head / 1000)								
Unempl. Benefits per Unemployed (/ 1000)				.064*** (.014)		-.003 (.029)	-.024*** (.009)	
Decommodification score		-.040* (.021)			-.066** (.028)			.038** (.018)
Gini index	-.042*** (.010)	-.094*** (.001)		-.006 (.012)	-.135*** (.034)		-.009 (.007)	.056** (.022)
GDP per capita (/ 10000)	1.035*** (.144)	2.032*** (.456)	-.138 (.435)	.503*** (.153)	1.996*** (.595)	.0391 (.615)	.041 (.096)	-.207 (.394)
GDP per capita squared (/ 10000)	-.088*** (.019)	-.239*** (.057)	.010 (.041)	-.046** (.022)	-.244*** (.075)	-.034 (.056)	-.001 (.001)	.033 (.010)
Unemployment rate	.010 (.509)	-.081** (.033)	-.070*** (.015)	.010 (.018)	-.152*** (.044)	-.059** (.022)	-.008 (.011)	.094*** (.029)
Constant	7.188*** (.419)	8.226*** (1.846)	8.393*** (1.083)	5.838*** (.000)	10.477*** (2.407)	7.011*** (1.342)	.920*** (.290)	-2.663 (1.577)
Country Dummy	No	No	Yes	No	No	Yes	No	No
Year Dummy	No	No	Yes	No	No	Yes	No	No
Adjusted R-squared	.759	.708	.976	.712	.663	.958	.349	.264
N	61	39	61	61	39	61	61	39

Note: Entries are regression coefficients. Standard errors in parentheses. Dummies are omitted from the table.

*Significant at .1 level

**Significant at .05 level

***Significant at .01 level

Table 5.4 Welfare state and Happiness (extended model) (continued)

Model	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)
Dependent variable	UnempEmGap	AvHapSick	AvHapSick	AvHapSick	SickHealthGap	SickHealthGap	SickHealthGap	AvHapPoor
Independent variable								
Total Social Expenditures (per head / 1000)								-.193*** (.052)
Public Social Exp. Health (per head / 1000)		-.558*** (.195)		.120 (.419)	.224 (.151)		-.352 (.462)	
Unempl. Benefits per Unemployed (/ 1000)	-.006 (.033)							
Decommodification score			-.039 (.034)			.026 (.027)		
Gini index		-.044*** (.015)	-.103** (.040)		.015 (.012)	.048 (.031)		-.062*** (.016)
GDP per capita (/ 10000)	-.841 (.701)	1.174*** (.196)	2.893*** (.790)	2.268* (1.240)	-.494*** (.153)	-.831 (.624)	-2.148 (1.366)	.834*** (.192)
GDP per capita squared (/ 10000)	.062 (.064)	-.077*** (.012)	-.278*** (.101)	-.221* (.116)	.001** (.024)	.143 (.097)	.211 (.128)	-.073 (.022)
Unemployment rate	-.011 (.026)							
Constant	2.204 (1.529)	5.940*** (.530)	4.683** (2.236)	1.503 (2.824)	1.841*** (.411)	1.196 (1.758)	6.559** (3.111)	8.222*** (.578)
Country Dummy	Yes	No	No	Yes	No	No	Yes	No
Year Dummy	Yes	No	No	Yes	No	No	Yes	No
Adjusted R-squared	.550	.617	.475	.873	.235	.074	.488	.639
N	61	61	39	61	61	39	61	57

Note: Entries are regression coefficients. Standard errors in parentheses. Dummies are omitted from the table.

*Significant at .1 level

**Significant at .05 level

***Significant at .01 level

Table 5.4 Welfare state and Happiness (extended model) (continued)

Model	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
Dependent variable	AvHapPoor	AvHapPoor	PoorRichGap	PoorRichGap	PoorRichGap	PerUnhappy	PerUnhappy	PerUnhappy
Independent variable								
Total Social Expenditures (per head / 1000)		.300** (.147)	.139** (.055)		-.498*** (.155)	1.224** (.573)		2.833 (2.327)
Public Social Exp. Health (per head / 1000)								
Unempl. Benefits per Unemployed (/ 1000)								
Decommodification score	.004 (.030)			-.025 (.023)			.463 (.328)	
Gini index	-.045 (.035)		.017 (.016)	-.024 (.027)		.521*** (.169)	1.293*** (.400)	
GDP per capita (/ 10000)	3.086*** (.713)	1.270 (.97)	-.309 (.203)	-1.114* (.548)	-2.703** (1.030)	-18.384*** (2.443)	-26.387*** (7.030)	-.083 (8.659)
GDP per capita squared (/ 10000)	-.298*** (.162)	-.105 (.091)	-.001 (.028)	.132 (.067)	.236** (.096)	1.769*** (.291)	3.161*** (.885)	.186 (.819)
Unemployment rate						-.055 (.248)	1.252** (.515)	.742** (.303)
Constant	2.123 (1.940)	2.490 (2.431)	.186 (.611)	4.602*** (1.515)	9.782*** (2.567)	26.486*** (6.785)	2.749 (28.440)	-14.778 (23.271)
Country Dummy	No	Yes	No	No	Yes	No	No	Yes
Year Dummy	No	Yes	No	No	Yes	No	No	Yes
Adjusted R-squared	.600	.901	.393	.328	.806	.770	.667	.966
N	39	57	57	39	57	61	39	61

Note: Entries are regression coefficients. Standard errors in parentheses. Dummies are omitted from the table.

*Significant at .1 level

**Significant at .05 level

***Significant at .01 level

However, GDP per capita and the unemployment rate (also statistically significant) have the expected signs (in Model 18 and 39). An increase in the former and a decrease in the latter are positively related to happiness. To check whether or not income has a linear relation with happiness we introduce the squared GDP term. Since this coefficient has a negative sign it shows that the relationship between income and happiness is not linear. Income has ‘diminishing returns’ on happiness. Beyond a certain point further increases in happiness have only marginal effects on happiness (Veenhoven, 1984, 1993 calls this the ‘absolute theory’).

Adding country and year fixed effects (Model 19 and 40) changes the significance of some variables. In both models the year fixed effects are insignificant. Nevertheless, in Model 19 some country fixed effects (which are omitted from the table) are significant. The coefficients for the Belgian, Swiss, Danish, Finnish and Swedish country dummies are significant and positive. This means that there are country specific characteristics for these countries which are favorable to happiness. The opposite holds for the United Kingdom, Greece, Hungary, Italy and Portugal.

Discussing all the models in the same detail as the previous paragraph is not our intention. In order to answer the hypotheses from the preceding chapter we only discuss the most appropriate models. Answering Hypothesis 1a (that happiness of low income group is higher in larger welfare states) is difficult since Model 32 and Model 34 yield coefficients with different signs. On the other hand, Model 37 shows evidence for Hypothesis 1b; a 1000 dollar increase (per head) in total social expenditures reduces the happiness gap between the rich and the poor with 0.498. Country dummies for Germany, Denmark, France, Luxemburg, Norway and Sweden are positive and significant. The significant coefficients of the dummies for the Czech Republic, Spain, United Kingdom, Greece, Hungary, Poland, Portugal and the Slovak Republic point in the other direction.

If we measure the size of the welfare state by the amount of unemployment benefits per unemployed (Model 20 and 23) we can accept Hypothesis 2a. The absolute level of happiness of the unemployed is higher in countries characterized by a larger welfare state and the happiness gap between the employed and the unemployed is smaller. This does not hold if we use the decommodification score (Model 21 and 24). Besides, it does not provide evidence for Hypothesis 2b (no relation between happiness gap of employed and unemployed and the welfare state) either.

Result with respect to Hypothesis 3 are remarkable. Increases in public social expenditures on health worsen the average happiness of the sick (Model 26). A 1000 dollar increase in these expenses lead to a -0.558 change in self-reported happiness of the sick. With regard to the gap between the sick and the healthy we can make no pronouncements since none of the coefficients are significant (Model 29 to 30).

Table 5.5 Welfare state and Life Satisfaction

Model	(41)	(42)	(43)	(44)	(45)
Dependent variable	AvLifeSatis	AvLifeSatis	AvLifeSatisUnemp	UnempEmLifeSatisGap	AvLifeSatisSick
Independent variable					
Total Social Expenditures (per head / 1000)	-.108** (.046)				
Public Social Exp. Health (per head / 1000)					-.237*** (.071)
Unempl. Benefits per Unemployed (/ 1000)			.081*** (.021)	-.033*** (.010)	
Decommodification score		-.040 (.026)			
Gini index	-.056*** (.014)	-.116*** (.032)	.002 (.018)	-.028*** (.009)	-.026*** (.014)
GDP per capita (/ 10000)	1.475*** (.194)	1.909*** (.564)	.724*** (.218)	.174 (.107)	.812 (.534)
GDP per capita squared (/ 10000)	-.127*** (.048)	-.168*** (.139)	-.144* (.079)	.043 (.014)	-.092 (.028)
Unemployment rate	.032 (.021)	-.145*** (.041)	.001 (.026)	.023* (.013)	
Constant	6.543*** (.564)	9.374*** (2.281)	4.646*** (.705)	1.243*** (.345)	4.257*** (.372)
Country Dummy	No	No	No	No	No
Year Dummy	No	No	No	No	No
Adjusted R-squared	.759	.714	.699	.297	.578
N	61	39	61	61	61

Note: Entries are regression coefficients. Standard errors in parentheses.

*Significant at .1 level

**Significant at .05 level

***Significant at .01 level

The Gini index is in most of the models statistically significant and has the expected sign. It proves that more income inequality deteriorates avowed happiness. Because the results of Model 17, 18 and 26 are conspicuous and to check whether the result of Model 20 and 23 are robust we estimate five more models. Instead of happiness we now use life satisfaction (gaps) as dependent variables. Table 5.5 shows the results. The results of Models 41 and 42 are in line with those of Model 17 and 18. Average life satisfaction decreases with total social expenditures. Model 43 and 44 show that the results of Model 20 and 23 are robust. Happiness and life satisfaction of the unemployed rises when benefits per unemployed increase and the happiness and life satisfaction gap between the employed and unemployed diminishes. Model 45 resembles Model 26.

Finally, to test what the effect is of a change in welfare spending on the change in the different happiness gaps (Hypothesis 4) we estimate three final models. The dependent variables are the Δ UnempEmpGap, Δ SickHealthGap and Δ PoorRichGap. The independent variables are the change in social benefits, change in unemployment rate and change in GDP per capita.⁹⁰ Table 5.6 displays the results.

Table 5.6 Changes in the Welfare state and changes in Happiness

Model	(46)	(47)	(48)
Dependent variable	Δ UnempEmpGap	Δ SickHealthGap	Δ PoorRichGap
Independent variable			
Δ Total Social Expenditures (per head /10000)			-2.030 (1.124)
Δ Unempl. Benefits per unemployed (/10000)	-.036 (.328)		
Δ Public Social Exp. Health (per head /10000)		-2.190 (3.646)	
Δ GDP per capita (/10000)	-.332* (.180)	.077 (.342)	-.641** (.255)
Δ Unemployment rate	.024 (.028)		
Constant	.091 (.055)	.063 (.110)	.183* (.092)
Adjusted R-squared	.049	-.049	.243
N	38	36	32

Note: Year dummies are omitted. Entries are regression coefficients. Standard errors in parentheses.

*Significant at .1 level

**Significant at .05 level

***Significant at .01 level

On the whole the results of table 5.6 are not quite convincing and show that a change in GDP per capita is negatively related to the change in the happiness gap between the employed and the unemployed and the poor and the rich. Furthermore, changes in the total social expenditures per head correspond negatively but not significantly with changes in the happiness gap between the rich and the

⁹⁰ Since the Gini coefficient and the decommodification scores are constant for the three years changes in these variables are not relevant.

poor. The same holds for the relation between health expenditures and the SickHealthGap. Including year dummies does not substantially alter the estimates. Therefore, we can reject Hypothesis 4.

The ensuing chapter summarizes and discusses the above finding. Especially, why we do not attain particular relations. Thereupon, we counter some possible objections. Finally, we stress improvements for further research and end with some concluding remarks.

6. Discussion and Concluding Remarks

This chapter explicates the findings in the previous section and puts them in a brighter light. Furthermore, we examine different matters like an overview of possible objections and annotations and we try to explain why certain hypotheses needed to be rejected. After that the chapter ends with some concluding remarks and suggestions for further research.

6.1 Summary and Discussion of the Findings

The notion of happiness is very complex and the small overview of scientific research in this thesis shows that it is affected by many dimensions of life. These dimensions appear at different levels (i.e. the personal, household and societal level). The particular interest of this thesis is the relation between the welfare state and happiness and the main question is: What is the influence of the welfare state on self-reported happiness in advanced industrial democracies? Specifically, this thesis has sought to address the question how the welfare state affects specific subgroups in society like the employed vs. the unemployed, the rich vs. the poor and the healthy vs. the sick and how it affects the difference in happiness between these subgroups. Our results show that:

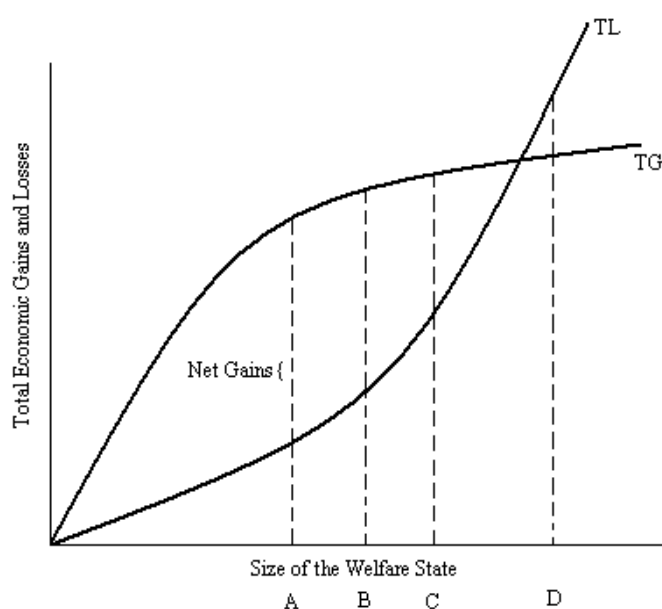
- (a) The average happiness (of the whole population) and the average happiness of the sick in a country is negatively related to the level of welfare spending (when controlled for GDP per capita). These results are robust. When we use life satisfaction (as a dependent variable) the empirical analysis yields the same result.
- (b) The happiness of the unemployed is positively related to the level of unemployment benefits per unemployed and the happiness gap between the employed and unemployed diminishes when the level of unemployment benefits rises (when controlled for GDP per capita). These results are also robust.
- (c) Average happiness of the poor is positively related to the level of total social expenditures and the happiness gap between the poor and the rich is lowered when the level increases (when controlled for GDP per capita and country and year fixed effects).
- (d) No statistical relation is found between changes in welfare spending and changes in happiness.

With respect to the average population, our findings point out that an increase in total social spending reduces average happiness and increases the percentage of unhappy people. Higher public expenditures on health also lower the average happiness of the sick. How can we explain this rather remarkable result? An explanation could be that higher social spending (in order to realize equity) comes at the cost of lower efficiency (see Chapter 3; Okun, 1975; and Freeman, 2000) and therefore reduces welfare (Berg, 2007). Veenhoven (2000, p. 112) contends that it is questionable whether the

state provides welfare services in greater quantity and quality and that it can perform worse than other welfare producers and even harm welfare (e.g. effects of overprovision). Furthermore, poor quality and bad allocation of services can be a result from the fact the ‘welfare supply becomes a toy of politicians’ (Veenhoven, 2000: p. 114) and that it discourages people’s responsibility and working spirit. Others argue that it is impracticable for the welfare state to meet its major objective, namely eradication of poverty (see Murray, 1984 and Pierson, 1992).

Haveman (1985) discusses the gains (e.g. reduction in uncertainty and income differences, and increased human capital, social cohesion and economic stability) and losses (e.g. reductions in work effort, private savings and productivity growth, and increases in administrative costs and the unreported economy) of the welfare state and the importance of the ‘balance’ between these two.

Figure 6.1 Gains and Losses of the Welfare State



Note: Source Haveman (1985, p. 460)

Figure 6.1 shows the relation between these two. The vertical axis plots the losses and gains and the horizontal axis the size of the welfare state. TG and TL are the total gain and losses. The different shapes reflect decreasing marginal returns with respect to TG and increasing marginal returns to TL.

The importance of the figure is straightforward. For example, if a country is at point D a further increase in the welfare state leads to more losses relative to the gains. Furthermore, if a country is at point B should it increase or decrease its size of the welfare state? The former reduces the net gains and the latter extends them.⁹¹ However, since we do not know where different countries are we cannot answer this question. Moreover, it remains to be seen whether the TG and TL lines have the same course for every country (e.g. different preferences; see Chapter 4).

⁹¹ For a detailed discussion see Haveman (1985).

Probably, the most important thing about our findings is that including country fixed effects into the models leads to a substantial increase of the explanatory power of the models (increase in adjusted R-squared) and makes the welfare state measure insignificant. This means that there are country specific characteristics (to the outside observer a ‘black box’) that are more important to happiness than the welfare state. For now we can only guess what these characteristics are; economic stability, future prospects, social capital (see Bjørnskov, 2003) or other (cultural, institutional and historical) features influencing individual happiness (Granato *et al.*, 1996; Inglehart and Klingemann, 2000). Furthermore, one can think of disparities in preferences between countries (e.g. greater preferences of Europeans than of Americans for security and inequality) (see Chapter 4; Alesina *et al.*, 2004 and Di Tella and MacCulloch, 2005).

When we measure the welfare state by using the decommodification score the explanatory power also declines. However, this is due to the lower number of observations since the decommodification score is not available for all countries.

An argument for the fact that we find no relation between changes in welfare spending and changes in happiness can be that the time span of the research is too short. Since our study covers three years (2002, 2004 and 2006) we only measure two alterations. Furthermore, changes in social expenditures are small and if they would have a significant impact they are likely subject to delayed reactions. This means that it takes time for individuals to feel the effect of it and it costs even more time before individuals express this in their happiness score. So, the elasticities of responses are small.

Moreover, Lykken and Tellegen (1996) assert that 44 to 52 percent of the variance in happiness is associated with genetic variation. On the other hand, family income, marital and socioeconomic status, religiosity and education can account for more than 3 percent in variance.⁹² In line with this happiness is much more influenced by other factors than just the welfare state (Argyle, 1999).

Finally, it is possible that people adapt (habituation effect) to their higher income (as a result of welfare spending). First, their happiness increases due to the income shock. After a while they get used to it and to the standard of living that goes with it and happiness falls (see Brickman *et al.*, 1978; Lykken and Tellegen, 1996; and Di Tella *et al.*, 2007).

6.2 Possible Objections Towards The Research

A frequently raised objection is that happiness cannot be measured. Di Tella and MacCulloch (2005, p. 370) extensively present some evidence in defense of using happiness data. The validation is twofold. First, happiness measures correlate with other ‘*physical*’ measures of happiness (e.g. measures of prefrontal brain activity, those who report happy tend to smile more and longer and the fact that reported unhappiness data correlates well with stress, and nearly no symptoms of depression

⁹² Veenhoven (1993) states that societal characteristics explain more than 70 percent of the variance in happiness. Andrews and Withey (1976) estimate that 10 percent of the variance in levels of happiness is due to demographic factors (see also Argyle, 1999, p. 370).

are found in people with high happiness scores).⁹³ Second, happiness measures correlate well with other subjective data (e.g. the correlation between happiness and life satisfaction and reports of family members and friends). The objection that measures of happiness mainly measure error or noise can also be rejected since happiness correlates strongly with societal characteristics (i.e. income, tolerance or freedom) (Veenhoven, 2000).

Furthermore, it is important to stress that happiness is not a constant trait. If this was the case, this thesis would make no sense. Personal happiness changes during one's lifetime and national averages also change through time as a consequence of a recession, revolution or war (Veenhoven, 1994). In addition, this thesis shows that the different happiness gaps change through time. 'So happiness is definitely sensitive to variation in the quality of living conditions' (Veenhoven, 2000: p. 110).

Some people claim that happiness research is of no use. 'Happiness research in its present state cannot be relied on as an authoritative source for empirical information about happiness, which, in any case, is not a simple empirical phenomenon but a cultural and historical moving target' (Wilkinson, 2007: p. 4). We do not agree. Of course there are limitations to the current measurement techniques and whether it is really *happiness* what we measure will probably never be clear. But the above shows that the measure we (and other happiness researchers) use is a valid one and therefore we think that measuring happiness by asking people is the standard that for now comes closest to real *happiness*.

There can also be doubts about the measure of the welfare state. For example, measuring the welfare state by total social expenditures (both absolute or as a percentage of GDP) says nothing about the generosity of the state and its social entitlements. It could be that the number of unemployed, sick or aged people increased and that this affected the level of social expenditures to rise. Although this objection is true it does not mean that expenditures say nothing about the size of the welfare state. One important argument for this is that changes in unemployment and aging occur in every country roughly in the same proportion. Besides, 'the number of applications for social insurance [...] does not vary greatly' (Veenhoven, 2000).

6.3 Concluding Remarks

Veenhoven (2000, p. 122) underlines that welfare states succeeded in providing better living conditions (e.g. less poverty, higher income equality and better housing). According to Marshall (1963) the welfare state, as a social right, is the third phase in the evolution of rights. The first phase is the acquisition of civil rights (e.g. freedom) and the second of political rights (democracy). Freedom correlates positively with happiness (see Veenhoven, 2008a) and democracy also is positively

⁹³ See physiological measures in Figure 2.1.

associated with happiness (Frey and Stutzer, 2000, 2002; and Owen *et al.*, 2008).⁹⁴ So why should the welfare state not affect happiness?

This thesis shows that happiness data can be used to examine the impact of the welfare state on different subgroups and that Veenhoven's (2000) inference that the scale of social insurance in a country makes no difference to the happiness of people's lives in it, is an incomplete and myopic judgment. If only because of the relation between inequality and happiness.

For future research it would be useful to replicate the study when more time-series data are available (e.g. the fourth round of the ESS will be available later this year). This will gain better insights in the effect of changes in welfare spending on changes in happiness. In addition, the number of countries could be extended and they could be divided into more homogenous categories (for instance on the basis of the seniority of the welfare state). The effect on left-wing and right-wing voters could also be examined (cf. Alesina *et al.*, 2004 and Di Tella and MacCulluch, 2005). Furthermore, the effects of other social expenditures (e.g. different forms of subsidies) on the different subgroups or the security aspect of the welfare state (see Lane, 2000) could be examined. Bambra (2006, p. 60) contends that 'welfare states should be judged in terms of what they do rather than how much they spend or what kind of service they provide.' However, it will be difficult to make such a measure operational. Di Tella *et al.*, (2003) already investigated the welfare state in this manner by looking at the effects of unemployment regulations. Finally, it is important to focus more on country specific characteristics influencing happiness. This thesis reveals that country fixed effects contain significant information. These structural differences across countries need some more attention.

As Layard (2008, p. 1775) asserts 'Clearly the measurement of happiness is in its infancy, but further research will bring further understanding.' We hope this thesis contributes to this understanding and that it emphasized the significance of happiness research (in particular in economic science). Furthermore, we hope that this thesis shed some new light on the relation between the welfare state and happiness. According to Pacek (2005, p. 17), across Europe the welfare state is in retreat and the belief of 'decommodification' and social security in general is diminishing. However, if the findings of this thesis carry any validity this belief deserves a second thought.

⁹⁴ The former argue that the effect of democracy on happiness is sizable (Frey and Stutzer, 2002: p. 143). However, since correlation do not report causality it remains open whether democracy fosters happiness, or whether happiness leads to democracy (ibid, p. 136).

References

- Alesina, A., Ardagna, S., Perotti, R., Schiantarelli, F. (2002). Fiscal Policy, Profits and Investment. *American Economic Review*. Vol. 22, pp. 571-589.
- Alesina, A., Di Tella, R., MacCulloch, R. (2004). Inequality and Happiness: Are Europeans and Americans Different? *Journal of Public Economics*. Vol. 88, pp. 2009-2042.
- Alesina, A., La Ferrara, E. (2005). Preferences for Redistribution in the Land of Opportunities. *Journal of Public Economics*. Vol. 89, pp. 897-931.
- Alesina, A., Fuchs-Schuendeln, N. (2007). Good-bye Lenin (or not?): The effect of communism on people's preferences. *American Economic Review*. Vol. 97, pp. 1507-1528.
- Amable, B. (2003). *The Diversity of Modern Capitalism*. Oxford. Oxford University Press.
- Andrews, F.M. and Withey, S.B. (1976). *Social Indicators of Well-being: Americans' Perceptions of Life Quality*. New York. Plenum.
- Argyle, M. (1989). *The Psychology of Happiness*. London. Routledge.
- Argyle, M. (1999). Causes and Correlation of Happiness. In Kahneman, D., Diener E., Schwarz, N. *Well-Being: The Foundations of Hedonic Psychology*. New York. Russel Sage Foundations.
- Arjona, R., Ladaique, M. Pearson, M. (2002). Social Protection and Growth. *OECD Economic Studies*. Vol. 2, pp. 7-35.
- Atkinson, A.B. (1995). *Incomes and the Welfare State*. Cambridge. Cambridge University Press.
- Baldwin, P. (1990). *The Politics of Social Solidarity: Class Bases of the European Welfare State, 1875-1975*. Cambridge. Cambridge University Press.
- Bambra, C. (2006). Health Status and the World of Welfare. *Social Policy and Society*. Vol. 5, pp. 53-62.
- Barr, N. (1987). *The Economics of the Welfare State*. Stanford. CA. London. Stanford University Press.
- Barr, N. (1992). Economic Theory and the Welfare State: A Survey and Interpretations. *Journal of Economic Literature*. Vol. 30, pp. 741-803.
- Barr, N. (2004). *Economics of the welfare state*. New York: Oxford University Press.
- Bartholomew, J. (2004). *The Welfare State We're In: The Failure of the Welfare State*. London.
- Bartley, M., Blane, D., Montgomery, S. (1997). Health and Life-Course: Why Safety Nets Matter. *British Medical Journal*. Vol. 314, pp. 1194-1196.
- Bentham, J. (1789). *Introduction to the Principles of Morals and Legislation*, London, Payne.
- Berg, M. (2007). Inkomensongelijkheid en Geluk in Landen [Income Inequality and Happiness in Countries]. *Mens en Maatschappij*. [Man and Society]. Vol. 82, pp. 28-50.
- Bjørnskov, C. (2003). The Happy Few: Cross-Country Evidence on Social Capital and Life Satisfaction. *Kyklos*. Vol. 56, pp. 3-16.
- Bjørnskov C., Dreher A., Fischer J.A.V. (2007). The Bigger the Better? Evidence of the Effect of Government Size in Life Satisfaction Around the World. *Public Choice*. Vol. 127, pp. 267-292.
- Bjørnskov C., Dreher A., Fischer J.A.V. (2008a). Cross-Country Determinants of Life Satisfaction: Exploring Different Determinants Across Groups in Society. *Social Choice and Welfare*. Vol. 30, pp. 119-173.

- Bjørnskov C., Gupta, N.D., Pedersen P.J. (2008b). Analyzing Trends in Subjective Well-Being in 15 European Countries, 1973-2002. *Journal of Happiness Studies*. Vol. 9, pp. 317-330.
- Blanchflower, D.G., Oswald, A.J. (2000). Well-being Over Time in Britain and the USA. NBER Working Paper (No. 7487). Cambridge. National Bureau of Economic Research.
- Blank, R.M. (2002). Can Equity and Efficiency Complement Each Other? Paper Presented at the Adam Smith Lecture. European Association of Labour Economists. September 2001. Finland.
- Boarini, R., Johansson A., D'Ercole, M. M. (2006). Alternative Measures of Well-being. Working Paper (No. 476). OECD.
- Böckerman, P., Ilmakunnas, P. (2005). Elusive Effects of Unemployment on Happiness. HECER Discussion Paper (No. 47).
- Bradburn, N.M. (1969). *The Structure of Psychological Well-Being*. Aldine Publ. Co. Chicago. USA.
- Brenner, H.M. (1977). Personal Stability and Economic Security. *Social Policy*. Vol. 9, pp. 2-14.
- Brickman, P., Campbell, D.T. (1971). Hedonic Relativism and Planning the Good Society. In Apley, M.H. *Adaptation-level theory: A symposium*. New York. Academic Press.
- Brinkman, P., Coates, D., Janoff-Bulman, R. (1978). Lottery Winners and Accident Victims: Is Happiness Relative? *Journal of Personality and Social Psychology*. Vol. 36, pp. 917-927.
- Bruni, L., Porta, P. L. (2005). Introduction. In Bruni, L., Porta, P.L., *Economics and Happiness*. Oxford. Oxford University Press.
- Burtless, G. (1986). The work response to a guaranteed income: a survey of experimental evidence. Conference Series. Federal Reserve Bank of Boston. pp. 22-59.
- Cantril, H. (1965). *The Pattern of Human Concerns*. New Brunswick. Rogers University Press.
- Carter Hill, R. Griffiths, W.E., Judge, G.G. (2001). *Undergraduate Econometrics*. Hoboken, NJ. John Wiley & Sons. Inc.
- Castles, F.G. (1982). The impact of parties on public expenditures. In Castles F.G. *The impact of parties: Politics and policies in democratic capitalist states*. London: Sage.
- Clark, A.E., Oswald, A.J. (1994). Unhappiness and Unemployment. *Economic Journal*. Vol. 104, pp. 648-659.
- Clark, A.E. (2003). Unemployment as a Social Norm: Psychological Evidence from Panel Data. *Journal of Labour Economics*. Vol. 21, pp. 323-351.
- Clark, A.E., Frijters, P., Shields, M.A. (2008). Relative Income, Happiness, and Utility: An Explanation for the Easterlin Paradox and Other Puzzles. *Journal of Economic Literature*. Vol. 46, pp. 95-144.
- Corneo, G., Grüner, H.P. (2000). Social Limits to Redistribution. *American Economic Review*. Vol. 90, pp. 1491-1507.
- Corneo, G., Grüner, H.P. (2002). Individual Preferences for Political Redistribution. *Journal of Public Economics*. Vol. 83, pp. 83-107.
- Cowen, T. (2000). *Does the Welfare State Help the Poor?* Department of Economics. George Mason University.
- Cusack, T., Iversen, T., Rehm, P. (2006). Risk at Work: The Demand and Supply Sides of Government Redistribution. *Oxford Review of Economic Policy*. Vol. 22, pp. 365-389.

- Dean, J.W. (2007). National Welfare and Individual Happiness: Income Distribution and Beyond. *Journal of Policy Modeling*. Vol. 29, pp. 567-575.
- Diener, E., Suh, E., Oishi, S. (1997). Recent Findings on Subjective Well-being. *Indian Journal of Clinical Psychology*. Vol. 24, pp. 25-41.
- Diener, E., Lucas, R.E. (1999). Personality and Subjective Well-Being. In Kahneman, D., Diener E., Schwarz, N. *Well-Being: The Foundations of Hedonic Psychology*. New York. Russel Sage Foundations.
- Diener, E., Suh, E.M. (1999). National Differences in Subjective Well-Being. In Kahneman, D., Diener E., Schwarz, N. *Well-Being: The Foundations of Hedonic Psychology*. New York. Russel Sage Foundations.
- Diener, E., Suh, E.M., Lucas, R.E., Smith, H.L. (1999). Subjective Well-Being: Three Decades of Progress. *Psychological Bulletin*. Vol. 125, pp. 276-302.
- Diener, E., Seligman, M.E.P. (2004). Beyond Money, Towards an Economy of Well-Being. *Psychological Science in the Public Interest*. Vol. 5, pp. 1-31.
- Diener, E., Tov, W. (2007). Culture and Subjective Well-Being. In Kitayama, S., Cohen, D. *Handbook of Cultural Psychology*. New York. Guilford. pp. 691-713.
- Di Tella, R., MacCulloch R. (2005). Partisan Social Happiness. *Review of Economic Studies*. Vol. 72, pp. 367-393.
- Di Tella, R., MacCulloch R. (2006). Some Uses of Happiness Data in Economics. *Journal of Economic Perspectives*. Vol. 20, pp. 25-46.
- Di Tella, R., MacCulloch R. (2008). Gross National Happiness as an answer to the Easterlin Paradox. *Journal of Development Economics*. Vol. 86, pp. 22-42.
- Di Tella, R., Haisken-DeNew, J., MacCulloch R. (2007). Happiness, Adaptation to Income and Status in an Individual Panel. NBER Working Paper (13159).
- Di Tella, R., MacCulloch R., Oswald A.J. (2001). Preferences over Inflation and Unemployment: Evidence from Happiness Surveys. *American Economic Review*. pp. 335-342.
- Di Tella, R., MacCulloch R., Oswald, A.J. (2003). The Macroeconomics of Happiness. *The Review of Economics and Statistics*. Vol. 85, pp. 809-827.
- Dixon, H.D. (1997). Editorial Note. *Economic Journal*. Vol. 107, pp. 1812-1814.
- Dockery, A. M. (2005). Happiness, Life Satisfaction and the Role of Work: Evidence of Two Australian Surveys. School of Economics and Finance. Working Paper Curtin Business School.
- Dorn, D., Fisher, J.A.V., Kirchgässner, G., Sousa-Poza, A. (2007). Is It Culture or Democracy? The Impact of Democracy and Culture on Happiness. *Social Indicators Research*. Vol. 82, pp. 505-526.
- Drakopoulos, S.A. (2008). The Paradox of Happiness: Towards an Alternative Explanation. *Journal of Happiness Studies*. Vol. 9, pp. 303-315.
- Duesenberry, J. (1949). *Income, Saving and the Theory of Consumer Behavior*. Cambridge Mass.: Harvard University Press.
- Duncan, G. (2005). What Do We Mean by 'Happiness'? The relevance of Subjective Wellbeing to Social Policy. *Social Policy Journal of New Zealand*. Vol. 25.
- Dutt, K.A. (2006). Consumption and Happiness: Alternative Approaches. Rough Draft Prepared for the Conference on New Directions in the Study of Happiness, October 22-24, 2006. University of Notre Dame.

- Easterlin, R.A. (1974). Does Economic Growth Improve the Human Lot? Some Empirical Evidence. In *Nations and Households in Economic Growth. Essays in Honour of Moses Abramowitz*. New York. London. Academic Press.
- Easterlin, R.A. (1995). Will Raising the Incomes of All Increase the Happiness of All? *Journal of Economic Behaviour and Organization*. Vol. 66, pp. 55-71.
- Easterlin, R.A. (2001). Income and Happiness: Towards a Unified Theory. *Economic Journal*. Vol. 111, pp. 465-484.
- Easterlin, R. (2005). Building a Better Theory of Well-Being. In Bruni L., Porta, P.L., *Economics and Happiness: Framing The Analysis*. Oxford. Oxford University Press.
- Esping-Anderson, G. (1988). *Decommodification and Work Absence in the Welfare State*. San Domenico, Italy: European University Institute.
- Esping-Andersen, G. (1990). *The Three Worlds of Welfare Capitalism*. Princeton, NJ. Princeton University Press.
- Esping-Andersen, G. (1999). *Social Foundations of Postindustrial Economies*. Oxford. Oxford University Press.
- Esping-Andersen, G., Myles, J. (2008). *The Welfare State and Redistribution*. (http://dcpis.upf.edu/~gostaesping-andersen/materials/welfare_state.pdf).
- Estes, R.J. (1984). *The Social Progress of Nations*. New York. Praeger.
- Fay, S.B. (1950). Bismarck's Welfare State. *Current History*. Vol. 18, pp. 1-7.
- Ferrer-i-Carbonell, A., Frijters, P. (2004). How Important is Methodology for the Estimates of the Determinants of Happiness? *Economic Journal*. Vol. 114, pp. 641-659.
- Fordyce, M.W. (2000). *Human Happiness: Its Nature and Its Attainment*. Vol. 1. (A two-volume set online available).
- Fox, C., Kahneman, D. (1992). Correlations, Causes and Heuristics in Surveys of Life Satisfaction. *Social Indicator Research*. Vol. 27, pp. 221-234.
- Fong, C. (2001). Social Preferences, Self-Interest, and the Demand for Redistribution. *Journal of Public Economics*. Vol. 82, pp. 225-246.
- Frank, R.H. (1997). The Frame of Reference as a Public Good. *Economic Journal*. Vol.107, pp. 1832-1847.
- Frank, R.H. (2005). Does Absolute Income Matter? In Bruni, L., Porta, P.L. *Economics and Happiness: Framing the Analysis*. Oxford. Oxford University Press.
- Freeman, R.B. (2000). Single Peaked vs. Diversified Capitalism: The Relation Between Economic Institutions and Outcomes. NBER Working Paper (No. 7556).
- Frey, B.S., Stutzer, A. (2000). Happiness, Economy and Institutions. *Economic Journal*. Vol. 110, pp. 918-938.
- Frey, B.S., Stutzer, A. (2002). *Happiness and Economics: How the Economy and Institutions Affect Human Well-Being*. Princeton. Oxford. Princeton University Press.
- Frey, B.S., Stutzer, A. (2005). Testing Theories of Happiness. In Bruni, L., Porta, P.L. *Economics and Happiness: Framing the Analysis*. Oxford. Oxford University Press.
- Frey, B.S., Stutzer, A. (2006). Should We Maximize National Happiness? Conference on New Directions in the Study of Happiness October 22-24, 2006. University of Notre Dame.

- Garcia-Valinas, M.A., Llera, R.F., Torgler, B. (2008). More Income Equality or Not? An Empirical Analysis of Individuals' Preferences for Redistribution. Working/Discussion Paper (No. 220). QUT School of Economics and Finance.
- Gatti, D., Glyn, A. (2006). Welfare States in Hard Times. *Oxford Review of Economic Policy*. Vol. 22, pp. 301-312.
- Goodin, R. E. (1999). *The Real Worlds of Welfare Capitalism*. Cambridge. Cambridge University Press.
- Gould, A. (1993). *Capitalist Welfare Systems*. New York. Longman.
- Graham, C. (2004). Can Happiness Research Contribute to Development Economics? Paper presented at the Massachusetts Avenue Development Seminar. Economic and Governance Studies Programs. The Brookings Institution.
- Graham, C. (2005). The Economics of Happiness, Insights on Globalization from a Novel Approach. *World Economics*. Vol. 3, pp. 41-55.
- Granato, J., Inglehart, R., Leblang, D. (1996). Cultural Values, Stable Democracy and Economic Development: A Reply. *American Journal of Political Science*. Vol. 40, pp. 680-696.
- Haller, M., Hadler, M. (2006). How Social Relations and Structures Can Produce Happiness and Unhappiness: An International Comparative Analysis. *Social Indicators Research*. Vol. 75, pp. 169-216.
- Haveman, R. (1985). Does the Welfare State Increase Welfare? Reflections on Hidden Negative and Observed Positives. *The Economist*. Vol. 133, pp. 445-466.
- Hayek, F.A., (1960). *The Constitution of Liberty*. London. Routledge.
- Helliwell, J.F. (2002). How's Life? Combining Individual and National Variables to Explain Well-Being. NBER Working Paper (No. 9065). Cambridge. MA.
- Hicks, A., Swank, D. (1992). Politics, institutions, and welfare spending in industrialized democracies, 1960-1982. *American Political Science Review*. Vol. 83, pp. 658-674.
- Hicks, A. (1999). *Social Democracy and Welfare Capitalism*. Ithaca. New York, Cornell University Press.
- Hicks, J.R., Allen, R.G.D. (1934). A Reconsideration of the Theory of Value. *Economica*. Vol. 1, pp. 52-60.
- Hirsch, F. (1977). *Social Limits to Growth*. London. Routledge.
- Hopkins, E. (2008). Inequality, happiness and relative concerns: What actually is their relationship? *Journal of Economic Inequality*. Vol. 6, pp. 351-372.
- Inglehart, R.F. (1990). *Culture Shift in Advanced Industrial Society*. Princeton. Princeton University Press.
- Inglehart, R.F., Klingemann, H.D. (2000). Genes, Culture, Democracy, and Happiness. In Diener, E., Suh, E.M. *Culture and Subjective Well-being*. Cambridge. Massachusetts. MIT Press.
- Johns, H., Ormerod, P. (2008). The Unhappy Thing about Happiness Economics. *Real-World Economic Review*. Vol. 46.
- Kahneman, D. (1999). Objective Happiness. In Kahneman, D., Diener, E., Schwarz, N. *Well-Being: The Foundations of Hedonic Psychology*. New York. Russel Sage Foundations.
- Kahneman, D. (2000). Experienced Utility and Objective Happiness: A Moment-Based Approach. In Kahneman, D., Tversky, A. *Choices, Values and Frames*. Cambridge University Press. New York.
- Kahneman, D. (2003). A Psychological Perspective on Economics. *American Economic Review*. Vol. 93, pp. 162-168.

- Kahneman, D. , Tversky, A. (1984). Choices, Values and Frames. *American Psychologist*. Vol. 39, pp. 341-350.
- Kahneman, D., Krueger, A.B. (2006). Developments in the Measurement of Subjective Well-Being. *Journal of Economic Perspectives*. Vol. 20 (1), pp. 3-24.
- Kahneman, D. Krueger, A.B., Schkade, D. (2006). Would you be happier if you were richer? A focusing illusion. *Science*. Vol. 312, pp. 1908-1910.
- Kawachi, I., Kennedy B.P. (1997). The relationship of income inequality to mortality – does the choice of indicator matter? *Social Science and Medicine*. Vol. 45, pp. 1121-1127.
- Kennedy, B.P., Kawachi, I., Prothrow-Stith (1996). Income distribution and mortality: cross sectional ecological study of the Robin Hood index in the United States. *British Medical Journal*. Vol. 312, pp. 1004-1007.
- Kenworthy, L. (1999). Do Social-Welfare Policies Reduce Poverty? A Cross-National Assessment. *Social Forces*. Vol. 77, pp. 1119-1139.
- Khoudour-Castéras, D. (2005). *Welfare State and Labor Mobility: The Impact of Bismarck's Social Legislation on German Emigration Before World War I*. Berkeley. University of California.
- Kimball, M., Willis, R. (2006). *Utility and Happiness*. Mimeo Working Paper. University of Michigan.
- Kuhnle, S. (2000). *Survival of the European Welfare State*. London. Routledge.
- Lampman, R.J. (1984). *Social Welfare Spending: Accounting for Changes from 1950 to 1978*. New York. Academic Press.
- Lane, R. (2000). *The Loss of Happiness in Market Economies*. New Haven and London. Yale University Press.
- Larsen, R.J. (1992). Neuroticism and Selective Encoding and Recall of Symptoms: Evidence from a Combined Concurrent-Retrospective Study. *Journal of Personality and Social Psychology*. Vol. 62, pp. 480-488.
- Layard, R. (1980). Human Satisfaction and Public Policy. *Economic Journal*. Vol. 90, pp. 737-750.
- Layard, R. (2003). *Towards a Happier Society*, *New Statesman* Article.
- Layard, R. (2005). *Happiness: Lessons From a New Science*. New York and London. Penguin.
- Layard, R. (2006). Happiness and Public Policy: A Challenge to the Profession. *Economic Journal*. Vol. 116, pp. 24-33.
- Layard, R. (2008). Introduction. *Journal of Public Economics*. Vol. 92, pp. 1773-1776.
- Lindbeck, A., Nyberg, S., Weibull, J.W. (1999). Social Norms and Economic Incentives in the Welfare State. *Quarterly Journal of Economics*. Vol. 114, pp. 1-35.
- Lindblom, C. (1977). *Politics and Markets*. New York. Basic Books.
- Luttmer, E.F.P. (2001). Group Loyalty and the Taste for Redistribution. *Journal of Political Economy*. Vol. 109, pp. 500-528.
- Lyubomirsky, S., King, L., Diener, E. (2005). The Benefits of Frequent Positive Affect: Does Happiness Lead to Success? *Psychological Bulletin*. Vol. 131, pp. 803-855.
- Lykken, D., Tellegen, A. (1996). Happiness Is a Stochastic Phenomenon. *Psychological Science*. Vol. 7, pp. 186-189.
- Macuzzo, M.C. (2005). *Keynes and the Welfare State*. Department of Economic Science. University of Rome.
- Malthus, T.R. (1798/1966). *An Essay on the Principle of Population*. Reprinted, London. Macmillan.

- Marshall, T.H. (1963). *Citizenship and Social Class*. In *Sociology at the Crossroads and Other Essays*. London. Heineman London.
- McMahon, D. M. (2006). *The History of Happiness and Contemporary Happiness Studies*. New Directions in the Study of Happiness. Notre Dame University.
- Mehnert, T., Kraus H.H., Nadler R., Boyd, M. (1990). Correlates of Life Satisfaction in Those with Disabling Conditions. *Rehabilitating Psychology*. Vol. 35 (1), pp. 3-17.
- Michalos, A. (1985). Multiple Discrepancy Theory. *Social Indicators Research*. Vol. 16, pp. 347-413.
- Minkov, M. (2009). Predictors of Differences in Subjective Well-Being Across 97 Nations. *Cross Cultural Research*, Vol. 43, pp. 152-179.
- Moene, K., Wallerstein, M. (2001). Inequality, Social Insurance and Redistribution. *American Political Science Review*. Vol 63 (3), pp. 859-887.
- Mooij, R. de (2006). *Reinventing the Welfare State*. CPB: Netherlands Bureau for Economic Policy Analysis.
- Morawetz, D., Atia, E., Bin-Nun, G., Felous, L., Gariplerden, Y., Harris, E., Soustiel, S., Tombros, G., Zarfaty, Y. (1977). Income Distribution and Self-Rated Happiness: Some Empirical Evidence. *Economic Journal*. Vol. 87, pp. 511-522.
- Murray, C. (1984). *Losing Ground: American Social Policy, 1950-1980*. Basic Books.
- Myers, D.G. and Diener, E. (1995). Who is happy? *Psychological Science*. Vol. 6, pp. 10-19.
- Ng, YK. (1978). Economic Growth and Social Welfare: The Need for a Complete Study of Happiness. *Kyklos*. Vol. 314, pp. 575-587.
- Ng, YK. (1997). A Case for Happiness, Cardinalism, and Interpersonal Comparability. *Economic Journal*. Vol. 107, pp. 1848-1858.
- O'Hara, P.A. (1999). *Welfare State*. Encyclopedia of Political Economy. London. Routledge.
- Oishi, S., Diener, E.F., Lucas, R.E., Suh, E.M. (1999). Cross-Cultural Variations in Predictors of Life Satisfaction: Perspectives From Needs and Values. *Personality and Social Psychology Bulletin*. Vol. 25, pp. 980-990.
- Okun, A.M. (1975). *Equality and Efficiency: The Big Tradeoff*. Washington, D. C. Brookings Institution.
- Oorschot, W.J. van, Rabusic, L., Sirovatka, T. (1999). The Czech welfare state and its legitimacy. Paper presented at the 4th Annual European Conference of Sociology. Amsterdam. August 18-21.
- Oswald, J.A. (1997). Happiness and Economic Performance. *Economic Journal*. Vol. 107, pp. 1815-1831.
- Ouweneel, P. (2002). Social Security and Well-Being of the Unemployed in 42 Nations. *Journal of Happiness Studies*. Vol 3, pp. 167-192.
- Ouweneel, P., Veenhoven, R. (1995). Livability of the Welfare State. *Social Indicators Research*. Vol 36, pp. 1-48.
- Overbye, E. (1995). Explaining Welfare Spending. *Public Choice*. Vol. 83, pp. 313-335.
- Owen, A.L., Videras, J., Willemsen, C. (2008). Democracy, Participation, and Life Satisfaction. *Social Science Quarterly*. Vol. 89, pp. 987-1005.

- Pacek, A.C., Freeman, B. (2005). *The Welfare State and Quality of Life: A Cross-National Analysis*. Texas A&M University.
- Pacek, A.C., Radcliff, B. (2008). *Welfare Policy and Subjective Well-Being Across Nations: An Individual Level Assessment*. *Social Indicators Research*. Vol. 89, pp. 179-191.
- Praag, B. M. S. van (1968). *Individual Welfare Functions and Consumer Behavior: A Theory of Rational Irrationality*. PhD. Thesis. Amsterdam. North Holland Publishing Company.
- Praag, B. M. S. van (2005). *The Connection between Old and New Approaches to Financial Satisfaction*. In Bruni, L., Porta, P.L. *Economics and Happiness: Framing the Analysis*. Oxford. Oxford University Press.
- Praag, B. M.S. van (2007). *Perspectives from the Happiness Literature and the role of New Instruments for Policy Analysis*. *CESifo Economic Studies*. Vol. 53, pp. 42-68.
- Praag, B. M. S. van, Frijters, P. (1999). *The Measurement of Welfare and Well-Being: The Leyden Approach*. In Kahneman, D., Diener E., Schwarz, N. *Well-Being: The Foundations of Hedonic Psychology*. New York. Russel Sage Foundations.
- Putnam, R.D. (1993). *The prosperous community: social capital and public life*. *The American Prospect*.
- Putterman, L., Roemer, J.E., Silvestre, J. (1998). *Does Egalitarianism Have a Future?* *Journal of Economic Literature*. Vol. 36, pp. 861-902.
- Radcliff, B. (2001). *Politics, Markets, and Life Satisfaction: The Political Economy of Human Happiness*. *American Political Science Review*. Vol. 95 (4), pp. 939-952.
- Rehdanz, K., Maddison, D. (2005). *Climate and Happiness*. *Ecological Economics*. Vol. 52, pp. 11-125.
- Rice, J.M., Goodin, R.E. (2006). *The Temporal Welfare State: A Cross-National Comparison*. *Journal of Public Policy*. Vol. 26, pp. 195-228.
- Robbins, L.C. (1932). *An Essay on the Nature and Significance of Economic Science*. New York. New York University Press.
- Rodrik, D. (1997). *Trade, Social Insurance and the Limits to Globalization*. *Oxford Review of Economic Policy*. Vol. 22, pp. 349-364.
- Rojas, M. (2006). *The Utility of Happiness Research in Economics*. *Journal of Happiness Studies*. Vol. 7, pp. 523-529.
- Rojas, M. (2007). *The Complexity of Well-Being: A Life-Satisfaction Conception and a Domains-of-Life Approach*. In Gough, I. and McGregor, A. *Researching Well-Being in Developing Countries*. Cambridge. Cambridge University Press.
- Sandmo, A. (2002). *Globalization and the Welfare State: More Inequality – Less Redistribution?* Discussion paper 04/02
- Samuelson, P.A. (1947). *Foundations of Economic Analysis*. Cambridge. Harvard University Press.
- Schyns, P. (1998). *Cross National Differences in Happiness*. *Social Indicators Research*. Vol. 43, pp. 3-26.
- Schyns, P. (2002). *Wealth Of Nations, Individual Income and Life Satisfaction in 42 Countries: A Multilevel Approach*. *Social Indicators Research*. Vol. 60, pp. 5-40.
- Scitovsky, T., (1976). *The Joyless Economy: An Inquiry into Human Satisfaction and Consume. Dissatisfaction*. New York. Oxford University Press.

- Scruggs, L. (2005). Comparative Welfare Entitlements Dataset. Department of Political Science. University of Connecticut.
- Sen, A. (1999). Development as Freedom. Oxford: Oxford University Press.
- Shiller, R.J. (1997). Why Do People Dislike Inflation? In Romer, C.D., Romer, D.H. Reducing Inflation: Motivation and Strategy. Chicago and London. University of Chicago Press. pp. 13-65.
- Sirgy, M.J., Michalos, A.C., Abbott, F.L., Easterlin, R.A., William, P., Donald, P. (2006). The Quality-Of-Life (QOL) Research Movement: Past, Present and Future. Social Indicators Research. Vol. 76, pp. 343-466.
- Solnick, S.J., Hemenway, D. (1998). Is More Always Better? A Survey about Positional Concern. Journal of Economic Behavior and Organization. Vol. 37, pp. 373-383.
- Solnick, S.J., Hemenway, D. (2005). Are Positional Concerns Stronger in Some Domains than in Other? American Economic Review. Vol. 95, pp. 147-151.
- Veenhoven, R. (1984). Conditions of Happiness. Dordrecht. Kluwer Academic.
- Veenhoven, R. (1988). The Utility of Happiness. Social Indicators Research. Vol. 20, pp. 333-354.
- Veenhoven, R. (1993). Happiness in nations: Subjective appreciation of life in 56 nations 1946-1992. Studies in Sociale en Culturele Verandering [Studies in Social and Cultural Change]. Erasmus University Rotterdam.
- Veenhoven, R. (1994). Is Happiness a Trait? Social Indicators Research. Vol. 32, pp. 101-160.
- Veenhoven, R. (2000). Well-Being in the Welfare State: Level Not Higher, Distribution Not More Equitable. Journal of Comparative Policy Analysis: Research and Practice. Vol. 2, pp. 91-125.
- Veenhoven, R. (2001). The Four Qualities of Life: Ordering Concepts and Measures of the Good Life. Journal of Happiness Studies. Vol. 2, pp. 111-136.
- Veenhoven, R. (2004). Happy Life Years. A Measure of Gross National Happiness. Published in Karma Ura & Karma Galay. Gross National Happiness and Development. Proceedings of the First International Seminar on 'Operationalization of Gross National Happiness'. Thimphu, Bhutan. pp. 287-318.
- Veenhoven, R. (2006). How Do We Assess How Happy We Are? Tenets, Implications and Tenability of Three Theories. Conference on New Directions in the Study of Happiness October 22-24, 2006. University of Notre Dame.
- Veenhoven, R. (2008a). Freedom and Happiness. Comparison of 126 Nations in 2006. Presented at Legatum Prosperity Symposium June 2008. Brocket Hall, United Kingdom.
- Veenhoven, R. (2008b). Healthy Happiness: Effects of Happiness on Physical Health and the Consequences for Preventive Health Care. Journal of Happiness Studies. Vol. 9, pp. 449-469.
- Veenhoven, R., Hagerty, M. (2006). Rising Happiness in Nations 1946-2004: A Reply to Easterlin. Social Indicators Research. Vol. 79, 421-436.
- Veenhoven, R., Ouweneel, P. (1995). Livability and the Welfare State. Appreciation-of-Life and Length-of-Life in Nations Varying in State-Welfare-Effort. Social Indicators Research. Vol. 36, pp. 1-48.
- Vendrik, M., Hirata, J. (2003). Experienced versus Decision Utility of Income: Relative or Absolute Happiness. Paper presented at the international conference "The Paradoxes of Happiness in Economics" Milan, March 2003.
- Vocht, A. de (2007). Basishandboek SPSS 15. Statistiek met SPSS 15 [Basic Handbook SPSS 15. Statistics with SPSS 15]. Utrecht. Bijleveld Press.

- Wilensky, H.L., Lebreaux, C.N. (1965). *Industrial Society and Social Welfare*. New York. Free Press.
- Wilkinson, R.G. (1996). The relationship between income distribution and health. In *La Epidemiologica en la Busqueda de la Equidad en Salud*. Proceedings of The First Latin-American Epidemiology Conference. Salvador, Brazil.
- Wilkinson, W. (2007). In Pursuit of Happiness Research. Is It Reliable? What Does It Imply for Policy? *Policy Analysis*. (No. 590). Cato Institute.
- Wilson, W. (1969). Correlates of avowed happiness. *Psychological Bulletin*. Vol. 67, pp. 294-306.
- Winkelmann, L., Winkelmann, R. (1998). Why Are the Unemployed So Unhappy? Evidence from Panel Data. *Economica*. Vol. 65, pp. 1-15.
- Wolfers, J. (2003). Is Business Cycle Volatility Costly? Evidence from Surveys of Subjective Well-Being. *International Finance*. Vol. 6, pp.1-26.
- Zimmerman, S. L. (2002). States' Spending for Public Welfare and Their Suicide Rates, 1960 to 1995: What Is the Problem? *The Journal of Nervous and Mental Disease*. Vol. 190, pp. 349-359.

Annual harmonized unemployment rate (Economic data pocketbook - No. 1/2007)

http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-CZ-07-001/EN/KS-CZ-07-001-EN.PDF EU

Bruto Nationaal Geluk (De Pers) – 2nd of June 2009

<http://www.depers.nl/binnenland/?Id=311424>

European Social Survey

<http://www.europeansocialsurvey.org>

GDP per capita (Eurostat)

<http://nui.epp.eurostat.ec.europa.eu/nui/submitViewTableAction.do;jsessionid=9ea7a6a430d823e804729d7842bd80be98ae54751a18.e3qLbxaLc3mKe3mQbhyTa3iMe0>

Gini index (Worldbank)

http://devdata.worldbank.org/wdi2005/Table2_7.htm

Interview Esther-Mirjam Sent ‘Groei is een dubieuze maatstaf’ (de Volkskrant) – 8th of May 2009

http://www.volkskrant.nl/economie/article1195689.ece/Groei_is_eeen_dubieuze_maatstaf

Interview Femke Halsema (www.nu.nl) – 3rd of June 2009

<http://www.nu.nl/algemeen/1972834/halsema-pleit-voor-nieuw-welvaartsbegrip.html>

Interview Paul Samuelson (www.theatlantic.com) – 18th of June 2009

http://correspondents.theatlantic.com/conor_clarke/2009/06/an_interview_with_paul_samuelson_part_two.php

Interview Ruut Veenhoven ‘Bruto Nationaal Geluk [Gross National Happiness]’ – 2nd of June 2009

<http://www.depers.nl/binnenland/311424/Bruto-Nationaal-Geluk.html>

Social expenditures (The OECD Social Expenditure Database [SOCX])

<http://stats.oecd.org/WBOS/index.aspx#>

Beyond GDP: Bhutan's Index of Gross National Happiness

http://greeningindia.net/index2.php?option=com_content&do_pdf=1&id=38

Appendices

Appendix A

Measures of Objective Happiness

Even if happiness questionnaires get 99% response rates - much higher than the average response rates in questionnaires - as already came up in section 2.4.2 the question still is 'can one really rely on people's statements about how they feel?' Do different people use the words in the same way? With the aid of neuroscience, it is now known that they do. Neuroscience makes it possible to measure in a standard way the level of activity in the relevant parts of the brain and to compare this with what people say. It turns out that the two measurements are highly correlated. The people who have the 'happier' brain readings also say they are happier (Duncan, 2005; Dutt, 2006; Layard, 2003).⁹⁵

So, objective happiness measures relate to a particular individual and they are technical procedures that identify the extent of happiness. The objectively oriented approaches have the advantage of being precise in terms of intensities measured. To a large extent, these measures assess an individual's level of affect. Other examples of objective happiness are physiological and neurobiological indicators like functional magnetic resonance imaging (fMRI) tracking the blood flow in the brain. Here, a characteristic pattern can be observed when dealing with happy people. (see Frey and Stutzer, 2006: p. 6). In an earlier contribution (2002, p. 25) the authors state regarding these: 'While great efforts are made at the moment to develop corresponding measuring instruments that, for example, rely on brain waves, there are so far no practically usable indicators available. It is doubtful that there ever will be, because cognitive aspects play such a large role in happiness.' Layard (2003, p. 2) admits that the neuroscience here is of course still in its infancy, but he asserts that the electroencephalogram (EEG) is an useful and very objective method in this.

It may soon be possible to monitor a person's happiness throughout a normal day, and thus eventually to check by physical methods the historical fluctuations of happiness in our society. Layard also comes up with the remark that the idea, common among cynics, that it cannot be known what other people are feeling is simply false. According to Layard the idea is absurd since there is also a high concordance between how people say they feel and how their happiness is rated by their friends or by independent observers (Layard, 2003: pp. 2-3).

'Getting information on high levels of happiness is likely to be difficult, because there is no need for such statistics to be recorded. There is, however, a method of studying the other extreme' (Oswald, 1997: p. 1823). With the other extreme, Oswald refers to suicide and attempted suicide or para-suicide.⁹⁶ He contends that this topic is not best left to doctors. Although analysis has a long history, most social scientists are not used to working with suicide statistics. Economist, especially,

⁹⁵ It is also questionable how reliable these brain readings are. Because of the little relevance for this paper, this matter will not be examined further.

⁹⁶ It is known that suicide rose markedly in the Great Depression, but that was probably too extreme an episode to allow any easy judgement (Oswald, 1997).

are likely to see this area as far from their usual concerns, and of little relevance to them (Oswald, 1997).

Social scientists, and of course economists, might argue that suicide decisions are not rational. They could, perchance, simply be a sign of mental illness, and therefore do not contain reliable information. Furthermore, the reported suicide numbers understate what is really happening. Suicide statistics are probably under-reported versions of the truth: the number of individuals attempting suicide is much larger than those who do kill themselves (Oswald, 1997: pp. 1822-1827).

Appendix B

This appendix uses pooled individual-level data in a logistic regression analysis.⁹⁷ A logistic regression is about calculating the odds for a specific event; in this case being happy.

Table 5.V Determinant of Happiness

Model	(1)		(1)
Dependent variable	Happiness		Happiness
Independent variable			
Health	1.167*** (.085)	DummyGB	-.162 (.194)
Income group	.310*** (.046)	DummyGR	-1.242*** (.251)
Religious	.043*** (.009)	DummyHU	-.974 (.216)
Sex	-.073 (.054)	DummyIE	.227 (.216)
Employed	.164*** (.060)	DummyIT	-.569 (.626)
Marital status	.590*** (.054)	DummyLU	-.129 (.206)
Age	-.001 (.002)	DummyNL	.100 (.160)
Age ²	.000 (.000)	DummyNO	.250 (.168)
DummyBE	.075 (.183)	DummyPL	-.842*** (.177)
DummyCH	.378** (.174)	DummyPT	-.780*** (.227)
DummyCZ	-.076 (.190)	DummySE	.479** (.230)
DummyDE	-.391** (.165)	DummySI	-.237 (.177)
DummyDK	.965*** (.168)	DummySK	-.861*** (.256)
DummyES	-.481** (.202)	Constant	-1.595*** (.219)
DummyFI	.501* (.304)	Nagelkerke R ²	.204
DummyFR	.204* (.168)		

Note: Entries are regression coefficients. Standard errors in parentheses.

*Significant at .1 level, **Significant at .05 level, ***Significant at .01 level

The aim is to test whether the chance of getting happy (scoring an answer 8 or higher) depends on different variables and if it differs per country.⁹⁸

⁹⁷ Prerequisites like linearity and no multicollinearity are met. See also: <http://www.ats.ucla.edu>.

⁹⁸ These variables have shown to correlate with happiness in the vast literature on determinants of happiness (e.g. Diener *et al.*, 1999, Di Tella *et al.*, 2003, Layard, 2005, Frey and Stutzer, 2002, Johns and Ormerod, 2008). These variables capture demographic characteristics like sex, marital status, health status, income groups, education, age, and religious persuasion are also taken from the ESS.

Due to this methodological approach the dependent variable (happiness) is recoded into a dichotomous (binary) variable ‘Happy = 1’ and ‘Unhappy = 0’.⁹⁹ Table 5.V gets into the heart of the results. It shows the partial logistic regression coefficients and their standard errors. These coefficients mirror the effect of the independent variable on the logit.¹⁰⁰ The interpretation of the coefficients differs therefore from the linear multiple regression. For example, for a one unit increase in religious intensity, the log odds of being happy (versus being unhappy) increases by 0.043¹⁰¹.

The positive coefficients indicate that being healthy, having higher income, being religious, employed and married (all significant at the 0.01 level) increases the logit and therefore increase the chance P of being happy. Also dummy variables are added to the model to control for country specific effects. Here, Austria is used as a reference category since Esping-Andersen (1990, p. 52) characterizes this corporatist country as moderate when it comes to the degree to which labor is decommodified (decommodification score is 31.1 and the average of all countries is 27.2). When interpreting the dummies, the coefficients have to be compared with the reference category (not included in the table, but significant). The coefficient of Denmark resembles that there is significant difference in happiness between people in Austria and Denmark. The fact that the coefficient is positive means that the chance of being happy is higher in Denmark (in comparison with Austria).

Important to notice is the Nagelkerke R^2 . This is a measure for the quality of the model (between 0 and 1) and can be compared to the R squared in the multiple regression analysis. However, it *cannot* be interpreted as the percentage explained variance.

To determine whether the results are robust the same analysis is carried out with another dependent variable; life satisfaction. This variable was also recoded into a dichotomous (binary) variables ‘Satisfied = 1’ and ‘Dissatisfied = 0’.¹⁰² Results are shown in the table in Appendix C. The overall result are similar except that the sex is now significant and that the age coefficient is now positive and statistically significant.

Appendix D displays simple correlations between certain demographic variables and happiness and life satisfaction in 22 countries in 2002.¹⁰³ All the coefficients are significant except for sex. They also show that being healthy correlates the most with happiness and life satisfaction. The positive income group coefficient shows that going from the low to the middle or from the middle to the high income group increases happiness and life satisfaction with almost 0.3. Other factors that

Source: <http://www.europeansocialsurvey.org>; Marital status, health status, parenthood and religious persuasion are recoded into dichotomous variables (0 = not married, sick, no children resp. not religious and 1 = married, healthy, having a child or children and religious). The income group variable is recoded into three categories; 1 = low income, 2 = middle income and 3 = high income.

⁹⁹ Answer 0 to 7 to the survey question ‘‘How happy are you?’’ is recoded into ‘‘unhappy’’. Answer 8 to 10 is coded ‘‘Happy’’.

¹⁰⁰ $\text{logit} = \ln \frac{P}{1-P} \rightarrow P = \frac{1}{1 + e^{-\text{logit}}}$

¹⁰¹ For this reason, many researchers prefer to exponentiate the coefficients and interpret them as odds-ratios, see appendix VI.

¹⁰² Answer 0 to 7 to the survey question is recoded into ‘‘dissatisfied’’. Answer 8 to 10 is coded ‘‘satisfied’’.

¹⁰³ Correlations for 2004 and 2006 do not differ from 2002 and are therefore omitted.

correlate positively with happiness and life satisfaction are years of education, being employed, being married and (to some extent) being religious. Having children and age correlates negatively with happiness and life satisfaction. The results are in line with the theory and show that being healthy, higher income and being employed raise happiness. However, the dummy coefficients show that there are also country specific effects that add to or harm happiness.

Appendix C

Omnibus Tests of Model Coefficients

Step	Chi-square	df	Sig.
Step 1	948,154	29	,000
Block	948,154	29	,000
Model	948,154	29	,000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	3114,053 ^a	,275	,368

a. Estimation terminated at iteration number 20 because maximum iterations has been reached. Final solution cannot be found.

Classification Table

Observed	How satisfied with life as a w hole	Predicted		Percentage Correct
		DISDATIS FIED	SATISFIED	
Step 1	How satisfied with life as a w hole	DISDATIS FIED	SATISFIED	68,9
	Overall Percentage	362	1263	77,7
				73,7

a. The cut value is ,500

Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1(a)						
health	,679	,056	148,888	1	,000	1,971
hincdot	,666	,136	23,893	1	,000	1,946
RELIGIOUS010	,034	,016	4,232	1	,040	1,034
gndr	-.234	,093	6,331	1	,012	,792
EMPLOYED	,247	,105	5,491	1	,019	1,280
marital	,472	,099	22,537	1	,000	1,603
CHILDREN	-.055	,116	,224	1	,636	,946
eduvs	,004	,013	,105	1	,746	1,004
AGE	,015	,003	19,590	1	,000	1,015
cntxy			149,190	20	,000	
cntxy(1)	-.408	,449	,825	1	,364	,665
cntxy(2)	-.060	,405	,022	1	,881	,941
cntxy(3)	-.775	,401	3,728	1	,054	,461
cntxy(4)	-.558	,400	1,944	1	,163	,572
cntxy(5)	,913	,412	4,914	1	,027	2,492
cntxy(6)	-.794	,455	3,043	1	,081	,452
cntxy(7)	,305	,571	,286	1	,593	1,357
cntxy(8)	-.1047	,428	5,983	1	,014	,351
cntxy(9)	-.1584	,525	9,095	1	,003	,205
cntxy(10)	-.1313	,449	8,537	1	,003	,269
cntxy(11)	-.335	,489	,471	1	,492	,715
cntxy(12)	-21,129	19811,650	,000	1	,999	,000
cntxy(13)	-.563	,446	1,593	1	,207	,569
cntxy(14)	-.320	,396	,655	1	,418	,726
cntxy(15)	-.212	,402	,279	1	,598	,809
cntxy(16)	-1,035	,400	6,691	1	,010	,355
cntxy(17)	-2,221	,484	21,051	1	,000	,109
cntxy(18)	,651	,529	1,517	1	,218	1,918
cntxy(19)	-1,071	,408	6,875	1	,009	,343
cntxy(20)	-1,554	,528	8,673	1	,003	,211
Constant	-4,088	,522	61,367	1	,000	,017

a Variable(s) entered on step 1: health, hincdot, RELIGIOUS010, gndr, EMPLOYED, marital, CHILDREN, eduvs, AGE, cntxy.

Appendix D

Correlations

		How happy are you	How satisfied with life as a whole	Income group	Religious persuasion	Gender	Employment status	Marital status	Parenthood	Subjective general health	Years of education completed	AGE	AGESQUAR
How happy are you	Pearson Correlation	1	,689**	,263**	,016**	,007	,113**	,114**	-,026**	,327**	-,133**	-,075**	-,070**
	Sig. (2-tailed)		,000	,000	,002	,153	,000	,000	,000	,000	,000	,000	,000
	N	39685	39489	27160	39450	39642	27532	38021	23491	29711	39157	39477	39477
How satisfied with life as a whole	Pearson Correlation	,689**	1	,286**	,024**	,001	,129**	,064**	-,031**	,316**	-,137**	-,044**	-,033**
	Sig. (2-tailed)	,000		,000	,000	,779	,000	,000	,000	,000	,000	,000	,000
	N	39489	39617	27126	39379	39572	27496	37955	23448	29660	39093	39407	39407
Income group	Pearson Correlation	,263**	,286**	1	-,158**	,083**	,233**	,143**	-,071**	,222**	,337**	-,155**	-,187**
	Sig. (2-tailed)	,000	,000		,000	,000	,000	,000	,000	,000	,000	,000	,000
	N	27160	27126	27233	27099	27213	19225	27173	16280	20415	27042	27124	27124
Religious persuasion	Pearson Correlation	,016**	,024**	-,158**	1	-,172**	-,140**	,092**	,139**	-,077**	-,176**	,196**	,200**
	Sig. (2-tailed)	,002	,000	,000		,000	,000	,000	,000	,000	,000	,000	,000
	N	39450	39379	27099	39588	39545	27459	37935	23420	29648	39063	39379	39379
Gender	Pearson Correlation	,007	,001	,083**	-,172**	1	,295**	,041**	-,082**	,064**	,069**	-,035**	-,036**
	Sig. (2-tailed)	,153	,779	,000	,000		,000	,000	,000	,000	,000	,000	,000
	N	39642	39572	27213	39545	39810	27615	38151	23583	29798	39275	39624	39624
Employment status	Pearson Correlation	,113**	,129**	,233**	-,140**	,295**	1	-,033**	-,193**	,258**	,249**	-,194**	-,234**
	Sig. (2-tailed)	,000	,000	,000	,000	,000		,000	,000	,000	,000	,000	,000
	N	27532	27496	19225	27459	27615	27635	26556	13657	21575	27307	27494	27494
Marital status	Pearson Correlation	,114**	,064**	,143**	,092**	,041**	-,033**	1	,429**	,011	-,024**	,229**	,150**
	Sig. (2-tailed)	,000	,000	,000	,000	,000	,000		,000	,053	,000	,000	,000
	N	38021	37955	27173	37935	38151	26556	38184	22604	28696	37705	37992	37992
Parenthood	Pearson Correlation	-,026**	-,031**	-,071**	,139**	-,082**	-,193**	,429**	1	-,209**	-,245**	,632**	,595**
	Sig. (2-tailed)	,000	,000	,000	,000	,000	,000	,000		,000	,000	,000	,000
	N	23491	23448	16280	23420	23583	13657	22604	23599	17204	23274	23494	23494
Subjective general health	Pearson Correlation	,327**	,316**	,222**	-,077**	,064**	,258**	,011	-,209**	1	,254**	-,317**	-,333**
	Sig. (2-tailed)	,000	,000	,000	,000	,000	,000	,053	,000		,000	,000	,000
	N	29711	29660	20415	29648	29798	21575	28696	17204	29831	29440	29679	29679
Years of education completed	Pearson Correlation	,133**	,137**	,337**	-,176**	,069**	,249**	-,024**	-,245**	,254**	1	-,307**	-,335**
	Sig. (2-tailed)	,000	,000	,000	,000	,000	,000	,000	,000	,000		,000	,000
	N	39157	39093	27042	39063	39275	27307	37705	23274	29440	39304	39119	39119
AGE	Pearson Correlation	-,075**	-,044**	-,155**	,196**	-,035**	-,194**	,229**	,632**	-,317**	-,307**	1	,982**
	Sig. (2-tailed)	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000		,000
	N	39477	39407	27124	39379	39624	27494	37992	23494	29679	39119	39640	39640
AGESQUAR	Pearson Correlation	-,070**	-,033**	-,187**	,200**	-,036**	-,234**	,150**	,595**	-,333**	-,335**	,982**	1
	Sig. (2-tailed)	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	
	N	39477	39407	27124	39379	39624	27494	37992	23494	29679	39119	39640	39640

** Correlation is significant at the 0.01 level (2-tailed).

Appendix E

Country	ESS Round - year	AvHappy	AvHapEmpl	AvHapUnempl	UnEmpEmpGap	AvHappyHealth	AvHappySick	SickHealthGap	AvHappyRich	AvHappyPoor	PoorRichGap
Austria	ESS1-2002	7,58	7,67	7,39	0,28	7,86	5,77	2,09	7,84	7,13	0,71
Austria	ESS2-2004	7,49	7,59	7,52	0,07	7,78	5,71	2,07	7,77	7,12	0,65
Austria	ESS3-2006	7,44	7,57	7,5	0,07	7,73	5,18	2,55	7,32	6,91	0,41
Belgium	ESS1-2002	7,76	7,8	7,62	0,18	7,97	6,29	1,68	7,89	7,27	0,62
Belgium	ESS2-2004	7,75	7,82	7,53	0,29	7,93	6,49	1,44	7,97	7,23	0,74
Belgium	ESS3-2006	7,67	7,73	7,42	0,31	7,85	6,14	1,71	7,92	6,98	0,94
Switzerland	ESS1-2002	7,98	7,89	7,79	0,1	8,14	6,66	1,48	8,09	7,92	0,17
Switzerland	ESS2-2004	8,04	8,04	7,86	0,18	8,18	6,86	1,32	8,19	7,82	0,37
Switzerland	ESS3-2006	8,07	8,1	7,84	0,26	8,23	6,22	2,01	8,22	7,67	0,55
Czech Republik	ESS1-2002	6,75	6,95	6,62	0,33	7,3	5,29	2,01	7,29	6,63	0,66
Czech Republik	ESS2-2004	6,81	7,04	6,36	0,68	7,25	5,43	1,82	7,29	6,63	0,66
Czech Republik	ESS3-2006								.		
Germany	ESS1-2002	7,16	7,36	6,53	0,83	7,52	5,94	1,58	7,66	6,15	1,51
Germany	ESS2-2004	7,03	7,27	6,59	0,68	7,48	5,61	1,87	7,73	6,08	1,65
Germany	ESS3-2006	7,01	7,15	6,59	0,56	7,41	5,64	1,77	7,83	5,86	1,97
Denmark	ESS1-2002	8,32	8,45	7,91	0,54	8,47	7,19	1,28	8,54	8,08	0,46
Denmark	ESS2-2004	8,31	8,44	7,98	0,46	8,43	7,33	1,1	8,5	7,74	0,76
Denmark	ESS3-2006	8,33	8,37	8,12	0,25	8,48	7,03	1,45	8,53	8,2	0,33
Spain	ESS1-2002	7,3	7,5	7,04	0,46	7,61	6	1,61	7,69	6,81	0,88
Spain	ESS2-2004	7,32	7,42	7,09	0,33	7,53	6,43	1,1	7,29	6,71	0,58
Spain	ESS3-2006	7,63	7,75	7,29	0,46	7,91	6,72	1,19	7,74	7,34	0,4
Finland	ESS1-2002	8,03	8,02	7,98	0,04	8,26	7,16	1,1	8,25	7,64	0,61
Finland	ESS2-2004	8,06	8,11	7,7	0,41	8,3	6,88	1,42	8,33	7,71	0,62
Finland	ESS3-2006	8	8,12	7,64	0,48	8,29	6,54	1,75	8,29	7,54	0,75
France	ESS1-2002	7,34	7,52	6,9	0,62	7,7	6,06	1,64	.		
France	ESS2-2004	7,19	7,44	6,52	0,92	7,56	5,83	1,73	7,76	6,37	1,39
France	ESS3-2006	7,15	7,29	6,74	0,55	7,47	5,73	1,74	7,65	6,4	1,25
United Kingdom	ESS1-2002	7,54	7,5	7,1	0,4	7,74	6,74	1	7,67	7,21	0,46
United Kingdom	ESS2-2004	7,37	7,4	6,63	0,77	7,6	6,49	1,11	7,66	6,87	0,79
United Kingdom	ESS3-2006	7,43	7,53	6,62	0,91	7,74	5,65	2,09	7,71	6,93	0,78
Greece	ESS1-2002	6,5	6,7	6,38	0,32	6,85	4,92	1,93	7,07	6,07	1
Greece	ESS2-2004	6,74	7,03	6,64	0,39	7,1	4,51	2,59	6,99	6,52	0,47
Greece	ESS3-2006								.		
Hungary	ESS1-2002	6,32	6,67	5,98	0,69	7,16	4,64	2,52	.		
Hungary	ESS2-2004	6,39	6,68	5,76	0,92	7,18	4,89	2,29	8,75	5,79	2,96

Hungary	ESS3-2006	6,24	6,61	5,87	0,74	7,11	4,5	2,61	.			
Ireland	ESS1-2002	7,89	7,92	7,68	0,24	8,04	6,04	2	.			
Ireland	ESS2-2004	7,94	8	7,66	0,34	8,08	6,09	1,99	8,17	7,21	0,96	
Ireland	ESS3-2006	7,72	7,69	7,52	0,17	7,9	6,27	1,63	7,82	7,32	0,5	
Italy	ESS1-2002	6,46	6,77	5,87	0,9	6,85	4,21	2,64	7,08	5,69	1,39	
Italy	ESS2-2004	6,19	6,41	5,86	0,55	6,64	4,59	2,05	6,52	5,46	1,06	
Italy	ESS3-2006								.			
Luxembourg	ESS1-2002	7,92	7,92	7,69	0,23	8,22	6,44	1,78	8,14	6,56	1,58	
Luxembourg	ESS2-2004	7,75	7,76	7,46	0,3	8,03	6,22	1,81	7,92	7,56	0,36	
Luxembourg	ESS3-2006								.			
Netherlands	ESS1-2002	7,79	7,87	7,67	0,2	8,01	6,23	1,78	7,96	7,31	0,65	
Netherlands	ESS2-2004	7,68	7,77	7,49	0,28	7,88	6,11	1,77	8	7,13	0,87	
Netherlands	ESS3-2006	7,64	7,71	7,47	0,24	7,81	6,67	1,14	7,91	7,13	0,78	
Norway	ESS1-2002	7,88	7,91	7,67	0,24	8,04	7,12	0,92	8,03	7,7	0,33	
Norway	ESS2-2004	7,9	8,01	7,31	0,7	8,1	6,55	1,55	8,07	7,41	0,66	
Norway	ESS3-2006	7,93	7,96	7,56	0,4	8,1	6,55	1,55	8,09	7,7	0,39	
Poland	ESS1-2002	6,43	6,56	6,26	0,3	6,98	5,05	1,93	6,93	6,32	0,61	
Poland	ESS2-2004	6,72	6,86	6,51	0,35	7,33	5,08	2,25	7,81	6,6	1,21	
Poland	ESS3-2006	6,95	7,15	6,6	0,55	7,54	5,2	2,34	7,82	6,82	1	
Portugal	ESS1-2002	6,84	7,11	6,51	0,6	7,55	5,19	2,36	7,45	6,31	1,14	
Portugal	ESS2-2004	6,48	6,81	6,25	0,56	6,97	5,3	1,67	6,82	6,21	0,61	
Portugal	ESS3-2006	6,43	6,77	6,09	0,68	6,95	5,02	1,93	7,01	5,88	1,13	
Sweden	ESS1-2002	7,88	7,92	7,61	0,31	8,14	6,44	1,7	8,15	7,45	0,7	
Sweden	ESS2-2004	7,84	7,88	7,22	0,66	8,09	5,96	2,13	8,18	7,18	1	
Sweden	ESS3-2006	7,89	7,96	7,29	0,67	8,13	6,35	1,78	8,15	7,29	0,86	
Slovak Republik	ESS1-2002								.			
Slovak Republik	ESS2-2004	6,24	6,41	5,86	0,55	6,79	4,46	2,33	6,67	6,19	0,48	
Slovak Republik	ESS3-2006	6,52	6,64	6,27	0,37	6,89	5,29	1,6	6,47	6,47	0	
Slovenia	ESS1-2002	6,93	7,11	6,65	0,46	7,49	5,4	2,09	7,83	6,41	1,42	
Slovenia	ESS2-2004	7,18	7,44	6,67	0,77	7,64	5,89	1,75	8,03	6,74	1,29	
Slovenia	ESS3-2006	7,24	7,55	6,61	0,94	7,86	5,55	2,31	7,66	6,67	0,99	
Mean		7,35	7,48	7,02	0,46	7,69	5,90	1,79	7,97	7,13	0,71	

Appendix F

Correlations

		AvHap Unempl	AvLifeEmpl	UnEmp EmpGap	AvHappySick	AvHappy Health	SickHealth Gap	AvHappyPoor	AvHappyRich	PoorRichGap	Decomscore	GDPpcapita	GINIndex	TotSocEx	SocExHealth	SocExp Unempl	Unemplrate	AvHappy
AvHapUnempl	Pearson Correlation Sig. (2-tailed) N	1 .000 61	.907** .000 61	-.664** .000 61	.862** .000 61	.926** .000 61	-.546** .000 61	.908** .000 57	.701** .000 57	-.478** .000 57	.595** .001 38	.745** .000 61	-.261* .043 61	.595** .000 57	.519** .000 57	.786** .000 57	-.523** .000 61	.961** .000 61
AvLifeEmpl	Pearson Correlation Sig. (2-tailed) N	.907** .000 61	1 .000 61	-.424** .001 61	.820** .000 61	.897** .000 61	-.500** .000 61	.847** .000 57	.709** .000 57	-.388** .003 57	.619** .000 38	.777** .000 61	-.326* .010 61	.680** .000 57	.576** .000 57	.760** .000 57	-.528** .000 61	.941** .000 61
UnEmpEmp Gap	Pearson Correlation Sig. (2-tailed) N	-.664** .000 61	-.424** .001 61	1 .000 61	-.389** .002 61	-.376** .003 61	.293* .022 61	-.503** .000 57	-.118 .384 57	.548** .000 57	-.171 .306 38	-.350** .006 61	.031 .815 61	-.169 .210 57	-.162 .229 57	-.428** .001 57	.142 .274 61	-.445** .000 61
AvHappySick	Pearson Correlation Sig. (2-tailed) N	.862** .000 61	.820** .000 61	-.389** .002 61	1 .000 61	.878** .000 61	-.849** .000 61	.842** .000 57	.718** .000 57	-.373** .004 57	.475** .003 38	.688** .000 61	-.301* .019 61	.551** .000 57	.487** .000 57	.689** .000 57	-.470** .000 61	.910** .000 61
AvHappyHealth	Pearson Correlation Sig. (2-tailed) N	.926** .000 61	.897** .000 61	-.376** .003 61	.878** .000 61	1 .000 61	-.493** .000 61	.889** .000 57	.855** .000 57	-.292* .028 57	.566** .000 38	.733** .000 61	-.348** .006 61	.633** .000 57	.543** .000 57	.759** .000 57	-.573** .000 61	.975** .000 61
SickHealthGap	Pearson Correlation Sig. (2-tailed) N	-.546** .000 61	-.500** .000 61	.293* .022 61	-.849** .000 61	-.493** .000 61	1 .000 61	-.530** .000 57	-.341** .009 57	.351** .007 57	-.238 .150 38	-.441** .000 61	.162 .211 61	-.307* .020 57	-.292* .028 57	-.422** .001 57	.222 .085 61	-.578** .000 61
AvHappyPoor	Pearson Correlation Sig. (2-tailed) N	.908** .000 57	.847** .000 57	-.503** .000 57	.842** .000 57	.889** .000 57	-.530** .000 57	1 .000 57	.672** .000 57	-.631** .000 57	.544** .001 36	.627** .000 57	-.378** .004 57	.428** .001 53	.335* .014 53	.644** .000 53	-.462** .000 57	.908** .000 57
AvHappyRich	Pearson Correlation Sig. (2-tailed) N	.701** .000 57	.709** .000 57	-.118 .384 57	.718** .000 57	.855** .000 57	-.341** .009 57	.672** .000 57	1 .000 57	.150 .266 36	.575** .000 57	.544** .000 57	-.431** .001 57	.498** .000 53	.385** .004 53	.632** .000 53	-.513** .000 57	.794** .000 57
PoorRichGap	Pearson Correlation Sig. (2-tailed) N	-.478** .000 57	-.388** .003 57	.548** .000 57	-.373** .028 57	-.292* .000 57	.351** .000 57	-.631** .000 57	.150 .266 57	1 .046 36	-.334* .044 39	-.268* .044 39	.053 .694 39	-.044 .752 39	-.040 .777 53	-.191 .172 53	.079 .560 57	-.381** .003 57
Decomscore	Pearson Correlation Sig. (2-tailed) N	.506** .001 38	.619** .000 38	-.171 .306 38	.475** .003 38	.566** .000 38	-.238 .150 38	.544** .001 36	.575** .000 36	-.334* .046 36	1 .005 39	.442** .005 39	-.858** .000 39	.776** .000 39	.198 .227 39	.572** .000 39	-.265 .102 38	.550** .000 38
GDPpcapita	Pearson Correlation Sig. (2-tailed) N	.745** .000 61	.777** .000 61	-.350** .006 61	.688** .000 61	.733** .000 61	-.441** .000 61	.627** .000 57	.544** .000 57	-.268** .044 57	.442** .005 39	1 .66 66	-.050 .692 66	-.895** .000 62	.909** .000 62	.650** .000 62	-.632** .000 66	.792** .000 61
GINIndex	Pearson Correlation Sig. (2-tailed) N	-.261* .043 61	-.326* .010 61	.031 .815 61	-.301* .019 61	-.348** .006 61	.162 .211 61	-.378** .004 57	-.431** .001 57	.053 .694 57	-.858** .000 39	-.050 .692 66	1 .66 66	-.188 .144 62	-.036 .780 62	-.329** .009 62	.007 .957 66	-.292* .022 61
TotSocEx	Pearson Correlation Sig. (2-tailed) N	.595** .000 57	.680** .000 57	-.169 .210 57	.551** .000 57	.633** .000 57	-.307* .020 57	.428** .001 53	.498** .000 53	-.044 .752 53	.776** .000 39	.895** .000 62	-.188 .144 62	1 .948** 62	.948** .000 62	.637** .000 62	-.547** .000 62	.659** .000 57
SocExHealth	Pearson Correlation Sig. (2-tailed) N	.519** .000 57	.576** .000 57	-.162 .229 57	.487** .000 57	.543** .000 57	-.292* .028 57	.335* .014 53	.385** .004 53	-.040 .777 53	.198 .227 39	.909** .000 62	-.036 .780 62	.948** .000 62	1 .62 62	.538** .000 62	-.571** .000 62	.586** .000 57
SocExpUnempl	Pearson Correlation Sig. (2-tailed) N	.786** .000 57	.760** .000 57	-.428** .001 57	.689** .000 57	.759** .000 57	-.422** .001 57	.644** .000 53	.632** .000 53	-.191 .172 39	.572** .000 62	.650** .000 62	-.329** .009 62	.637** .000 62	.538** .000 62	1 .62 62	-.529** .000 62	.768** .000 57
Unemplrate	Pearson Correlation Sig. (2-tailed) N	-.523** .000 61	-.528** .000 61	.142 .274 61	-.470** .000 61	-.573** .000 61	.222 .085 61	-.462** .000 57	-.513** .000 57	.079 .560 57	-.265 .102 39	-.632** .000 66	.007 .957 66	-.547** .000 62	-.571** .000 62	-.529** .000 62	1 .66 66	-.565** .000 61
AvHappy	Pearson Correlation Sig. (2-tailed) N	.961** .000 61	.941** .000 61	-.445** .000 61	.910** .000 61	.975** .000 61	-.578** .000 61	.908** .000 57	.794** .000 57	-.381** .003 57	.550** .000 38	.792** .000 61	-.292* .022 61	.659** .000 57	.586** .000 57	.768** .000 57	-.565** .000 61	1 .000 61

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Appendix G

Correlations

Control Variables			AvHap Unempl	SocExp Unempl
GDPpcapita	AvHapUnempl	Correlation	1,000	,616
		Significance (2-tailed)	.	,000
		df	0	54
	SocExpUnempl	Correlation	,616	1,000
		Significance (2-tailed)	,000	.
		df	54	0

Correlations

Control Variables			AvHappyPoor	SocExp Unempl
GDPpcapita	AvHappyPoor	Correlation	1,000	,432
		Significance (2-tailed)	.	,001
		df	0	50
	SocExpUnempl	Correlation	,432	1,000
		Significance (2-tailed)	,001	.
		df	50	0

Correlations

Control Variables			AvHappySick	SocExHealth
dGDPpcapita	AvHappySick	Correlation	1,000	,438
		Significance (2-tailed)	.	,008
		df	0	34
	SocExHealth	Correlation	,438	1,000
		Significance (2-tailed)	,008	.
		df	34	0