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GDP and Happiness

Gross National Happiness, the new GDP?

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Gross National Happiness, the new GDP?

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ABSTRACT

The current paper argues that GDP per capita is far from a robust indicator of human welfare, and that its inappropriate use can result into misguided policy decisions. The paper examines various approaches to the measurement of subjective well-being and social welfare that have been developed for the construction of alternatives to GDP. It further discusses the connections of these approaches with economic theory, and compares measures of progress centered on people's well-being and quality of life. Special attention is devoted to the feasibility of implementing these measures, and using them for policy applications. Both objective and subjective dimensions of well-being are important and valuable in enriching policy discussion, and giving information about the conditions which affect common people's happiness. In the conclusion it is suggested that the time has ripen for measurement systems to shift attention from measuring economic output to measuring people's overall welfare. These systems complement traditional financial indexes with sets of quality of life indicators based on measures of sustainability, and social and subjective well-being.

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Introduction

“We must change the way we measure growth” said French President Nicolas Sarkozy during a press conference in 2008, adding that “French people can no longer accept the growing gap between statistics that show continuing progress [in growth of GDP] and the increasing difficulties they are facing in their daily lives”¹. In the transition towards a more balanced economy and society, numbers and metrics have to be taken seriously. How else is it possible to measure how far it is from here, to there? This is not to say that numbers are all that counts; statistics are not meaningful, unless one measures what matters.

Economics is commonly defined as the study of how to allocate scarce resources among various desirable ends (Robbins, 1932). Traditionally, the desirable ends of our economy have been a persistent expansion of incomes and national account. Or to put in more simple words, to become richer. The underlying assumption has been that more wealth would inevitably lead to more happiness. By incorporating psychology into the economic framework, the study of happiness economics has emerged. It relies on more broad notions of utility compared to conventional economics, by finding how and when increases in income are insufficient for raising the bar of our overall well-being. The happiness research highlights factors other than income that affect wealth, for example, the welfare effects of inequality or unemployment.

Traditionally, market health indicators such as GDP and GNP have been used as a measure of the success rate of a country’s policy. Economic yardsticks like productivity, number of jobs, financial ratios and stock market indexes were assumed to be the best way to measure well-being and happiness. Although typically, richer nations tend to be happier than poorer nations, studies have shown that beyond an average GDP per capita of about \$10,000 the average income in a country makes little difference to the average self-reported happiness (Frey, 2001).

The flaw with GDP as a measure of progress, among others, is that it does not count natural resources and ecosystems, or social and human capital. Natural and social capital is

¹ For an overview of the gap between GDP and SWB [Subjective Well-Being] see Appendix A: World comparison GDP per capita and SWB. It is shown that ex-communistic countries report lower SWB, although their above-average GDP, while Latin-American countries report higher SWB with a below-average GDP.

assumed in GDP to be free and effectively limitless. This claim has made its way to the minds of today's politicians like Sarkozy, but can also be found back in Robert Kennedy's 40 year old speech in which he lamented that a measure like GDP: "does not allow for the health of our children, the quality of their education, or the joy of their play. It does not include the beauty of our poetry or the strength of our marriages; the intelligence of our public debate or the integrity of our public officials. It measures neither our wit nor our courage; neither our wisdom nor our learning; neither our compassion nor our devotion to our country; it measures everything, in short, except that which makes life worthwhile" (1968).

Since Robert Kennedy's speech many alternative measures for progress have been introduced. These new frameworks take into account a more complete measure of human and ecosystem well-being. With concepts like Ecological Footprint, Human Development Index, Happy Planet Index, and Genuine Savings Approach, these measures provide the elements of a post-GDP way of seeing, measuring and acting in the world. Many scholars are confident that these broader measures of progress will now steer countries toward sustainable forms of true wealth and progress. However, at this time GDP is still the most used indicator for the standard of living in an economy, assuming that all citizens would benefit from their country's increased economic production.

The aim of the present study is to investigate the current efforts to find an alternative measure of GDP. The research question is defined as: "To what extent is an alternative measure of GDP which includes happiness components feasible?" The value of this study is its contribution to the development of statistical standards, which are necessary to steer the economy and societies worldwide. Without reliable metrics, government officials and market participants, who are attempting to guide the economy, are like a captain without a reliable compass. For many purposes, better metrics are necessary, and the way several existing measures are understood needs to be changed. These transformations are able to change the way countries look at themselves, and consequently influence the way policies are decided.

In answering the research question, three different points of view are taken into account. First, a policy perspective is considered which discusses to what extent public policy is able to control a society's level of happiness. It considers the question if and in which way happiness research can be used for public policy making. The second viewpoint examines the

practical implications, and tests the possibility of adopting alternative welfare indicators. Finally, a combined approach on welfare is presented, which attempts to measure well-being using a set of existing indicators.

The paper is subdivided into eight chapters. The first chapter starts with an introduction about measuring human welfare, discusses the shortcomings of GDP and introduces alternative measures of welfare. In order to show the importance of happiness in social welfare measurement, the second chapter examines the concept of subjective well-being. In chapter three, different economic and psychological theories of happiness are discussed. Consequently, chapter four analyzes different determinants of happiness, reviews the empirical evidence regarding happiness and income, and attempts to give a theoretical synthesis. The elaborate theoretical background regarding happiness in chapters two, three and four is important to understand why and how the current measurements of welfare can be improved.

Chapter five discusses to what extent public policy should be concerned with happiness. Pro and contra arguments are presented in the discussion whether steering happiness through public policy is possible or not. Traditionally economic policy is aimed at maximizing GDP, this chapter analyses if economic policy is capable of maximizing the proposed measures of aggregate welfare. Chapter six discusses the question if the broader measures of welfare can act as a substitute for GDP or merely can be used as a complementary yardstick showing the development in well-being. Chapter seven brings together the themes discussed in the previous chapters. It introduces a combined approach on welfare, determinants of happiness are being compared, and proposals for the way forward are given. Finally, the conclusion proposes directions for further research and points out the major implications of the results obtained in this study.

1 Measuring human welfare

There is a long history of attempts to capture people's well-being using various kinds of measures. This chapter attempts to give an overview of the different measures of performance for assessing the state of human welfare². Subsequently GDP [Gross Domestic Product] and its flaws are analyzed, and it is explained why it is incorrect to perceive GDP as a welfare indicator. Finally, different alternative measures, which try to bridge the gap between statistical standards and people's experienced welfare, are introduced and compared.

1.1 Measures of performance

To evaluate the state of human welfare, numerous indicators have been developed and are applied as statistical measures. One can distinguish two overall categories; economic measures and non-economic measures. Measures of economic activity are used to analyze business and economic trends primarily in two ways. "Academic economists typically use data to build models of the economy in order to understand how the economy works. Business analysts, on the other hand, use economic data to forecast future economic activity" (Eugeni et al. 1992, p.78). Economic indicators include various indexes like inflation, unemployment, exchange rates and growth [GDP] which fall into three categories: leading, lagging and coincident. A leading indicator is one that tends to turn up or down before the general economy does. Common stock prices are leading indicators, as the stock market usually begins to decline before the economy declines and it improves before the economy begins to pull out of a recession. For investors, leading economic indicators are the most important ones, because they help to predict what the economy will be like in the future. Other examples of leading indicators are building permits and business inventories. The second category economic indicators are lagging indicators, the opposite of leading indicators, which do not change direction till the economy does, for example the unemployment rate. The third category is coincident indicators which move simply in line with the economy. Industrial production, personal income and GDP are examples of coincident indicators, providing information about the current state of the economy.

Although economic indicators are of high importance for a person's welfare, non-economic measures are even more vital determinants of human welfare. This is largely because they include primary needs of life like food and access to clean water. Four of the major non-economic measures of welfare are quality of life, environment, health and

² With welfare is considered health, happiness, prosperity, and general wellbeing.

education. These measures include statistics like the number of universities, hospitals, affordable and accessible housing, the amount of pollution, waste and nature, and personal matters like stress, crime and mental state. While in theory it seems there is a clear distinction between economic and non-economic measures, in practice most indicators are interrelated. For the measurement and maximization of human welfare, it is essential to understand in which way the different measures influence welfare directly and influence each other indirectly³.

1.2 National product

Measuring human welfare by constructing an overall measure of economic activity is still the most widely used method. Although few people, economists included, would agree that material well-being can be directly equated with happiness, “economists do argue that because material well-being expands options and so contributes to human well-being, it can adequately serve as a proxy indicator of individual and national welfare” (Ackerman, 1997).

1.2.1 What does GDP measure?

GDP or Gross Domestic Product is defined as “the market value of all final goods and services made within the borders of a nation in a year” (Sullivan & Sheffrin 1996, p.205). Generally, the real GDP per capita⁴ is measured for almost every country in the world, allowing a comparison of the economy of a country over time or relative to that of other countries. The importance of national accounts and GDP should not be underestimated. In the words of Nobel laureate Paul Samuelson (Samuelson and Nordhaus 1995, p.3): “Much like a satellite in space can survey the weather across an entire continent so can the GDP give an overall picture of the state of the economy. It enables the President, Congress, and the Federal Reserve to judge whether the economy is contracting or expanding, whether the economy needs a boost or should be reined in a bit, and whether a severe recession or inflation threatens. Without measures of economic aggregates like GDP, policymakers would be adrift in a sea of unorganized data. The GDP and related data are like beacons that help policymakers steer the economy toward the key economic objectives”. GDP can be measured using three different approaches: the expenditures approach, the income approach and the value added approach. It is a simple formula that adds together private consumption, gross

³ See chapter 7.1 Comparing determinants of happiness.

⁴ GDP corrected for inflation divided by the population in a country.

domestic investment, government spending and net exports, expressed as:

$$\text{GDP} = C + I_g + G + X_n^5$$

Being a measure of total market value, many scholars agree that GDP often is being used for a purpose other than what it was designed for. “GDP is thus identified, or considered even synonymous, with social welfare; this approach does not follow from a thorough theory about GDP as a welfare measure, but has grown to become like this in the course of time. What is perhaps most striking is that many journalists and politicians, regardless of their political preferences, express critique less statements about GDP” (Bergh 2007, p.2). The following part attempts to give a comprehensive overview of the critiques regarding GDP.

1.2.2 Shortcomings

Even though GDP is far and wide accepted, measuring and defining GDP has been full of contradictions and ambiguity since its origin. Ackerman points out the main problem in calculating a single measurement of national product, already recognized by Simon Kuznets, one of the originators of GDP. “GDP is based on ambiguous concepts whose interpretation requires significant value judgements, one of these terms is the word “value” itself. When we say something has value, we do not imply that it has a price, or if it does, that the price fully captures its value. But for the purposes of aggregation, all elements of GDP must be expressed in money value” (Ackerman, 1997). According to Kuznets, there are two, both imperfect, approaches to deal with this problem. The first option is to include only the goods and services which are traded in the markets, and therefore have a monetary value. The second approach would be to assign values to the goods and services which are non-traded, so they can be aggregated together with the traded ones. Both approaches embody value judgements, which finally result into an ambiguous GDP. When choosing the first approach one implicates that everything which is not traded at the market does not have any economic value. Choosing the latter one, someone has to decide which non-traded goods, should be assigned with a certain amount of value.

One of the major problems of using GDP as the primary index of a nation's economic health and well-being is that it does not distinguish between transactions that add to well-being, and those that diminish it. Every expenditure is assumed to be a good expenditure.

⁵ For more information about these approaches see Bureau of Economic Analysis (2007).

Crime for instance adds Millions of Euros to the GDP every year due to the building up of the police force, property damage, and medical costs. However, the reasons for putting more police on the streets may be that crime has risen, therefore, the welfare of the people has not necessarily benefited from the expenditure. A second major problem is that GDP ignores everything what does not have an economic value, regardless of its importance to well-being [as already discussed by Kuznets]. Sustainability of resources is an important part of long term economic stability, GDP not only hides the breakdown of the natural habitat, it shows such breakdown, for example increased production of the logging industry, as an economic gain. Also the essential functions performed in the volunteer and household sectors go entirely ignored because no money is changing hands. Another problem is that GDP does not adjust for income distribution. GDP hides the fact that an increase will not benefit the whole population. In some countries only the top 5% of households may have seen any benefits from GDP growth; however, GDP presents this growth as a gain to all. The above mentioned arguments make clear that defending GDP as a correct welfare indicator is pointless.

1.3 Beyond GDP

The dominant economic measure for an individual's welfare is her total utility, which is usually taken to be a monotonically rising function of her consumption. Put simply, the more income a person has, the more this person is able to consume, the higher her well-being will be. This is why GDP has been accepted as a valid indicator of a country's welfare. The empirical results and critiques discussed show that this relationship is not evident; alternative measures of GDP are being developed and broader approaches to measure utility have become accepted. The different kinds of alternative indicators available in literature can be divided into four groups: extended national accounts, dashboards, composite indexes and indicators of subjective well-being. These are discussed in detail over the next paragraphs.

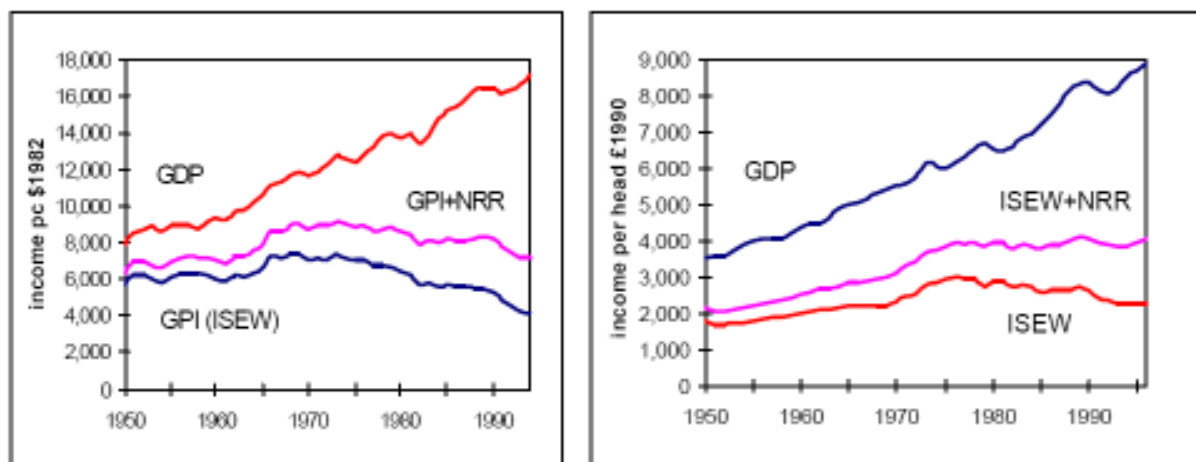
1.3.1 Extended national accounts

Extended accounts all start from standard GDP or other associated national accounts indicators and try to correct them for additional aspects. These indicators represent a correction of the regular GDP by repairing important shortcomings through incorporating non-market goods and services, and eliminating detrimental components. Two main alternatives for GDP as an economic welfare indicator are GPI [Genuine Progress Indicator] and ISEW [Index of Sustainable Economic Welfare]. While GDP is based on production, both indicators measure consumption related factors, because they are thought to more

directly influence human welfare. Hence, ISEW can be considered as a measure of the benefits of economic activity. It incorporates inequality and the unsustainability of production and consumption, referring primarily to the depletion of non-renewable resources. Furthermore, ISEW adapts for the uncounted value of home workers, defensive costs of social and environmental protection and repair, pollution, distribution of income, and many other factors. While GNP continued to grow, figure 1 shows that when these factors are taken into account, ISEW showed growth until the 1970s, with stagnation or decline afterwards. The downward slope of the index can be explained by “inequality which has worsened since the 1970s, and was one of the main offsetting effects of economic growth” (Crafts, 1997). The second variant, the GPI, deviates slightly from the ISEW and introduces imputations for divorce and crime and corrects for voluntary work, loss of leisure time and unemployment.

Both ISEW and the GPI suggest that the costs of economic growth now outweigh the benefits, “if we are to think of society as a unitary actor, then according to the ISEW, the growth in economic activity since the mid 1970s has been producing not an increase, but rather a reduction in aggregated welfare. Since the 1970s, from this perspective, the pursuit of further growth has been irrational” (Offer, 2000). This led Max-Neef (1999) to argue in favor of a threshold hypothesis, according to which GDP growth only contributes to welfare up to a certain level. Beyond this level GDP and welfare move in opposite directions. However, criticism regarding the widening gap between GPI [ISEW] and GDP questions this outcome, and emphasizes the problems of aggregation, the imputation of environmental depletion, and requires more robust monetary valuation to arrive at acceptable indicators of social welfare (Lawn, 2003).

FIGURE 1. GNP AND ISEW, USA AND UK (OFFER, 2000)



1.3.2 *Dashboards or Sets of Indicators*

Instead of correcting national accounts for additional aspects, a more extensive way to provide information about living conditions and social progress is through dashboards [or sets] of indicators. These dashboards are a collection of various sets of elementary statistics and social indicators which try to monitor social progress exactly in the same way as national accounts are being used to monitor economic performance. Typically, they refer to descriptive measures of the average condition of people, with indicators covering a large number of domains. “Further, these indicator sets immediately reflect the multidimensional nature of the notion of progress” (Commission on the Measurement of Economic Performance and Social Progress, 2008).

Indicators sets differ in a variety of ways and often refer to individual countries. Examples are the *Calvert-Henderson Quality of Life Indicators* for the United States and *Measures of Australia's Progress*. International examples are the indicator sets supporting the Millennium Development Goals of the UN and the EU Sustainable Development Strategy. These developments suggest that the attention for developing one single alternative measure is superfluous. However, the richness of the sets of indicators is also their weakness. “Collections of different indicators do not allow a parsimonious representation of quality of life and social progress, and the descriptive indicators included in dashboards, while useful to highlight areas where progress is either lacking or insufficient, say very little on what should be done to address these problems or the policy trade-offs” (Commission on the Measurement of Economic Performance and Social Progress, 2008). Often composite indexes are needed for a more comprehensive assessment of social trends and cross-country comparisons.

1.3.3 *Composite indexes*

A third type of indicator of social welfare is a composite index, aggregating several elementary indexes that are considered to capture relevant aspects of human well-being⁶. In contrast to the previous types of indicators, this does not generate a monetary value. “The distinctive features of these indicators relate to the domains covered, the normalization methodology used, and the weights used for aggregation” (Commission on the Measurement of Economic Performance and Social Progress, 2008). The best-known composite indicator is the Human Development Index [HDI] proposed by the United Nations, which combines economic prosperity [GDP], health [life expectancy] and education. However, when aggregating these components the question arises how to sum dollars, years and percentages.

⁶ Human development, happiness, environmental sustainability, etc.

“The ad hoc nature of the selection of dimensions entering the aggregate index, and the lack of normative basis for the weights are serious limits of this approach” (Accardo & Chevalier, 2005). Even though of this shortcoming, the HDI is considered to be an improvement over GDP, especially when evaluating changes in developing countries.

1.3.4 Subjective Approaches

The fourth and final type of alternative indicator to measure social conditions is based on measures of subjective well-being. These psychological approaches attempt to reach directly into the experience of welfare. Questions like “All things considered, how satisfied are you with your life in general?” are asked to individuals. Using the results of this question as a proxy for subjective well-being, it is then possible to define indicators based on the mean, the median, or the variance of the distribution. Although there are only a small number of examples where subjective approaches of life satisfaction have been used to create indicators of well-being, a number of scholars advocate the use of this kind of indexes to complement standard GDP measures (Diener, 2000 and 2006, Kahneman et al., 2004 and 2006). Furthermore, these indicators can also be used in composite indexes which combine subjective⁷ and objective measures. One interesting example is the Gross National Happiness [GHI] of Bhutan⁸ which refers to the concept of a quantitative measurement of well-being and happiness. It is motivated by the notion that subjective measures like well-being are more important than objective measures like consumption.

To conclude, the previous paragraphs show that at the present moment an ideal indicator of social welfare is not available. Both ISEW and GPI are regarded as the most balanced alternative welfare indicators, attempting to measure the actual utility of the production for improving the quality of life. Yet, an improved indicator of social welfare “might require an approach that takes its starting point in the findings of research on happiness and subjective well-being” (Kahneman et al., 2004). Taking the same approach, the next chapter will discuss the concept of subjective well-being.

2 The concept of subjective well-being

This chapter gives an introduction in the notion of happiness, and explains its importance as an additional component to traditional economic indicators. The last years have shown a trend

⁷ An elaborate discussion about subjective well-being is found in chapter 2.

⁸ In a widely cited study by Adrian G. White (2007), Bhutan ranked 8th out of 178 countries in Subjective Well-Being. In fact, it is the only country in the top 20 happiest countries that has a very low GDP.

of growing interest from economists in direct measures of well-being. Although the topic is not new, interest in the Easterlin paradox⁹ and in the economic analysis of subjective well-being has experienced a remarkable increase over the last decade¹⁰. First, a definition of happiness will be given after which the concept of subjective well-being is introduced and discussed. Subsequently, issues with regard to subjectivity and the significance of happiness will be clarified, in order to create a solid ground for the following discussion on theories of happiness in chapter three.

2.1 Definitions

What is happiness? This is a question which is possibly just as old as mankind itself. Many great minds have been struggling with defining what a good and happy life is. Yet, no universal consensus has been established on what happiness is. “A widely presumed component of the good life is happiness. Unfortunately, the nature of happiness has not been defined in a uniform way” (Diener & Seligman, 2004). Efforts made by philosophers and psychologist have resulted in various definitions and new concepts relating to happiness like subjective well-being, life satisfaction and quality of life. Due to the lack of clear and differentiated terminology the following part attempts to give a classification of happiness and welfare concepts, and in which way they are used in the current study.

2.1.1 Happiness & Life satisfaction

According to the Merriam-Webster Dictionary (2009), the definition of happiness is:

- A state of well-being and contentment;
- A pleasurable or satisfying experience.

Both definitions describe happiness simply as a fleeting emotion, which is general the result of doing things you like. On the other hand, philosophers and religious thinkers often defined happiness in terms of living a good life, rather than just a feeling. This view is in modern times more linked to life satisfaction which Veenhoven defines as “the degree to which an individual judges the overall quality of her life as a whole in a favourable way” (Veenhoven,

⁹ In his seminal work, Richard Easterlin (1974) found that within a single country, at a given moment in time, the correlation between income and happiness exists and is robust. However in cross-sectional data among countries the positive association between wealth and happiness, although present, is neither general nor robust, and poorer countries do not always appear to be less happy than richer countries, at least for countries with income sufficient to meet basic needs. Similarly from the analysis of time-series at the national level, in 30 surveys over 25 years [from 1946 to 1970 in the US], per capita real income rose by more than 60 percent, but average reported happiness showed no long-term trend, and declined between 1960 and 1970 (Bruni, 2006).

¹⁰ In 1991-1995 Kahneman & Krueger (2006) identified just 4 papers on this topic while more than 100 over the 2001-2005 period. According to Clark et al. (2007) this number climbed to 173 for the 2003-2006 period.

1991). A psychological approach can help to get a better understanding about the complete meaning of happiness.

Psychologists distinguish among: “(a) *life satisfaction*, which is a cognitive element, the degree to which an individual perceives his aspirations to be met; (b) *hedonic affection*, the affective component, the degree to which the various affects a person experiences are pleasant; and (c) *SWB*, which includes both the affective and cognitive component” (Ahuvia & Friedman, 1998). It has been found that answers to questions mentioning “happy” are more correlated with affective measures, while more cognitive evaluations were involved when the question included “satisfied” (Veenhoven, 1997). These results further showed that answers to happiness and satisfaction share a lot of common variation with only a small difference of emphasis. In addition to the empirical correlation, the difference between happiness and satisfaction should not be overstated, because also conceptually hedonic affection and cognitive satisfaction seem to be closely interrelated. It is obvious that the past record of affect will influence life satisfaction, and that life satisfaction will influence hedonic affection¹¹.

2.1.2 Subjective well-being

As previously mentioned happiness and life satisfaction are considered to be a narrower concept than SWB; both concepts are regarded to be components of SWB. SWB has become the umbrella term that attempts to understand people's evaluations of their lives. It includes components that are dependent on pleasure and the fulfilment of basic human needs, but also includes people's ethical and evaluative judgements based on particular norms and values of each culture. Thus SWB reflects to some degree how much people are living in accord with evolutionary imperatives and individual needs but also represents judgements based on the particular norms and values of each culture (Diener et al., 2000).

There are three primary components of SWB most researchers focus on: satisfaction, pleasant affect, and low levels of unpleasant affect. Subjective well-being is structured such that these three components form a total factor of interrelated variables. Each of the three major facets of SWB can in turn be broken into subdivisions. Divisions of satisfaction can be various areas of life like work, friendship and marriage. Examples of pleasant emotions are joy, contentment and affection. Unpleasant affect can be divided into moods such as fear, anger and sadness. Taking the three components of subjective well-being together, a happy

¹¹ See chapter 2.2 Subjectivity, Figure 2.

person is said to have high SWB if she or he experiences life satisfaction and frequent joy, and only infrequently experiences unpleasant emotions such as sadness and anger. Table 1 presents the major divisions and sub-divisions of the field.

TABLE 1. COMPONENTS OF SUBJECTIVE WELL-BEING (DIENER ET AL., 1999)

| Pleasant affect | Unpleasant affect | Life satisfaction | Domain satisfactions |
|------------------------|--------------------------|-----------------------------------------|-----------------------------|
| Joy | Guilt and shame | Desire to change life | Work |
| Elation | Sadness | Satisfaction with current life | Family |
| Contentment | Anxiety and worry | | Leisure |
| Pride | Anger | Satisfaction with past | Health |
| Affection | Stress | Satisfaction with future | Finances |
| Happiness | Depression | Significant others' views of one's life | Self |
| Ecstasy | Envy | | One's group |

Depending on the researcher's purpose, subjective well-being can be assessed at the highest global level, or at a gradual lower level. For example, one researcher might study pleasant affect, while another researcher might study the narrower topic of work satisfaction. "The justification for studying more global levels [rather than just focusing on the most molecular concepts] is that the narrower levels tend to co-occur. In other words, there is a tendency for people to experience similar levels of well-being across different aspects of their lives, and the study of molar levels can help us understand the general influences on SWB that cause these co variations. A justification for studying narrower definitions of SWB is that we can gain a greater understanding of specific conditions that might influence well-being in particular domains. Furthermore, narrower types of measures are often more sensitive to causal variables" (Diener et al., 1997).

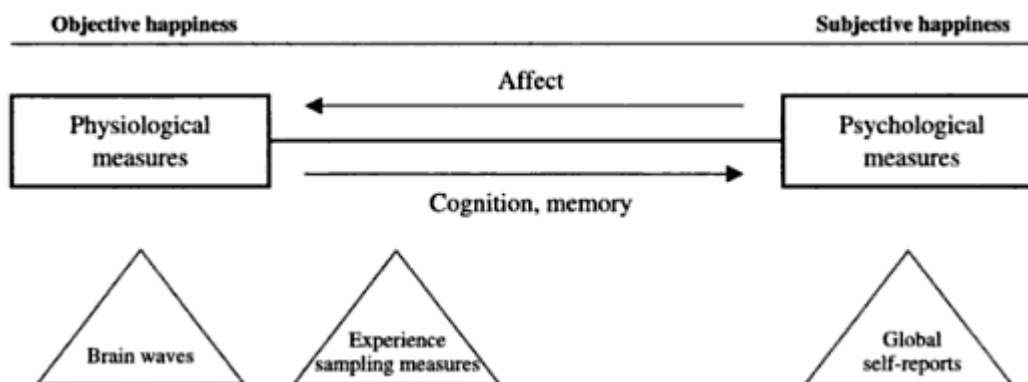
Following the previous discussion, in this study Frey & Stutzer's definition of SWB is used, such that: *Subjective well-being is an attitude consisting of the two basic aspects of cognition and affect. "Affect" is the label attached to moods and emotions. Affect reflects people's instant evaluation of the events that occur in their lives. The cognitive component refers to the rational or intellectual aspects of subjective well-being. It is usually assessed with measures of satisfaction* (Frey & Stutzer, 2002). This definition clearly captures that

affect is a concrete condition at a given point in time and that the cognitive aspects of SWB are usually measured by means of satisfaction.

2.2 Subjectivity

Before looking at the importance and different theories of happiness, it is useful to say something about the terms “objective” and “subjective” and how they are used in happiness research. Often economists seem to be reluctant to use SWB data because a high degree of suspicion against the results of questionnaire responses, which are commonly used to measure subjective well-being; “for our data to be reliable we have to believe it to be objective [truth value sense], while it consists of subjective [judgement sense] reports of individuals” (Chekola, 2007). When determining happiness you can distinguish between two extreme concepts of measuring happiness; subjective happiness and objective happiness, see figure 2.

FIGURE 2. CONCEPTS FOR MEASURING HAPPINESS (FREY & STUTZER, 2002)



At the left side of the figure we have the concept of objective happiness. It refers to factors which determine how happy a person should be; both according to himself and to others. Examples of this objective data would be to estimate people’s well-being by measuring brain waves to assess someone’s mood, also other non-physiological, variables like financial situation and working life. This data is objective in the sense that the judgement of happiness is made according to external rules.

At the other extreme, we have the concept of subjective happiness, which can be assessed by self-reports, and is shown at the right side of figure 2. Subjective happiness deals with how one expresses happiness. Subjective factors are mainly inside people, and commonly captured by surveys getting indications about a person’s happiness or life satisfaction. Although subjective data depends heavily on the judgement of an individual,

which again depends on a person's cognitive processes, history, social comparisons and the conditions under which this person concerned lives, it should become clear that no indicator or method, either subjective or objective, is good or poor in itself. The reason is that there is no universal rule stating that only objective data has value; it all depends on the objective of the study. If the object of study is of an objective nature like the principles of gravity, one is of course advised to rely on objective measurements. However, if one wants to study a subjective condition like happiness, one ultimately has to rely on subjective indicators. SWB is meant to capture the perception of the subject in question, rather than the judgement of an outsider by observable conditions. According to Frank Ackerman, "each individual is the best judge of his or her own well-being" (Ackerman, 1997).

2.3 Measuring happiness

How can subjective well-being be captured? As already discussed in the previous paragraph and figure two, there are several ways to measure subjective well-being. Four different methods are distinguished: physiological and neurobiological indicators, observed social behaviour, nonverbal behaviour and surveys. The survey method is by far the most applied method; both psychologists and economists have measured individual well-being by asking subjective questions since the late 1960s. Self-reported happiness has turned out to be the best indicator of happiness; throughout the current research is concentrated on subjective well-being based on survey data.

An example of the questions most commonly asked comes from the standard happiness question in the World Values Survey, which asks, "Taken all together, how happy would you say you are: very happy, quite happy, not very happy, not at all happy?" Every response then scores one to four points so that one has an ordinal scale, ranging from 1 which means not at all happy, to 4 which means very happy. Next to this single-item question, many psychologists also developed questions on multiple-item scales. These questions do not ask for happiness directly but target different dimensions of subjective well-being like "In most ways my life is close to ideal" and "I am satisfied with my life". "Multi-item scales generally have higher validity and reliability than single-item scales because random measurement errors tend to be smaller on average and because of the broader range of components of subjective well-being that are considered explicitly" (Frey & Stutzer, 2002). To be able to compare the results of the surveys three conditions need to be satisfied. "First, that the respondents are able to evaluate their life on a numerical scale and have no difficulty in answering. Second, that they understand the question in a similar way. Third, that they use the

same scale” (Commission on the Measurement of Economic Performance and Social Progress, 2008). Van Praag (1991) suggests that differences in culture and language probably affect the way people answer, and this may question the validity of subjective well-being indicators in cross-national comparisons. Other potential shortcomings of self-report measures are response biases, memory biases, and defensiveness. Yet, in general measures of SWB show moderate to high temporal reliability. For example, life satisfaction correlates .58 over a four year period, and this correlation remains strong (0.52) when informant reports of life satisfaction are substituted at the second testing (Magnus, Diener, Fujita, & Pavot, 1993). All in all, most studies conclude, provided the cultural differences of the populations compared are not too large, that reported subjective well-being can be used as a sufficiently valid measure of true average well-being (Diener et al., 1997, Hollander, 2001, Layard, 2005, Kahneman & Krueger, 2006).

2.4 Importance

What is the ultimate goal of people? Some persons are prepared to argue that the ultimate goal in life is happiness. Therefore all that we do is pursue happiness, “how to gain, how to keep, how to recover happiness is in fact for most men at all times the secret motive for all they do” (William, 1902). Other people disagree about happiness being the ultimate goal of human life; they see it as just one of the elements for a good life.

To understand what an individual ultimately wants, a theory of an individual’s values can be used for some clarification. According to the Collins English Dictionary (2009) the values of a person or group are the moral principles and beliefs that they think are important. Every action a person performs she will judge according to her value system, which serves as guiding principles in people’s life. The answer to the question of what the good life is strongly depends on the values a person or a society has. A study among 1,258 different individuals (Deal, 2006) showed that family, integrity, achievement, love, competence and happiness are six of the most important values. However, the main results of the research proved that there is not strong agreement among individuals about which specific values are the most important. Diener and Suh (2000) state that “if societies have different sets of values, people in them are likely to consider different criteria relevant when judging the success of their society.” This implies that people with different sets of values consider different aspects as important when evaluating their satisfaction with life.

An important distinction within values is among instrumental [extrinsic] values and intrinsic values. Instrumental values are values which only act as means to the end, while

intrinsic values are values because of its nature; they are an end in itself. The issue with happiness is whether it should be considered as the only intrinsically valuable end, which is the Utilitarian view¹², or if next to happiness there are other values with a universal or intrinsic quality. Consider the following example. A paramedic is faced with an upset widow who asks whether her husband suffered in his accidental death. The paramedic knows that the husband had been fighting for his life for several hours before dying a very painful death. He also knows that telling the widow the truth there is a chance she might commit suicide. Assuming happiness as the only intrinsically value end, the paramedic would tell a lie to the widow and consequently would increase her happiness and his own happiness knowing she would not commit suicide. However, assuming that truth and fairness are two other, more important, intrinsic values for the paramedic, the paramedic would tell the actual story.

Thomas Hobbes, an English philosopher, is a famous example stating that nature endowed the human mind such that all human action is aimed at nothing else than the attainment of pleasure. “Hobbes was once seen giving alms to a beggar outside St. Paul’s Cathedral. A clergyman sought to score a point by asking Hobbes whether he would have given the money had Christ not urged giving to the poor. Hobbes replied that he gave the money because it pleased him to see the poor man pleased” (Hobbes, 2009). According to Hobbes even acts which seem selfless are aimed at the desire for pleasure. In contrast, more recently, Lane (2000) recommends three ultimate goals have to be distinguished as a recipe for good life, none of them more important than the other. They are happiness, justice and personal development; which is taken to include virtue. He accuses other economists of wanting to maximise one dimension only, like “the greatest amount of happiness for the greatest number of people” (Jeremy Bentham), or maximise increases in GDP per person. People should in all their activities ask themselves if their activities contribute to the three goals of happiness, justice and personal development.

The preceding paragraphs illustrate that happiness is an extremely elusive concept. For Hobbes the attainment of pleasure is the “*summum bonum*”: the singular and most ultimate end which human beings ought to pursue. While for Lane the “*summum bonum*”, or dominant end hypothesis is the combination of happiness, justice and personal development into one ultimate end. It is out of the scope of this study to give a definite conclusion on the importance of happiness, yet it is important to recognize that SWB contains a great deal of validity to be part of an alternative measure of social welfare.

¹² Utilitarianism will be discussed in chapter 3.1 Economic theories of happiness.

3 Theories of happiness

In chapter two we looked at the notion of happiness, and showed that subjective well-being is an essential component for measuring human welfare. This chapter expands the debate towards economic and psychological theories of happiness, which is an important step to an analysis of welfare that illustrates more realistically how people feel.

Most definitions and concepts surrounding happiness integrate insights and empirical results from different fields involved; in particular, economics, psychology, sociology and political science. Happiness research can be considered to be an example of successful interdisciplinary research. Because of the interconnectedness of the various aspects, a broad perspective is necessary in order to obtain a holistic and more complete view on the topic. In the following paragraphs a descriptive overview is given on the most relevant aspects of happiness research. A historical synopsis is presented about the study of happiness and the measurement of utility. Distinction is made between economic perspectives and psychological perspectives.

3.1 Economic

The definition of happiness and the good life has been debated to a great extent among early philosophers. Different schools of thought have emerged, resulting in normative ethical theories which investigate the set of questions "what ought to be morally speaking" rather than what actually is. Normative ethics is distinct from positive [descriptive] ethics, as the latter is an empirical investigation of people's moral beliefs. One of the most important normative ethical theories concerning the research topic, sometimes said to be prescriptive, is utilitarianism. Utilitarianism is the best-known variety of consequentialist moral theories, according to which it is the outcome of our actions that matter. A person decides what is right or wrong by looking at the outcomes of the possible courses of action available, and picks the one that has the best consequences. Utilitarians believe that the morally right act is that which produces the greatest contribution to overall utility; which is the greatest balance of happiness over unhappiness, as summed among all people. Utilitarianism is described by its founding father Jeremy Bentham, by the phrase "the greatest good for the greatest number of people".

Utilitarianism has two parts, the first part is the instruction to maximise utility, while the second part is a theory of good. Different utilitarians hold diverse conjectures about theory of good [value]. In *Nicomachean Ethics*, Aristotle says, "What is the highest of all goals achievable by actions... Both the general run of man and people of superior refinement say it

is happiness... but with regard to what happiness is they differ.” “In today’s research eudaimonism parallels hedonism as one of the two major approaches in the field of happiness studies in economics” (Bruni & Porta, 2007). According to Jeremy Bentham happiness is pleasure and the absence of pain. Hence, Bentham proposes that our moral obligation is to maximise pleasure and minimize pain. Pleasure and only pleasure is intrinsically good, and pain and only pain is intrinsically bad; this is known as hedonistic utilitarianism. Many critics on Bentham’s view say that it is too crude, because if only pleasure is important it might be better to be stupid or on drugs. The other theory of good, sometimes called eudaimonistic utilitarianism¹³, includes a richer notion of happiness, which is to be found in John Stuart Mill. Mill distinguished between two different types, or orders of pleasure. The lower kind [eating, drinking, sex] are more intense, but when taken to excess lead to pain. The higher kind [high culture, intellectual creativity, spirituality] are less intense, but are more protracted. Mill argued that the higher pleasures are superior to the lower pleasures. To sum up, one can distinguish between two views of happiness; (1) hedonism, which depends entirely on the amount of pleasure, and (2) eudaimonism, which concentrates on human happiness and the complete life of an individual. Traditionally, economists have a stronger affinity with hedonistic utilitarianism, where the value of an action is determined exclusively by its contribution to overall utility.

Criticism regarding utilitarianism often heard is that frequently, it is very difficult to measure happiness [defined in any of the above mentioned ways], and to compare happiness across several people. Furthermore, it is almost impossible for individuals to know the consequences of their actions. For example, a person trying to maximize its utility will have difficulties if the outcome of the actions to choose between is uncertain and difficult to determine. Finally, utilitarianism seems capable of justifying immoral acts, because in some cases lying or discriminating other people is accepted whenever doing this will result in the most happiness. Although this criticism of utilitarianism by other schools, various utilitarian principles are being used among happiness scholars and are of importance for the current research.

3.1.1 Utility in Economics

“The conventional view of utility in standard microeconomic textbooks is that it employs an objective position, based on observable choices made by individuals” (Powdthavee, 2007). In

¹³ The Greek word *Eudaimonia* means happiness or flourishing, being a concept of Aristotle.

this view utility allows the successful analysis of human behaviour depending on tangible goods, services and leisure. Put simply, behavior is regarded to be completely determined by the maximization of utility along a given goodness function. This goodness function is often applied by economists in constructs such as the indifference curve, which shows the combination of commodities that represents the preferences that constitute the individual's utility.

Economists distinguish between cardinal utility and ordinal utility. Traditionally utilitarianism assumes utility as a cardinal variable and this cardinal quantity is interpersonally comparable. This means that the happiness gained from a particular good or service can be measured and the magnitude of this measurement is meaningful. Cardinal utility helps in providing a way of judging Bentham's greatest good for the greatest number of people principle. For example, since utility has diminishing marginal returns, the first sandwich of a person has a value of 100 utils, the second sandwich has a value of 75 utils and the third sandwich has a value of 50 utils. Taking 2 sandwiches from this person and giving them to two others which do not have any sandwiches, will reduce the first person's utility by 125 utils, while increasing the two others' utility by 100 each, resulting in an overall increase of utility by 75 utils, which is thus a positive contribution. This wealth redistribution to those of lower levels of utility, maximizing total utility, was a popular belief of traditional utilitarian economists. However, the ability to exactly compare utilities in theory runs into problems in practice.

"The 1930s witnessed a revolutionary change in the concept of utility. Economists—in particular, those inspired by the influential Lionel Robbins (1932)—became convinced that utility could not be cardinally measured" (Frey and Stutzer, 2002). Utility merely became a number that notes preferences without any further substantive meaning whatsoever; differences in utils are treated as ethically or behaviorally meaningless. Unlike with speed or time, there are major difficulties in measuring utility, which is for the biggest part subjective. "The basic difficulty seems to be that there is no obvious way of comparing utility scales between individuals and, in particular, no way of showing that two individuals with similar income levels will get the same level of additional satisfaction from a given increase in income" (Robbins, 1938). These problems have resulted in a switch from the idea of measurable cardinal utility to a preference index of ordinal utility, in which a good with a higher utility is preferred to one with a lower utility, but where the size of the difference has no meaning.

Modern economic theory has thus taken a huge step away from a substantive and empirically measurable idea of utility in term of satisfaction and pleasure. “Over the last few decades, however, there has been a movement within economics that claims that utility should be considered in terms of happiness, and that it can, and should be measured” (Powdthavee, 2007). This development is supported by the idea that individuals not always act rational when making decisions about consumption. In the article “Back to Bentham?” by Kahneman et al. (1997) two core meanings of utility are distinguished, a difference is made between decision and experienced utility. “In current economics and in decision theory, the utility of outcomes and attributes refers to their weight in decisions: utility is inferred from observed choices and is in turn used to explain these choices” (Kahneman et al., 1997), this is what is understood with decision utility. Experienced utility is defined as hedonic quality as in Bentham’s usage. “An increasingly large body of experimental evidence has arisen to challenge the correlation between the utility levels used in making decisions and actual experienced utility; it appears that individuals are often poor predictors of their very own preferences or hedonic states, and that their memories are often similarly flawed” (Sunstein, 2000). What Kahneman is actually saying, is that a person is not able to decide for herself what choice will lead to the maximum utility. For example, if a person has to choose between eating an apple or smoking a cigarette, some persons will decide to smoke the cigarette assuming it has the highest utility for them. However, after smoking, several people will actually feel less happy than before smoking the cigarette because of guilt, which means they have a negative experienced utility, although smoking was the preferred decision utility. Essentially, experienced utility is ignored in modern microeconomics by two standard arguments “(i) subjective hedonic experience cannot be observed or measured; (ii) choices provide all necessary information about the utility of outcomes because rational agents who wish to do so will optimize their hedonic experience” (Kahneman, 1997). However, Kahneman argues that experienced utility is both measurable and empirically distinct from decision utility. His arguments are shown in the above example, and are based on the belief that that there is a “measurable” good that is separable from the choices people make.

This differentiation between decision and experienced utility is important for the current study because measuring the experienced utility of outcomes permits tests of utility maximization and opens other lines of empirical research. “According to this view, people should set their goals towards maximization of experienced utility regardless of whether it serves any additional function. Experienced utility is an end in itself, and individuals should

not be slaves to their natural utility function” (Read, 2004). The subjective approach to measure utility offers economists a complementary way to study a person’s well-being. This is because subjective well-being is a much wider concept than decision utility, which allows a better insight in human well-being, as been discussed in the previous chapter. Furthermore, it shows that the critiques that happiness can not be measured are ungrounded.

3.1.2 *Happiness function*

As assumed in psychology, the general assumption is that there is a reported well-being function for every individual. However, because of the cognitive and affective aspects of happiness, it is not easy to formalize subjective well-being. An example of a happiness function which tries to capture reported well-being comes from Blanchflower & Oswald (2004):

$$R = H[U(Y,Z,t)] + \varepsilon$$

R is the self-reported level of well-being, on an ordinal happiness scale, it corresponds for instance to 4 for “very happy”. The function $U(\dots)$ is thought to capture the respondent’s true well-being or utility and is observable only by the individual asked. $H[.]$ is a non-differentiable function relating actual well-being to reported well-being, Y is real income. Z denotes the whole extensive set of demographic status, and t is a time trend indicating that the relationship between the determinants and well-being may vary over time. The error term ε tries to capture other factors, such as the inability of human beings to communicate accurately their happiness level. An alternative endogenous model of welfare, incorporating non-monetary measures of well-being has been developed by Polimeni (2007). This model tries to incorporate more accurate determinants of welfare. It goes beyond traditional and other human welfare [well-being, happiness] models, and is dependent on the flow of entropy [human welfare] as a measure of randomness of chaos. Functions included are (a) *income effect*, which is a function of relative income and psychological factors, (b) *consumption effect*, which is a function of relative consumption and psychological factors, and (c) *physical and mental health*, which is a function of environmental quality and an entropic variable. Both functions can be helpful in calculating reported well-being and in understanding human behaviour. Yet, much additional development is needed in creating a realistic model of human welfare. Following the psychological and sociological factors introduced by Polimeni, the next paragraph will discuss the psychological perspectives with regard to happiness.

3.2 Psychological

Research on the concept of happiness has made great progress in psychology since the 1950s. As happiness is not something which is given, but depends on the person concerned and the social environment one lives in, several psychological theories have to be taken into account to understand how happiness is affected. There are three processes which help to explain why the efforts to become happier by getting richer, are for the most part unsuccessful in terms of the overall happiness of a society. These processes are adaptation, temperament and rivalry.

3.2.1 Adaptation

One of the strengths and weaknesses of humans is the ability to adapt to its environment. The idea of adaption or habituation is that people first react strongly to new life events, both positive and negative, however, after a while people get used to new circumstances and accordingly adjust their subjective well-being level and return to the base level. This theory is also called the *set-point theory*, which borrows its name from the set-point theory of body-weight, which states that weight-loss will almost always be temporary. For example, the theory predicts that winning the lottery will not make a person happier in the long run. Yet, also a negative event like a major illness or a divorce, which has in the short run a strong impact on a person's life, will in the long run eventually return to a state close to a person's standard happiness level. Accordingly, this psychological *hedonic adaptation* reduces a person's responsiveness to continued stimulus. Richard Layard (2005) calls this the effect of habit: "The process at work here is the basic human process of adaption, whereby people adjust to a change in circumstances, be it upwards or downwards. This is for example the mechanism that explains the famous endowment effect, whereby people suffer more from losing something than they would gain from obtaining it" (p. 152). It explains why people who are trying to become more happy by increasing there living standard, actually never get much more happy because they simply get used to it.

There are different sources which provide evidence for habituation. For example, a study by Allman (1990) compared the happiness of people in wheelchairs and nondisabled people; it turned out that both groups were similar happy. Further, another study by Brickman et al. (1978) showed that the winners of a lottery were non-significantly happier than people who did not win the lottery. Both studies demonstrate that life circumstances only account for a very small fraction of variation in subjective well-being. People mainly measure their happiness towards the situation they recently got in to. This is what psychologists call the *hedonic treadmill*. It is comparable with an addiction; the happiness of our present living

standard is negatively influenced by the happiness of a person's past standard of living. "We are running constantly and yet remain at the same place because the treadmill runs at the same pace –or even faster– but in the opposite direction" (Bruni et al. 2007, p. xxi).

3.2.2 Cognition and temperament

Closely related to the set point theory, psychological research states that the level of happiness remains almost constant during a person's live cycle. This is explained by the fact that temperament and personality variables seem to play an important role in an individual's happiness. According to this theory, a person's efforts to become more happy only leads to short-term increases, however, on the long run this person is fixed to hedonic neutrality based on her or his traits. Traits such as optimism, extraversion and self-esteem are qualities often possessed by happy people. Support for this proposition comes from empirical research by Lykken & Tellegen (1996), which states that more than 80 percent of the variance in SWB can be described to born temperament. Other research by Larsen et al. (1987) finds that character and genes influence the extent to which one can reduce or amplify the emotions experienced and overcome life's hardships; accordingly increasing or reducing its happiness. This "build-in" ability to be happy, which differs among people seems to be an important determinant for ones happiness. Happy people are likely to perceive events more positive than people which are low in subjective well-being. Also, when coping with problems, happy people are more prone to see the bright side of affairs, and to seek for help from other people, while unhappy people are more prone to blame others or themselves, and try to fool themselves not willing to accept the reality. While these results suggest that people do not have so much influence in being happy or unhappy, people might increase their SWB by means of religion, focusing on more attainable goals, and being more optimistic about the future.

3.2.3 Rivalry

As been discussed in the previous chapter, some scholars argue that people are not always able to choose the maximum amount of utility for themselves. One of the psychological reasons for this occurrence is that contextual influences are able to affect an individual's utility of outcomes to a great extend. An example can be found in a study among graduate students at Harvard University (Solnick & Hemenway, 1998). The public health students

were asked to answer the question shown in figure 3, assuming prices are the same.

FIGURE 3. QUESTION: WHICH WORLD WOULD YOU PREFER?

- A. You get \$50k a year and others get half that
 - B. You get \$100k a year and others get more than double that

Interestingly, the majority of the students answered the question with A. Implicating that most of them prefer to be poorer as long as they are relatively richer than the rest. People compare their position with other people in their surrounding; and their choices, and subsequently their happiness is depended on the relative position. This is what is meant with the principle of rivalry. Often people compare the level of income; which has resulted in the concept of relative income. When looking at the income of others, generally a person looks at those which are in his reference group. Most of the rivalry is within families and organizations because they have the things which are feasible for a person, while what for example Tiger Woods gets is not. All in all, people are concerned about the relative income and not about their absolute level of income. In psychology this is called keeping up with the Joneses, where a person's utility function is constructed from his own level of consumption in relation to the level of income of others. Rivalry can also be used to explain why in general rich people are happier than poor people¹⁴. When rich people compare themselves to the other people in their reference group they will find a bigger share of people which are poorer than them, resulting into more happiness for the rich. While for the poor people the opposite is true. Many studies (Luttmer, 2004; Frey and Stutzer, 2003; Johansson-Stenman, Carlsson & Daruvala, 2002; Easterlin, 2001, 2005) have proved the fact that relative income is what matters most. "The findings in these studies indicate that, in general, people prefer more equal societies in terms of income and consumption to less equal societies. The idea is that an increase in income for one person will mean a relative decrease in income for everyone else. The enjoyment derived by an income increase by one who is already wealthy could be offset by a decrease in enjoyment by those with lesser relative wealth" (Polimeni 2007, p. 103). Similar processes of comparison also take place with regard to unemployment. People which do not have a job are significant less happy than people which are employed. Yet, their

¹⁴ For an overview of the data see chapter 4.2 Empirical findings on happiness and income.

unhappiness is less intense, when they live in a situation where more people are unemployed too. This is why there was little economic dissatisfaction during the Second World War, because everyone was somewhat similar affected (Ashenfelter & Layard, 1983).

To sum up. The phenomena of adaptation, temperament and rivalry are important to take into account when thinking about measuring happiness. The influence of sociality and personal characteristics has a big impact on a person's individual utility. Nevertheless the idea of adaption should not be pushed too far. Although adaption may reduce the impact of many conditions, one can not say that due to adaption the environment has no influence on SWB in the long run. Nations with high poverty level and few human rights show substantially lower SWB levels than wealthier countries with a good record on human rights, proving that people are not able to adapt to all conditions. The next chapter will give a more elaborate discussion about the determinants of happiness and presents various empirical findings.

4 Determinants and empirical findings

It is important to recognize what factors make people happier or less happy than others. Together with the preceding two chapters about happiness, this chapter serves as a foundation for being able to answer the research question. Understanding the determinants of happiness is essential for identifying in which way happiness results can be used for the measurement of welfare, and how they can serve as goals in the political decision making process. The first paragraph will introduce four different types of determinants of happiness; subsequently the second paragraph presents empirical findings to show the relationship between happiness and income, which is consistent with the evidence over time, across individuals in a given country, and across countries.

4.1 Determinants of happiness

In the previous chapter both economic and psychological theories about happiness have been discussed to create a better understanding of the different factors influencing happiness. This paragraph gives an overview of four categories in which the determinants can be divided, and explains them briefly.

Personality factors

Personality has turned out to be a strong determinant of happiness. As already discussed in chapter 3.2.2, traits such as optimism, personal control and self-esteem have a big impact on a person's happiness. "The relationship between personality and happiness may be described by a dynamic equilibrium theory (Headey & Wearing, 1989), according to which the fundamental levels of subjective well-being are determined by the genetically given capacity to be happy or unhappy. Events, such as higher income, move people above or below this baseline, but in time they will return to this stable level" (Frey & Stutzer 2002, p. 51). The role of personal values can also be considered as one of the key variables. Hence, people who cannot attain their values and goals, or live according to their values, might be less satisfied and happy (Diener et al., 2000).

Socio-demographic & Contextual factors

In contrast to the personality factors, the social-demographic approach assumes that most of the differences in well-being are mainly contributed to factors such as education, marital status, gender, age and interpersonal relations. The next part gives an overview of the socio-demographic factors which have the strongest correlation with happiness:

With regard to age and happiness economists have found a U-shaped relationship. People seem to be happier when they are either young or either old. Comparing gender, the difference among women and men is rather small. Although women receive lower income [even for the same kind of work], studies show women having a higher self reported happiness than men. Married couples are happier than singles, but the difference is not large and is decreasing the last decades. A benefit of marriage may be providing interesting and supportive social interactions for the individual. One of the most important factors of people and their lives is good health. For self-reported happiness this factor obtains the highest ranking. Considering education and happiness, a high education is no guarantee for higher happiness. Although education and income are highly correlated, the extra income will not directly shift the level of happiness, this effect will be discussed in the next paragraph. Indirectly, education may add to happiness by helping people to cope better with life. Appendix B, Happiness in the US, gives an overview of the influence of several social-demographic factors on happiness. Variables like education, ethnic status, and age often correlate at very low levels with happiness, yet they do consistently. Nevertheless, these results have to be considered carefully, because the effects identified are conditional to a large number of other influences.

Economic factors

Personality, socio-demographic, and contextual effects have been studied for many years in happiness research. In recent times, economists started with significant research concerning the effects of economic factors on happiness. There are three major economic factors influencing subjective well-being: income, employment, and inflation. One of the main reasons making these factors crucial to be studied is that the economic factors can be influenced directly by economic policy. While the other factors discussed so far are much more difficult, or even impossible, to influence by policymakers.

Because of the importance of the relationship between income and happiness it is discussed separately in chapter 4.2, “Empirical findings on happiness and income”. Unemployment is seen by most economists as an event which has to be avoided as much as possible. Yet, some neo-economists say unemployment can be voluntary. According to them people make a trade-off between either being employed, earn more, but have the burden of work or being unemployed, get unemployment benefits, and have more leisure time. When people choose to be unemployed it should not affect their happiness. However, involuntary unemployment, as expected, is a factor which leads to a loss of happiness. An explanation for this loss of happiness can be contributed to three factors. First of all, people being involuntary unemployed suffer from a worse financial situation than when being employed, second unemployment can lead to psychic cost like depression and concerns, and finally it has a social cost because work defines for many people one’s position in life, sometimes leading to isolation. Furthermore, unemployment also affects the employed people because they might feel threatened, or are sorry for the people which lost their jobs.

The last major economic factor is inflation. In general when the price level of a country increases, it is disliked by the whole population. Although it can be made a distinction between anticipated and unanticipated inflation, studies suggest that inflation lowers a person’s happiness. People mainly fear inflation because they expect a lower standard of living. Moreover, empirical evidence in developed economies shows that higher inflation and unemployment rates make respondents less happy, all else being equal (De Tella et al., 2001).

Institutional factors

The kind of society people live in, and how the economy is organized, is one more source of happiness. Research by Frey & Stutzer (2002) pointed out two institutions which have a big impact on the level of happiness; “the extent of political decentralization and citizens’ direct political participation rights” (p. 11). Results show that in a decentralized

system where many decisions are taken at a district level, the citizen's subjective well-being is raised. Furthermore, when people have more possibilities to influence decision makers they experience higher satisfaction, because their preferences are taken more into account. This is in contrast to, for example, communistic countries where one government party decides everything and many wishes of the population are disregarded. In general the right to vote on issues and participate in elections helps to increase the level of happiness, via a favourable political outcome.

To conclude, it is important to identify the relative impact of the different determinants on each other. Especially with regard to economic factors some are occasionally in conflict, for example inflation and unemployment. This can result into economic policies which are aimed at increasing happiness; in fact cause a drop of happiness. Another important issue is with regard to causality. Does having more income lead to happier people? Or are happier people more likely to get a better job, and earn more income? Additional data has to be collected to investigate the direction of causation. Furthermore, the results show that happiness not only differs among individuals, but also among countries. Social and political institutions both have a big impact on subjective well-being. The next paragraph offers empirical evidence for these findings.

4.2 Empirical findings on income and happiness

In this paragraph four findings of the relationship between income and happiness are discussed¹⁵:

- 1) Happiness is positively correlated with individual income within a given country in any given year;
- 2) There is a lack of correlation within individual countries over time, between reported happiness and real GDP;
- 3) The increase in happiness associated with income within the same country at a point in time appears to get smaller and smaller as income increases;
- 4) People in rich countries, on average, are happier than those living in poor countries.

The idea of a relationship between income and happiness in a particular country at a particular time has been the subject of much empirical research. As shown in table 2, in 1998

¹⁵ These findings are often called the "paradox of happiness" or the "Easterlin paradox".

37% of the rich in the top quarter were very happy, compared with only 16% of the poor in the bottom quarter. It proves that at any time within a community there is a clear relation between happiness and income. In this sense, income can ‘buy happiness’.

TABLE 2. HAPPINESS IN THE US: BY INCOME (GENERAL SOCIAL SURVEY)

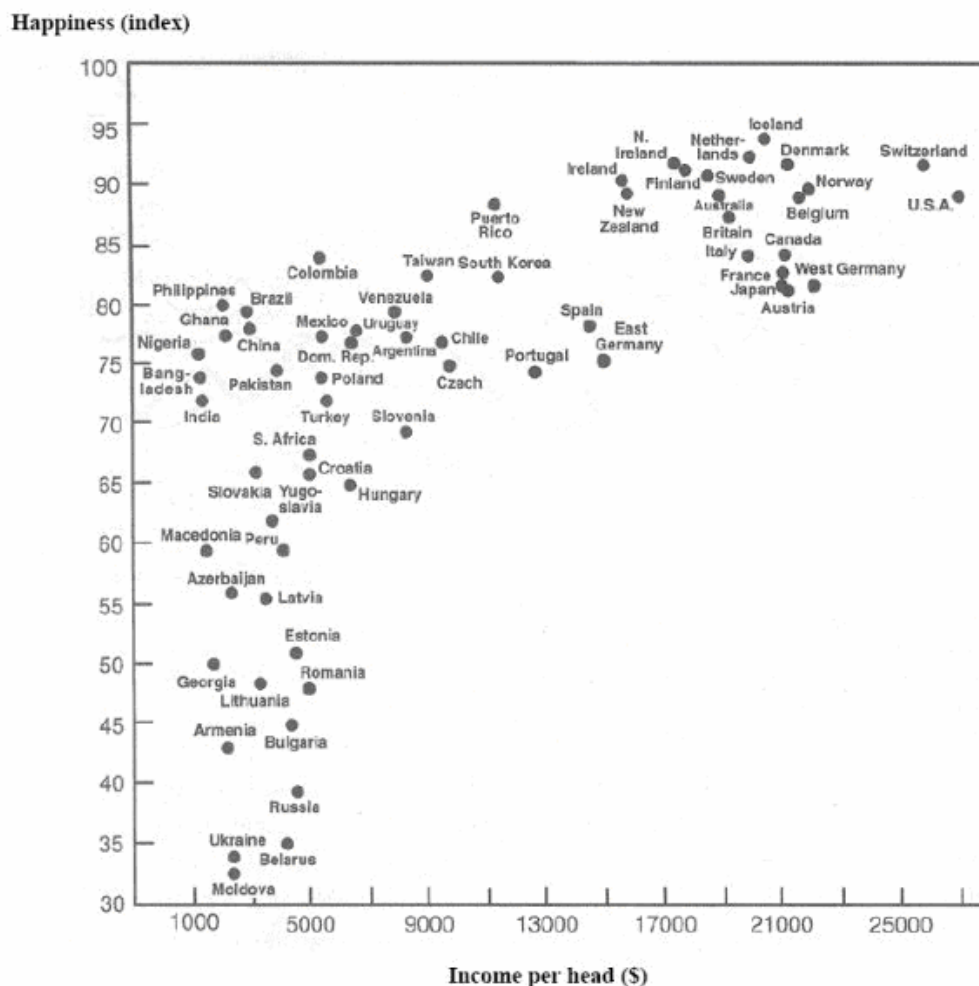
| | Top quarter of income | | Bottom quarter of income | |
|---------------|-----------------------|------|--------------------------|------|
| | 1975 | 1998 | 1975 | 1998 |
| Very happy | 39 | 37 | 19 | 16 |
| Pretty happy | 53 | 57 | 51 | 53 |
| Not too happy | 8 | 6 | 30 | 31 |
| | 100 | 100 | 100 | 100 |

Yet, table 2 shows also a more interesting finding which is that between 1975 and 1998, although GDP per capita increased a lot, the number of happy people almost stayed the same. It is a standard pattern which can be found in most countries. These findings give rise to an interesting conclusion. On the one hand, people want to be richer because in a given country rich people are happier. But at the same time, when the whole society gets richer, nobody seems to be any happier than before. The result can be explained by the fact that people compare their income with some consumption norm. Apparently, this norm is moving up with the same speed as actual income. It can be taken as an indication that there is more to subjective well-being than just income level. The psychological processes discussed before, adaptation and rivalry, help to clarify this moving up of the norm.

Moving towards the difference between happiness in rich countries and happiness in poor countries, various studies provide evidence that on average people in rich countries are happier, than people in poor countries. Figure 4 shows the relationship between income per head and happiness in 64 countries, using data from the World Values Survey in the early 2000s. The figure shows that reported happiness across countries tends to correlate positively with income per head. Proving that in general, people in rich countries are happier than people in poor countries. This relationship is especially strong for countries below an income per capita of 10,000(\$). There are no rich countries where happiness on average is low. However, additional income per head does not increase happiness in a linear way. For the rich countries it seems that higher income per head doesn't have any obvious effect on happiness. While a visual examination of the figure indicates that there are many low-income developing countries where people experience a low level of happiness, there are also some poor

countries which report a reasonable high level of happiness [for example Colombia]. The relationship between happiness and income per head across countries is complex.

FIGURE 4. INCOME AND HAPPINESS (INGLEHART & KLINGEMANN, 2000).



The results in figure 4 correspond somewhat with the utility function of income; there is diminishing marginal utility in the relationship between income and happiness. It seems that from an income per head of more than 10,000(\$), additional income plays a less important role with regard to happiness. This finding is also called the “threshold hypothesis”. As Frey and Stutzer state: “Income provides happiness at low levels of development, but once a certain threshold has been passed, income has little or no effect on happiness” (Frey and Stutzer 2002, p.75). One could argue that this result implicates that income has a more robust effect on happiness in poor countries than in richer ones.

Yet again, when examining this data some limitations have to be considered. The positive correlation between income and happiness might not be due to income alone. Factors

like health, stable democracies, and better human rights tend to be often correlated with income. It might be that the positive relationship between income and happiness, in reality is due to these other factors, instead of income alone.

5 Happiness research and policy

In the previous chapters the theoretical basis has been constructed for answering the problem statement. It has been explained why GDP is inadequate as a single welfare indicator, and that the findings in subjective well-being research have an important role in developing alternative measures of GDP. This chapter is the first out of two, which tests the feasibility of alternative indicators incorporating happiness, and discusses the usefulness of particular developments. It considers the question if and how happiness research can be used for public policy making. The first part lists down advocates and opponents providing arguments whether policymakers are able to control and increase happiness through public policy decisions. The second part discusses if happiness research can be used for successful policy.

5.1 Literature review public policy

Traditionally, economic policy is aimed at maximizing GDP. With the development of many alternative measures for GDP, which all are promoting to solve the traditional flaws of GDP, it is interesting to analyze if economic policy is also capable of maximizing these newly proposed measures of aggregated welfare. When a government decides to use the findings of subjective well-being research, this potentially would lead to many policies which deviate significantly from those derived from standard economics. Largely this is due to the view that increasing income is frequently not the most effective way to increase utility.

For example, the finding that relative income matters more than absolute income to individual happiness, has led several scholars to suggest for collecting corrective taxes (Layard, 2005). “Given that social comparisons drive people to work longer hours than socially desirable, governments should start raising taxes to reduce work effort to a level that where the fruitless incentive to raise your relative income has been fully offset” (Powdthavee 2007, p.17). A rise in positional competition and aspirations generates negative externalities in consumption which affect personal utility. Furthermore, employment and leisure have been found to influence happiness more than standard economics does allow for. Taking these results into account, policy to increase an individual’s subjective well-being may include raising the minimum vacation entitlement, resulting in increased leisure time.

Among happiness scholars, one can distinguish between two groups. At one extreme, scholars argue that GDP should be supplemented by “Gross National Happiness”, implying that all policy attention should be focussed on the maximization of happiness. At the other extreme, academics acknowledge the importance of happiness research, however, they have objections to use it for policy making. The following two paragraphs give an overview of the supporters and opponents regarding the extent to which public policy should be concerned with happiness as such.

5.1.1 Supporters

In the eighteenth century, Bentham and others proposed that the object of public policy should be to maximise the sum of happiness in society. Bentham felt that an action should be taken only if it increased happiness. Moreover, the happiness to which Bentham referred was not just the happiness of the individual but also that of all individuals involved together. More contemporary scholars like Layard (2005) support Bentham’s view and argue that GDP is a hopeless measure of welfare. People concerned with policy should revert to the task of maximising the sum of human well-being, based on a steadily improving social science. “On the scientific side, a group of fifty well-known scholars is promoting the idea of national indicators of subjective well-being and ill-being. The use of national happiness indicators has also been suggested by libertarian paternalists to overcome the problem that individuals are not always able to maximize their own utility” (Frey et al. 2007, p.1). For a long time a major weakness of this approach was the difficulty in measuring the social welfare function. However, due to the developments in happiness research¹⁶, this situation has changed drastically. Many advocates consider the possibility of being able to measure happiness adequately as a call to maximize aggregated happiness; similarly to the social welfare function. According to them, aggregated happiness as an indicator of welfare has many advantages compared to GDP. Some reasons are: (a) measures of happiness look at subjective outcomes in contrast to GDP which uses only objective measures, (b) a measure of social welfare based on happiness data is more democratic because equal weight is attributed to every person in contrast to GDP where high income can offset people having low incomes, (c) aggregate happiness measures take account of non-material aspects of human well-being, like friendship, leisure and independence and (d) subjective well-being is important, happiness takes a central place in one’s life and it can be regarded as an indispensable policy

¹⁶ See chapter 3.1 Economic theories of happiness.

concern. Furthermore, it is associated with positive outcomes on individual, organizational, and societal levels. Happy people often have better social relationships, better health and a higher productivity.

In a study by Di Tella et al. (2001), an empirical research was conducted to determine how individuals compare unemployment with inflation. “Using happiness data for twelve European countries and for the time period 1975 to 1991, Di Tella et al. calculated that a one percentage point increase in the unemployment rate is marginally compensated for by a 1.7 percentage point decrease in inflation” (Frey et al. 2007, p.5). The results were understood as an input for a presumed social welfare function in order to choose an optimal policy rule. Layard (2005) is taking a similar approach and argues that happiness research provides a good general framework for policy analysis. He suggests more similar studies like Di Tella et al. to calculate and compare all the costs and benefits of certain policies. An example is shown in figure 5.

FIGURE 5. POLICY AFFECTS HAPPINESS THROUGH DIFFERENT CHANNELS (LAYARD, 2005)

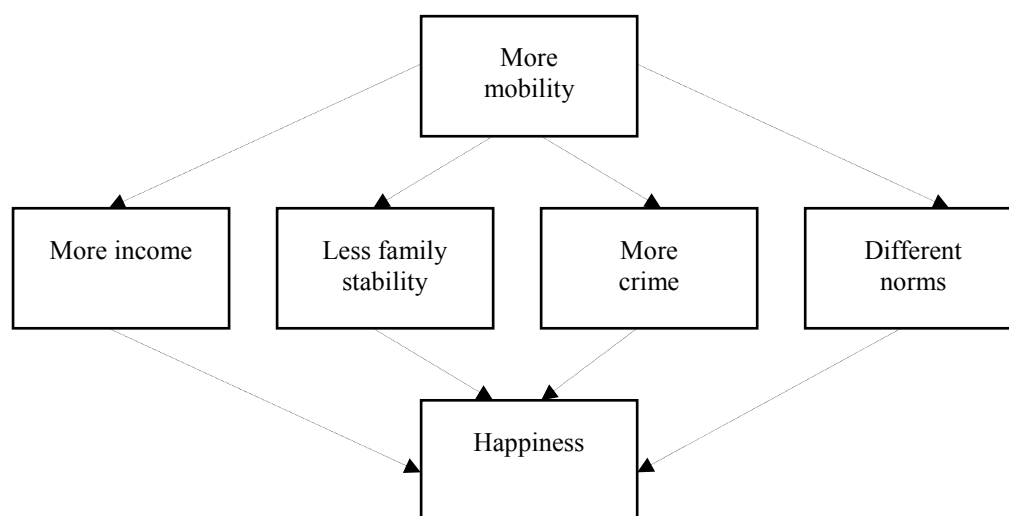


Figure 5 shows that geographical mobility not only increases income, but also that it undermines family life, safety, as well alters a person’s values. According to Layard, these different factors need to be weighted against each other, for being able to develop a social welfare function which ought to be maximized. “Happiness should become the goal of policy, and the progress of national happiness should be measured and analysed as closely as the growth of GDP” (Layard 2005, p.147). Layard argues for example, that a government which

is concerned with the pursuit of happiness should authorize obligatory periods of paid parental leave, entail strict controls on marketing and advertising, and implement public school courses informing children about the rat race for status [which can result in a zero-sum game] and that happiness depends less on exterior things than most suppose. Supporting Layard, Rudolph Nesse (2004) reports political implications of happiness research that “On a social and political level, it is abundantly clear that certain policies can increase average SWB in a society. Most democratic societies seem unable, however, to enact laws based on this knowledge to increase the well-being in their societies” (p.1335).

5.1.2 Opponents

Although there seem to be many reasons why maximization of happiness is a worthwhile goal, some scholars suggest it is not. The following paragraph gives an overview of the different objections against maximizing aggregate welfare indicators.

One of the most often heard arguments against the concept of aggregate social welfare is the impossibility of cardinal measurement, and the supposition that happiness can not be compared with other people. Summing individual utility is appropriate only if it is cardinal and interpersonally comparable. “There is no way we can use empirical observations on their own to produce an ethically satisfactory cardinalization, let alone an ethically satisfactory social welfare ordering” (Hammond 1991: 220-21). This is exactly one of the main discussion points among opponents and advocates; of happiness based policy making. According to Johns, all in all “the difficulties in measuring society’s happiness are insurmountable, and policymakers should not claim that they can control and increase happiness through public policy decisions” (2007, p.69). Other critiques are included in chapter 2.3 which discusses limitations present in current measurement techniques. Examples are the different understandings of the word happiness in surveys; due to language and culture differences, and memory biases. “In an award-winning paper, psychologist Michael Hagerty demonstrates that participants in self-reported happiness surveys do not all use the same internal standard for reporting their life satisfaction. Some report how well they are doing relative to their aspirations, or how they just happen to be feeling at the moment, but most report their life satisfaction with an eye to how well they are doing relative to their perceived peer group. When asked to report how well people were doing relative to their own and their parents’ past, self-reported happiness levels rose dramatically” (Wilkinson 2007, p.9). This leads opponents to conclude that aggregating happiness data between different populations, and groups or classes of people may be a dangerous practise.

Another objection has a political background. Opponents argue that happiness is a personal matter, and it is not up to policymakers to decide about someone else's happiness. "The social welfare maximizing approach, based on empirically estimated happiness functions, thus disregards the institutions on which democracy is based. Citizens are reduced to metric stations. In this respect, a happiness maximization approach is inimical to democracy" (Frey et al. 2007, p.9). In addition, during the recent happiness conference in Rome (April 2007), some experts warned that happiness research could be used to advance authoritarian aims. They argued that happiness studies should be used to inform no more than individual choices, not public policy. Happiness research can be manipulated by several creative accounting tricks in such a way that it serves political goals. Examples are some studies that implied a need to close airports, with the underlying motivation that noise pollution is bad for happiness. Or, to approve additional spending for the military cause this should help to overthrow harsh dictatorships. Governments might choose the indicators of happiness in such a way that it suits best to their goals, or to the personal interests of politicians.

And finally, a number of objections relate to happiness research itself. As discussed before people adapt quickly to a new situation, which influences their subjective well-being. This process is called habituation. Furthermore, individual aspirations vary due to changes in his or her life circumstances. Both psychological processes affect social welfare maximization, depending on how they are treated. Imagine government taxation; people with high income aspirations will suffer more from taxation, than people which are easier in adapting to changes in their living standard. From the point of view of maximizing social welfare, it is difficult to deal with the habituation and aspiration effects in public policy. Having discussed the different arguments in favour and against happiness based policymaking, the next chapter attempts to give a theoretical synthesis.

5.2 Economic policy applications

The main question of this chapter was to investigate if Bentham's claim of maximizing the sum of happiness in a society is feasible. To be able to answer this question, it is important to understand the technical issues concerned with the ability to measure happiness in a cardinal and interpersonal comparable way. Moreover, also political questions play a major role. Should the government be allowed to prohibit alcohol consumption, if this would result in a society's increase of happiness in the long run, or is this an individual's responsibility?

Perhaps even more essential, what is the degree to which governments should be allowed to change its citizen's preferences.

Considering the measurement of happiness throughout the past decade, the current body of happiness research has shown a lot of improvements in determining subjective well-being. It is possible to accurately identify the determinants of happiness, and to examine how they affect each other. Policy influences and its correlates on an individual's level of happiness can be calculated. Furthermore, changes in subjective well-being can be analysed over time or between different countries. The implied objections regarding to the limitations in measurement techniques can be disputed by using the law of large numbers, which guarantees that random variations are washed out with an adequately large and representative sample (Gilbert, 2006). All in all, a point has been reached where happiness data, in combination with adequate statistical techniques, is able to provide a sufficient result for many applications.

Nevertheless, there is a big difference between measuring individual reported subjective well-being and maximizing aggregate subjective well-being. Various studies provide evidence that focussing all policies merely on happiness will not result in the happiest society. A study by Wilkinson (2007) which examined the American model of limited government and dynamic market economy concluded that "if we accept the data of happiness research at face value, few of the alleged redistributive policy implications actually follow from the evidence. The data show that neither higher rates of government redistribution nor lower levels of income inequality make us happier, whereas high levels of economic freedom and high average incomes are among the strongest correlates of subjective wellbeing"(p.18). More caution in directly applying the findings of happiness research into viable policy recommendations is needed. The discussed psychological processes for instance, –adaption and coping–, can cause strange outcomes. Another example is that happiness data has proved that unemployed persons are happier, or less unhappy, in contexts with higher unemployment rates. "The positive effect that reduced stigma has on the well-being of the unemployed seems to outweigh the negative effects of a lower probability of future employment. In Russia even employed respondents prefer higher regional unemployment rates. Given the dramatic nature of the late 1990s crisis, respondents may adapt their expectations downwards and are less critical of their own situation" (Graham 2005, p.9). Taking these results as a base for policy, one outcome would be to raise unemployment rates, which obviously will be a mistake. This

case illustrates that happiness can not uncritically be relied on as an authoritative source for public policy.

Graham suggests that maximizing aggregate happiness is not possible. Happiness scores revealed by individuals can not be added up to create a reliable measure of aggregate happiness. However, this does not implicate that happiness research is useless; the opposite is true. The maximization of aggregate happiness proposed by a number of happiness scholars, among them Frank (1997) and Layard (2005), is unlikely. Almost no one will deny that happiness is not important, and happiness research can be used to study the conditions under which different persons are inclined to say if they are satisfied or not satisfied with their lives. Despite criticized methodology, happiness surveys provide insight in society's happiness factors. Nevertheless, in using happiness data for policy purposes, it is essential that the outcomes and methods used are interpreted with care. However, if concern is taken with comparing subjective well-being surveys over long periods of time or among different cultures, or when using studies by means of a diverse population which do not track the same people over time, it will be possible to get solid information about the factors which most of the people care about. These results should have high value, and perhaps most of the importance, in the development and weighting of political and economical policies.

Following the discussion on the importance of a happiness indicator from a policy perspective, the next chapter will discuss the different implementation matters regarding the introduction of an alternative indicator.

6 Alternative well-fare measures: Substitutes or complements

Having introduced the proposed alternatives to GDP in chapter one, this chapter is the second out of two, which tests the feasibility of alternative indicators. It tries to answer the question if the broader measures of welfare can act as a substitute for GDP, or merely can be used as a complementary yardstick showing the development in well-being. The previous chapter has shown that the maximization of aggregate happiness as a social welfare function is unlikely, however, this does not implicate that maximization of GDP would be preferable instead. Taking into account the extensive review regarding happiness and subjective well-being, this chapter will discuss the future role of GDP and its position in the economy, critically evaluating to which extent substitution or complementation is possible, and examines the practical implications of adopting alternative welfare indicators.

6.1 Role of GDP

Being the dominant accounting framework for measuring the wealth and status of a nation, GDP embodies a prime feedback mechanism and driver of national policy. Governments invest annually in calculating and predicting GDP. The majority of the policies initiated are driven by the idea that what contributes to the market, consequently contributes to GDP, and as result is good for the people. As discussed before, there is extensive literature which criticizes the use of GDP per capita as a measure of welfare and progress, and offers corrections and alternative measures. Despite of this, the influence of GDP on the economy, by means of consumers, governments, financial markets and the decisions of firms, should not be underestimated. For example, central banks change their interest policy looking at expectations about growth of GDP. Furthermore, due to the public attention to the GDP by public institutions and advisory boards, more influence is created. This manifests itself in changing purchasing behavior by consumers. Similarly, “with the formation of the EU, GDP growth has become an even more explicit and important goal, witness the unconditional 3 percent growth objective of the Lissabon strategy” (Bergh 2007, p.2). When everyone believes that GDP has a big influence on a country’s economic progress, this belief might transform into a reality. Individuals imitate each other, and act on the same misleading information GDP represents as a measure for welfare. The more people overestimate the importance of GDP growth, the more they will link it to their own happiness. If the GDP is decreasing, people may get concerned, if GDP is increasing, then people’s happiness may increase also. Furthermore, this can result into worried politicians about a low GDP growth, because they may fear to loose votes.

Although some studies only focus on the shortcomings of the GDP, there are a number of arguments, which can be used as an advantage of using GDP. One of the defenses is that GDP growth can create economic stability and trust. When people read in the media that GDP has grown by a certain amount, often the majority of people are responsive in a positive way. Another advantage often mentioned, is that GDP can serve as a basis for expected tax revenues which can be used to calculate the creditworthiness of countries. Lastly, GDP being an international standard for national accounts can be seen as a warranty for consistency. A clear comparison between countries is possible in this way. However, opponents would raise the question; what is actually being compared? If GDP is not a good indicator of welfare why would it make sense to start comparing it among countries. Furthermore, “a disadvantage of the international GDP standard is, moreover, that it will not be easy to implement

improvements in the GDP calculation method to neutralize the critiques documented [assuming that such improvements are in principle feasible]. Many proposed improvements have met a lot of resistance from various organizations and countries, often for strategic reasons [presently in the EU, because all kinds of redistribution decisions are linked to GDP]” (Bergh 2007, p.12).

All in all, the latter study suggests that GDP will have a significant role for the future too, and should not be substituted completely. GDP is a helpful indicator in providing non-welfare economic information, and can show certain information about reality, one might be interested in. The example for predicting taxes is a good illustration where GDP is used more as a model variable instead as a performance indicator. However, to use GDP as a central macro-indicator with an implicit welfare interpretation is a complete different issue. For capturing social welfare many better indicators are available; GDP should no longer be associated as a single well-being indicator. Because of the misleading nature of GDP information, economic agents are inclined to make wrong decisions from the perspective of social welfare. It is important when using GDP data, that people are aware of its shortcomings. Alternative measures should be more supported by media, international organizations and policy makers, so they are more widely accepted.

Moreover, this conclusion partially answers the question stated in the introduction of the chapter. GDP has proven to be a useful measure for economic progress, and thus should not be replaced by alternative welfare measures. The analyses has shown that GDP can be regarded as a valuable measure for non-welfare economic information, and should be complemented by alternative well-being measures, to give a complete overview of a nation’s welfare.

6.2 Role of the alternative welfare measures

Without focusing on GDP as a well-being indicator, decisions are able to be aimed more at welfare improvements. However, with the removal of GDP information, policy decisions should be guided by a different indicator. The key question for the various alternative indicators discussed before is: What do we include or exclude? This question is difficult and perhaps impossible to answer. As shown in table 3 every indicator has its own weaknesses

and strengths, and an ideal indicator does not exist.

TABLE 3. ADVANTAGES AND DISADVANTAGES OF ALTERNATIVE INDICATORS (CANOY, 2007)

| Indicators | Main advantages | Main disadvantages |
|-------------------------------------------|-------------------------------------------------|------------------------------------------------------------------|
| Sustainable Development Indicators | Broad basis, including GDP | Too many indicators, aggregation problem |
| HDI | Simplicity, usefulness for developing countries | Arbitrary weights, not very useful for developed countries |
| Subjective happiness | Focus on categories that people find important | Not clear how to use it for policy making, difficult to forecast |
| Corrected GDP | Improves on GDP | Unsolved methodological problems, consensus still needed |
| Composite indicators | Broad basis, recent improvements in methods | Arbitrary weights, aggregation problems |

Several studies have tried to compare different alternative indicators. For example, empirical research by Dipietro et al. (2006) has attempted to assess whether the human development index is a better measure of happiness than GDP per capita. They ran cross-country regressions to see if HDI can be used to explain happiness based on subjective well-being questionnaires. Conversely to the expectations, the HDI was only able to explain a small part of the cross country variation based on happiness. The independent measure of happiness itself claims to be a better measure of social welfare. This disagreement is not very surprising because the estimation methods used are different in approach and can in addition be criticized on methodological grounds based on weighting, aggregation, and arbitrary choices (Grazi et al., 2007, Pillariseti et al., 2007).

Since there is no widespread consensus or international acceptance among alternative indicators, this paper argues that it is essential to use both social indicators and subjective well-being measures for evaluating a society¹⁷. “Efforts at a national level are helpful in screening different welfare issues and their valuation methods. Compiling social indicators allows for the start of a learning process, which can eventually lead to a methodology that is internationally agreed upon” (Bleys 2005, p.12). It will help to overcome the present overriding orientation towards GDP. Policy decisions should not be guided by one single

¹⁷ Chapter 7.1: Combined approach on welfare, discusses an example, where three alternative indicators are used mutually.

indicator, because no particular index offers a complete picture of a society. Frey and Stutzer (2007) even argue to disaggregate these several happiness indicators into regional, county and communal levels. For an exhaustive report on welfare, accompanying indicator systems would be necessary (Stockhammer et al., 1997). The different indicators focus all on different aspects of human welfare. Together they are able to show information that is not contained in one particular measure, and are able to give a complete evaluation of a society's progress, and bring new insights into the various aspects of personal well-being. "Therefore, at first glance there seems no need to look for the Holy Grail in the form of an all encompassing universally accepted indicator of well-being. Yet, the need for consensus on indicators, whatever their usage, is crucial. Without that there are no real possibilities for cross-country comparisons or for analyzing how things have evolved over time" (Canoy et al. 2007, p.5).

Nevertheless, one important issue should not be forgotten when introducing alternative welfare measures. This is the risk of growth fetishism. Whenever GDP will be replaced by another measure, there is the risk of focusing only on maximizing of this index. One should be able to discriminate between using the insights provided by alternative indexes as solid information for policy making, and striving for maximization of these standards under all circumstances. Evidently, the last reason would be undesirable; even though many alternative measures are a clear improvement over GDP, they are still not perfect. Alternative welfare measures "must help to establish those fundamental institutions, which make politicians and public bureaucrats most responsive to people's common interests and which finally lead to the best possible fulfillment of individual preferences. For example, happiness policy should focus on the relationship between the fiscal constitution of a jurisdiction and people's subjective well-being rather than on the optimal tax scheme in terms of happiness" (Frey et al. 2007, p.13). It shows that this approach differs significantly from trying to maximize a certain welfare index. The next paragraph will give an overview of important policy implications which need to be considered when introducing a new macroeconomic indicator.

6.3 Practical implications

Regardless of the policy benefits and improvements over GDP, when adopting alternative welfare indicators, there are several implementation challenges which cannot be ignored. One difficulty already discussed, is the assignment of a monetary value to goods which are not traded on the market, and services which do not have a dollar valuation. Examples are time spend with friends and family, or clean air. Regardless of the fact that there are many methods developed for the valuation of these non-market goods and services, there are still

many theoretical and technical challenges for overcoming. Yet, while the valuation of these goods and services is essentially subjective, GDP is no less subjective: by excluding certain goods and services from the index, GDP implicitly places a zero euro value on them.

Furthermore, a country's overall well-being can change dramatically depending on the indicator used. In a research about Scotland's overall well-being Hanley et al. (1999) compared seven different indicators. Depending on the indicator used, Scotland is either unsustainable and declining, is more or less static, or is doing well and improving. One can understand the impact on policy makers and society of using an indicator which is telling that everything is right, or using another indicator in the same situation, which is telling that the country is deteriorating. For alternative indicators to be helpful a standard is required for the alternative index [or combination of alternative indexes], otherwise it will not be possible to compare between countries or over time. "This inconsistency could be especially problematic for developing countries, which often use economic indexes as a means to obtain funding for development projects and to determine what the focus of these projects should be" (Cobb et al., 1995). The next paragraphs will discuss the implementation aspects of alternative welfare indicators regarding the state of development of a country, the culture and country differences, and factors with regard to sustainability.

6.3.1 State of development

The threshold hypothesis discussed in chapter 4.2 states that the impact of income on happiness is the highest at low levels of development. In less developed/ developing countries¹⁸, first the minimum income level ought to be reached. Policies aimed at GDP growth can add significantly to human welfare in these countries. The associated rise in standards of living allows for satisfying basic needs, and improvements in health services and education. The implications are that for these countries GDP per capita plays a more important role in evaluating policies than in developed countries. Many studies suggest a curvilinear relationship between economic welfare and human welfare. In developed countries the minimum income boundary already has been reached and consequently quality of life measures will be more important. In the developed stage, GDP goods provide diminishing, steady or even negative returns; much depends on which measure is used.

However, caution has to be taken in putting too much emphasis on GDP growth for poor countries. Even though evidence shows that income growth improves a society's well-being,

¹⁸ Countries having a GDP per capita less than US\$6000.

there are certain limitations. As shown in the Kuznets curve, economic inequality increases over time when a country is developing. This implies that merely focusing on GDP growth for low income countries, without paying attention to inequality, to some extent reduces the increase in welfare. After average income is attained, middle income countries might see a more positive correlation between economic growth and human welfare growth, because a more equal income distribution is reached, which is represented in the Lorenz curve¹⁹. Bergh (2009) argues, that for middle income country's environmental pollution and resource degradation are negative factors which can influence the relation between economic welfare and human welfare. An example is the current developments in China. For high income countries, like mentioned before, GDP growth is accompanied with [at the best] stabilized welfare.

6.3.2 Cultural/ country differences

Measuring quality of life is supposed to be focused at the important values of a country. Within a country people are likely to have similar values towards certain goods and services. For example, in the United States where individualism and freedom play a significant role, these factors tend to be judged as important by the biggest part of its population. As a result, individualism and freedom have a big influence on the level of subjective well-being in the US. Hence, taking an average of the survey values from around a country, probably will give a reliable representation of what its citizens value. However, across nations there are significant differences in terms of the norms and values governing the experience of various emotions. Different perspectives, standards of living and cultures complicate matters a lot, and what one country values as important, is very well possible to be valued as insignificant by another country. To come back to the previous example; when applying the values of the US as a standard for a global well-being indicator, obvious this will give a good reflection of the reality concerning the US. However, for Japan, where family values and collectivism play a more important role, this 'global' indicator will apparently create a biased result.

This difficulty raises the question regarding what should be incorporated, or should not be incorporated in an alternative well-being index. It is a serious problem for many alternative indicators. Often they relate to a nation's customs and identity which are frequently country depended, while the GDP variables are not so much socially based. In the end this will result in a trade-off between designing happiness indicators into national, regional and communal

¹⁹ The Lorenz curve is a graphical representation which is often used to represent income distribution. It shows for the bottom percentage of households, what percentage of the total income they have.

levels, which are able to show discrepancies among norms and values. On the other end of the spectrum is the creation of a global indicator which is worldwide accepted, however, is inconsistent with taking into account the cultural differences among countries.

6.3.3 Well-being and Sustainability

So far most of the attention has been focused on the analyses of alternative measures of quality of life and happiness. However, the importance of sustainable development and its implications for policy making should not be overlooked. Often indicators of well-being devote little interest in the measurement of sustainability, while others such as the Genuine Savings approach and the Ecological Footprint dedicate serious weight to the measurement of sustainability, but ignore current well-being. For example, genuine savings includes natural resources, and measures to which extent nations are able to maintain their total resource base to continue a sustainable development in the long term. “In 2005 the World Bank published the report “Where is the Wealth of Nations? Measuring Capital for the 21st Century”, which presents data for Genuine Savings [GS] for some 140 countries. According to these estimates some 30 of the mostly developing countries exhibit negative genuine savings and are thus reducing their resource basis for the future” (Commission on the Measurement of Economic Performance and Social Progress 2008, p.12).

Sustainable development is defined as “Development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Worldbank, 2004). In this syntax, development contains economic, social and environmental changes. From the perspective of the current study one could introduce the definition ‘Sustainable Subjective Well-Being’ described as SWB that meets the needs of the present, without compromising the ability of future generations to meet their own SWB. Indeed, a decrease in car prices may result in a higher happiness for people owning a car at the present moment, but may lead to more air pollution and greenhouse gas emissions, resulting in a possible decrease of the happiness of future generations. Thus unconditionally focusing on the happiness of the current generation might not be recommendable, when trying to increase subjective well-being over time.

When taking sustainability into account, one might raise the question to what extent well-being and sustainability information should be integrated. Two different scenarios can be thought of. Either one can have high subjective well-being today, which might imply lower sustainability tomorrow. Or you can have higher sustainability today, which might cost some of the current well-being. This demonstrates that sustainability requires sets of

multidimensional indicators, which can show the relation between a countries economy, environment and society. Neumayer (2004) argues that indexes which combine two or more dimensions in one single number lead to a large loss of information. An example of this is the ISEW index, which is actually regarded as one of the most balanced alternative welfare indicators. At the same time it functions as an indicator of current welfare, and as an indicator of sustainability. This implies that factors which negatively influence sustainability can be 'cancelled out' by factors which positively influence current well-being, or the other way around. This ability to allow for substitution among different kinds of capital means that ISEW is an indicator of weak sustainability. For instance, if Brazil destroys all the Amazonian rainforests, and accordingly invests the sale profits as education expenditure, ISEW will stay approximately the same or even might increase. According to this study, the best way to achieve strong sustainability²⁰ is by presenting the information about current welfare and sustainability simultaneously²¹. This opinion can further be supported²¹ by looking at the current developed countries. Because of their high income and large amounts of financial savings they are easy able to offset the depletion of the total stock of natural resources. Thus only relying on a single measure for policy, like GS or ISEW, may finally result in an irreversible loss of critical natural capital.

This chapter has shown that relying on a combination of both economic and social indicators would be the most optimal way of informing policy making processes. GDP will have a significant role for the future too, and should not be substituted completely. Furthermore, the maximization of a certain [alternative] welfare index has been proved unlikely. The main role of alternative welfare measures should be to support politicians in their decision making process. Particular implementation difficulties which have to be overcome are differences in the level of development and culture between countries, and the importance of sustainability. The fact that GDP should no longer be used as a welfare indicator, does not imply there ought to be no growth at all. It is important to distinguish between promoting welfare growth, and unconditionally focusing on economic [GDP] growth.

²⁰ Sustainability which requires the full preservation of the total stock of natural resources.

²¹ An example will be presented in Chapter 7, Subjective well-being: Towards a combined approach.

7 Subjective well-being: Towards a combined approach

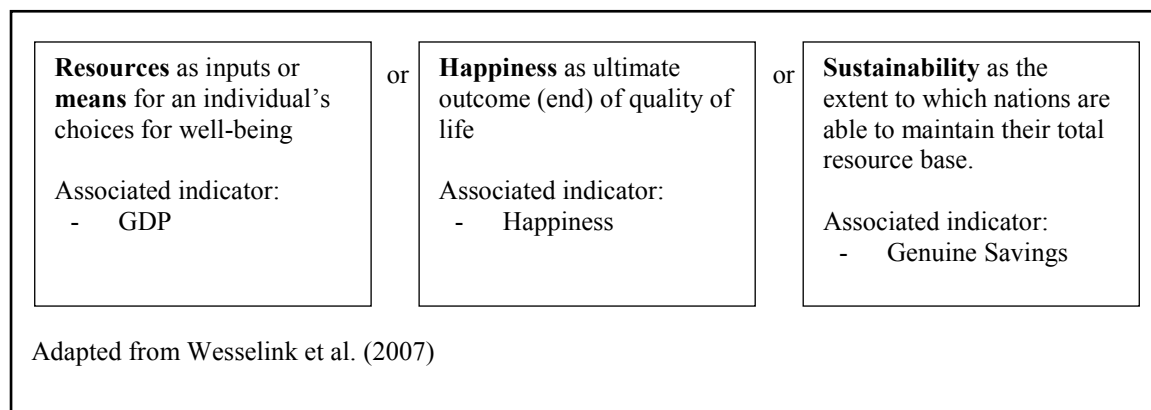
The past chapters have demonstrated the relevance of happiness research for the development of alternative indicators and policy. For critically determining welfare, a broader approach to measure a person's total utility is required, with a central focus on happiness. Nevertheless, this paper does not claim that due to happiness research, a nation is able to decide what is best for its people, and tell them what they should, or should not do. A country and its citizens are autonomous, and responsible for their own happiness in the end. Rather, information is offered on how subjective well-being typically gets affected by social and economic conditions.

This final chapter presents a combined approach, which attempts to measure well-being using a set of existing indicators. Limitations of the proposed approach are examined, and additional requirements for alternative well-being measures are being discussed. After that, different determinants of happiness are compared and weighted. The chapter ends with proposals for the way forward.

7.1 Combined approach on welfare

Regarding the measurement of welfare, this study evaluated multiple indicators designed to help public debate, allow for comparison between countries and over time, and support in the decision making process. Three single views on welfare are shown in figure 6. The figure distinguishes between a conventional economic view for measuring welfare, and two alternative views, which go beyond financial considerations, and consider different values and goals.

FIGURE 6. SINGLE VIEWS ON WELFARE

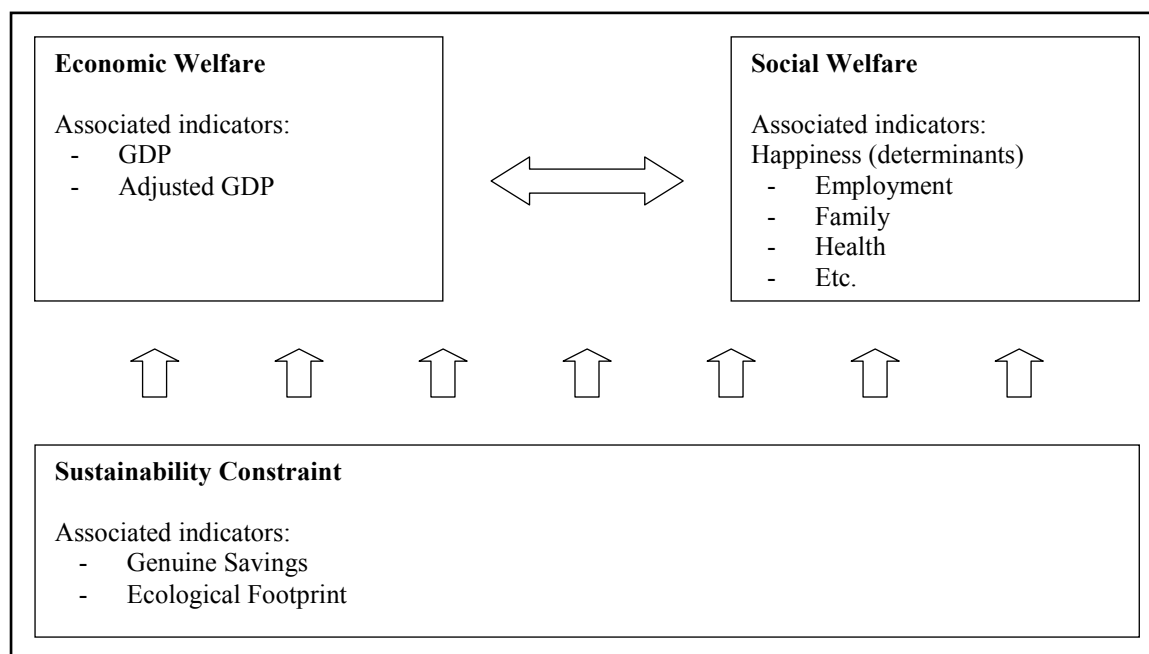


An ideal, single, indicator showing both economic and social welfare performance has proved not to be feasible. Welfare is multidimensional, and cannot be measured in one particular scale. To overcome this problem, a combined approach on welfare is shown in figure 7. In contrast to the single views on welfare in figure 6, this approach presents a set of measures, consisting out of a limited number of core macro indicators, with a high signaling function. The concept considers both economic welfare and social welfare as goals which have to be improved. When linking those together, one gets an integrated system allowing for all kinds of modeling analyses and policy simulations (Kazemier et al., 1999). For each of the two aspects, several primary indicators are used. Economic aspects are based on measures of GDP and other financial performance indicators, while social aspects are mainly based on subjective approaches measuring well-being. In particular for the social welfare data it is important to recognize in which way different factors, such as family, employment and health, influence happiness [the next paragraph will discuss this topic]. Taking into account the importance of sustainability, this paper suggests to complement the measures of economic and social well-being with information whether this level of well-being is sustainable or not. Sustainability, which is based on existing measures such as Genuine Savings, acts as a constraint, that defines the limits by which well-being is able to develop.

It is not easy to specify the requirements that indicators have to meet to be viable for measuring the different categories. According to Frey et al. (2002) there are four main criteria with which indicators of happiness can be evaluated: reliability, validity, consistency, and comparability across nations. Yet, the required conditions are often depended on the situation one wants to use these indicators for. The main criteria for selecting indicators can be found in Appendix C. The projected approach in figure 7, should be seen as a simple illustration which takes into account the findings of the previous chapters. The use of several key indicators to obtain a more holistic picture of welfare, while controlling for sustainability, appears to overcome a number of the limitations, of using one overall aggregated index. A comparable idea has been suggested by the United Kingdom Sustainable Development Commission [SDC]. They propose three different core indicators to monitor overall well-being; one for economic aspects [GDP], one for environmental [carbon dioxide footprint of the UK] and one for social [not yet defined] (SDC, 2007). The combined welfare approach presents the key aspects of progress side by side, and is helpful in discussing the links

between them. Policy makers can make their own evaluations, and judge whether these combined statistics confirm, if there is progress or not.

FIGURE 7. COMBINED APPROACH ON WELFARE



However, like every other indicator [set], this approach is not perfect and has certain restrictions. One of the main usages of indicators is their potential to support public debate. To make this possible, it is important to have indicators which are not too complicated, and also not to many. Opponents might argue that the use of a combined approach with several indicators will influence its applicability. Furthermore, sustainability measures such as Genuine Savings are currently not calculated for all countries. Yet, using Genuine Savings as a sustainability constraint is only possible when it is available for all relevant countries. A final shortcoming is that the approach is more suitable for giving information about regional and national welfare growth, rather than for using it as a scorecard for government policy. Nevertheless, due to the improved accuracy of an indicator set, and by only selecting a small number of high level indicators, this approach is a worthy alternative to many of the current single views. The use of various indexes mutually, as a solid basis for policy making, is preferable to the maximization of a poorly constructed single indicator, which can give misleading policy messages, while using it as a scorecard.

7.2 Comparing determinants of happiness

The well-being, wealth and progress of an individual, region or country are affected by income, employment, education, poverty, safety, crime, leisure, equality, water and air quality, environmental pollution, human rights and democracy, culture, knowledge, traits, health, gender, relative position, life expectancy, value of ecosystems, deforestation, and many other factors discussed in chapter 4.1. This example illustrates the complexity in attempting to influence happiness, using specific policies. In order to assess whether development results into increased subjective well-being, the above-mentioned factors, and many more need to be incorporated into the evaluation of happiness. In addition to the current study, much research is available which offers information how subjective well-being is typically affected by social and economic conditions.

Subjective well-being measures have proved to offer a unique source of valuable information, as a complementary approach to capture welfare. To improve the applicability of this information, more study is needed to be able to compare determinants. In this way public decision makers can balance decisions towards their impact on happiness. Table 4 gives an overview of different ratios which relate changes in happiness to one variable. In the table a person's happiness is explained by a combination of various factors. It shows how each factor affects happiness, other factors held constant. For being able to compare the size of the effects, every factor is compared with the effect of a fall by a third of family income.

TABLE 4. EFFECTS ON HAPPINESS (LAYARD, 2005)

| Determinant | | Fall in happiness [index] |
|---------------|-----------------------------------------------------|---------------------------|
| Income | Family income down 33% relative to average | 1 |
| Work | Unemployed [rather than employed] | 3 |
| | Job insecure [rather than secure] | 1.5 |
| | Unemployment rate up 10 percentage points | 1.5 |
| | Inflation rate up 10 percentage points | 0.5 |
| Family | Divorced [rather than married] | 2.5 |
| | Separated [rather than married] | 4.5 |
| | Widowed [rather than married] | 2 |
| Health | Subjective health down 1 point [on a 5-point scale] | 3 |

Although particular results suggest maximizing happiness is possible, the computed ratios should not be taken literally. As concluded before, there are many objections which show that

the maximization of aggregate happiness is not feasible. One should not perceive that avoiding unemployment is six times as important, as avoiding an inflation increase of ten percent using the statistics in the table. However, the fact remains that such ratios are informative, and the results are valuable to support public decision making.

7.3 The way forward

After the past debate about GDP, subjective well-being, and alternative measures of welfare, one question which remains, is how to move beyond the current ‘domination’ of GDP. Although this topic is currently heavily discussed and researched [which can be seen by the countless studies and proposed alternatives for GDP], until now, outside the academic world not much has changed. Reed (2000) recommends that the first step towards implementing alternative indicators should be to raise awareness of these indicators, and reach consensus about the factors which ought to be included. Instead of just developing all kinds of ‘fancy’ alternative indexes, it is time for policy makers to make progress upon agreeing on a number of key alternative indicators; within individual nations, and for the world as a whole. According to Bergh “we are in fact facing a situation known as ‘lock-in’ of a non-optimal configuration, in this case of the erroneous idea that GDP growth means progress. By definition, it is extremely difficult to escape from a lock-in situation. At least a large shock is needed. Economists could cause such a shock, by pleading together for the removal of the GDP indicator from the public sphere” (2007, p19). He argues that to accomplish this, a critical mass of economists is needed, which outspoken and openly recognize the large information failure associated with GDP.

Because of the worldwide use of GDP [for example by the EU, that determines subsidies according to GDP], acceptance of alternative indicators may be difficult, and will result into several implementation barriers. A point of discussion is whether to go for radical changes or gradual changes, to overcome these difficulties. Scholars supporting the gradual approach do not want to abolish GDP before a well developed alternative indicator has been created. They propose to improve the current indicators, try to alter the shortcomings of national accounts, and spread news about the limitations of the National Product. However, this gradual approach is in fact happening at this certain moment, and has not proved to be successful in changing the situation so far. A more radical approach, which removes the attention from the misleading information GDP currently represents, is more appropriate. People and organizations are occasionally reluctant to change the status quo, in certain situations often a shock can help to change the mindset. Many proposed alternatives are

[combined] able to give a better estimate of welfare than GDP. Hence, it is desired to strive first towards less misleading information than GDP, and consequently, step by step, improve these measures. Instead of waiting till the perfect welfare measures are available, which is very unlikely. It should be noted, that the gradual approach does not intend to abolish GDP from one day to the other. This is not possible, and should not be desired. However, it is necessary to start implementing complements to GDP, for the creation of a learning curve, towards an improved measurement of welfare.

One of the first objectives is to clarify which indicators are most appropriate to measure well-being, and how these measures should be integrated in the decision-making process, and taken up by the public debate. For each of the three different categories [economic, social, and sustainable] shown in figure 7, a small number of indicators needs to be selected, that seem most suitable. Subsequently, the experimentation phase can start. So far, relatively little experimentation has been carried out with alternative well-being indicators for longer periods. “Eurostat publishes sustainable development indicators from 2001 onwards and for some subcategories much longer. In the US the Interagency Working Group on Sustainable Development Indicators started in 1997 to select a 13 small group of indicators to measure progress towards sustainable development. And the UN uses their own set, existing of a set of 50 core indicators, which are part of a larger set of 96 indicators” (Canoy 2007, p. 12). During the experimentation phase, well-being measures are tested in practice, using intermediate experiments, for being able to discover their weaknesses and strengths. Accordingly, they can be compared, and the ones which seem successful can be tested on a broader scale. Finally, consensus has to be created to use them. However, due to the huge amount of users and groups involved, all with different objectives, a global consensus seems to be unrealistic. Nevertheless, since the main function of most of the alternative indicators is to support decision-making, and not to compare across countries, an agreement on national or regional level, seems to be a first step in the right direction.

Throughout the experimentation phase one should bear in mind that the decision-making process consists of several steps. Consequently, some indicators are more or less appropriate for the different stages. The first step in the policy cycle is the problem description, where policy makers should receive a strong signal about the occurring problem. Often composite indexes, such as the GS; showing the depletion of natural capital, act as a strong signal to raise awareness. The second step is the analysis of the cause of the problem. To be able to identify solutions, and investigate the future developments of the problem, more

specific indicators are needed. The attention moves from macro-indicators, towards micro-indicators. For example, industrial emissions and greenhouse gases in a certain region. The third policy phase tries to design concrete policy proposals, where cost-benefit analysis plays an important role. For the identification of the total costs and benefits of a policy, non-economic indicators, containing social and sustainable aspects, are helpful in evaluating policy proposals and deciding about implementation. Finally, the last step of the policy cycle is monitoring and performance control. Sets of indicators, such as the combined approach of welfare illustrated in figure 7, are most functional in this step. Due to the holistic overview of the various welfare categories, particular sets are helpful in providing an extensive examination of the progress of policies²². The study recognizes that during the initial years of complementing GDP, the proposed situation will not be perfect. However, it can certainly be regarded as an improvement over the current situation, and will help in understanding true sustainable welfare, and how it can be pursued in our world.

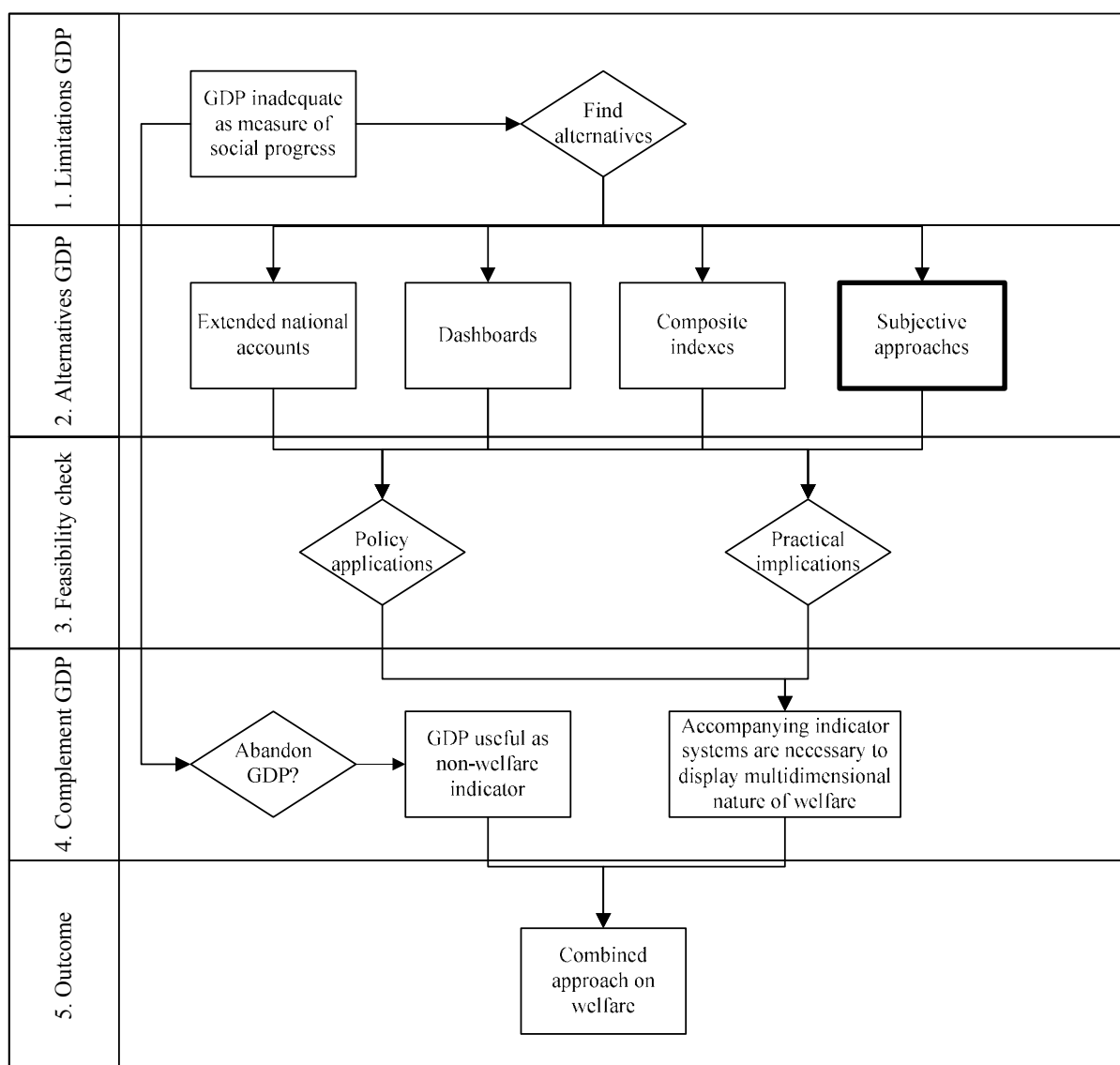
²² This section introduced briefly the relationship between the policy cycle, and the usefulness of different indicators. For a more elaborate description see Wesselink et al. (2007).

8 Conclusions

8.1 Research question

To sum up, what is learnt, and what can be concluded? The current study intended to investigate the recent efforts to find alternative measures for GDP. The research question was defined as: “To what extent is an alternative measure of GDP which includes happiness components feasible?”. To answer the question, the different steps pursued are shown in figure 8.

FIGURE 8. STEPS TAKEN FOR ANSWERING RESEARCH QUESTION



The first stage of this report pointed out the inadequacy of the existing indexes in measuring social progress and economic performance. It has been shown that the system of national

accounts is incapable of accurately measuring welfare, and assessing what needs to be done and why. Due to its measurement flaws and commodity based understanding, GDP can be dismissed as an indicator of social progress, and to guide public policy. Not only from a financial statistics perspective, but also in terms of values and the quality of life, that need to be assessed to explain changes in human behaviour.

In the second step the report continues with the assessment and comparison of alternative, more relevant, indicators of social progress. A wide variety of indicators are available, each measure brings a particular way of looking at the world, and a particular vision of human life. The ability to measure well-being and happiness has proved to be an important complement and challenge to the traditional economic indicators, which continues to play a significant role in guiding political decisions and monitoring economic activity. This paper recommends taking the outcomes from the field of happiness research seriously; examples are the effects of relative income, adaptation and cognitive styles. These findings are an important step towards empirical analysis and models that provide a more realistic view on how people feel and behave. In that regard, the trend towards using bigger data sets, better statistical techniques and integration of both objective and subjective measurement tools, increases the reliability of these studies.

Returning to the research question; in determining the feasibility of alternative measurement tools, it has been showed that alternative indicators have the potential to show policy makers how different types of environmental and social degradation are harming a country's economy and general well-being. More specific, economic growth should no longer be the single policy objective. People do not only experience the benefits of economic growth, but also the downsides. By incorporating more aspects of welfare than only economic ones, alternative welfare provides a more complete picture of a society. Regardless of the challenges and practical implications illustrated in this paper, the addition of factors that impact quality of life factors to economic indicators, will improve the understanding and the pursuit of progress from a national and global viewpoint. The majority of the discussed alternatives are able to give a better approximation of social welfare than GDP, and rather than waiting until an ideal welfare indicator is available, the paper suggests taking current research into implementation.

In regards to an appropriate way to present statistical information on wellbeing, this study offers a combined approach on welfare, since an all encompassing indicator is not able to display the multidimensional aspects of welfare. The approach proposes a mixture of

different types of alternative measures of which the GDP is only one. Although modifications and extensions are able to improve GDP information, it will remain an indicator with limited value, and is primarily useful as a financial measure. Together with measures of social and subjective well-being, which go beyond wealth and consumption, limited by a sustainability constraint, they offer the best perspectives for policymaking. Many organizations and governments are already gathering welfare data on all three areas; it is therefore not always needed to start measuring new statistics. The future of combinations of alternative indicators with GDP looks positive. Since the attention to environmental and social concerns, such as sustainability and stress, has been rising during the last decade, the demand that welfare indicators include factors that affect daily lives, and not just market-based financial transactions, will increase in importance.

Finally, the development and implementation of alternative indicators alone should not be seen as a solution that will radically change the current materialistic and income focused mentality of most people. Just as important as the technical use of the proposed measures itself is the general public discussion it generates. Social understanding needs to be created to show the importance of this topic. In the end, the focus is mainly on human beings and only partially on statistics. Or as Amartya Sen said 14 September 2009, during his presentation on the Measurement of Economic Performance and Social Progress “We can not let the technology of measurement overwhelm the profundity of what lies behind it”.

8.2 Limitations

To limit the subject, discussions about sustainability, natural resources, ecosystems and their influences on happiness have been left out the research for the largest part. Yet, the paper emphasises that the topic of sustainability is complementary to the topic of subjective well-being, and must be examined separately. With regard to the limitations on happiness components one should bear in mind the difficulty to produce reliable data, and the many assumptions that lie behind the statistical data. Many of the quality of life features rely on value judgements, and scholars should be cautious in the confidence they place in certain statistics. In addition, from a public policy perspective, the transition from individual well-being to collective well-being would be a desired step for many scholars. However, it will result in gigantic challenges of aggregation. It is further complicated by the interactions between the different dimensions of quality of life. Frequently, some of the most important policy questions regarding the quality of life relate to how developments in the different dimensions relate to those in income, and how developments in one area, for example

education, affect developments in others like health or political voice. This causality is often hard to determine.

8.3 Directions for further research

Below a list is shown with important topics that require further research.

- Additional development of indicators which are most appropriate to measure well-being, and research how they should be integrated into the decision-making process and taken up by public debate;
- The development of more sustainability measures such as Genuine Savings, currently they are not calculated for all countries;
- Additional research between various quality of life domains, for a better assessment of the causation;
- Analysis of indicators of welfare, which provide information about the inequalities in individual conditions in the various quality of life dimensions, rather than just about the average conditions in each country.

To end this study I like to finish with a birthday letter Jeremy Bentham wrote shortly before his death to a friend's young daughter. It can be taken as an advice to all of us.

- Create all the happiness you are able to create: remove all the misery you are able to remove. Every day will allow you to add something to the pleasure of others, or to diminish something of their pains. And for every grain of enjoyment you sow in the bosom of another, you shall find harvest in your own bosom; while every sorrow which you pluck out from the thought and feelings of a fellow creature shall be replaced by beautiful peace and joy in the sanctuary of your soul. -

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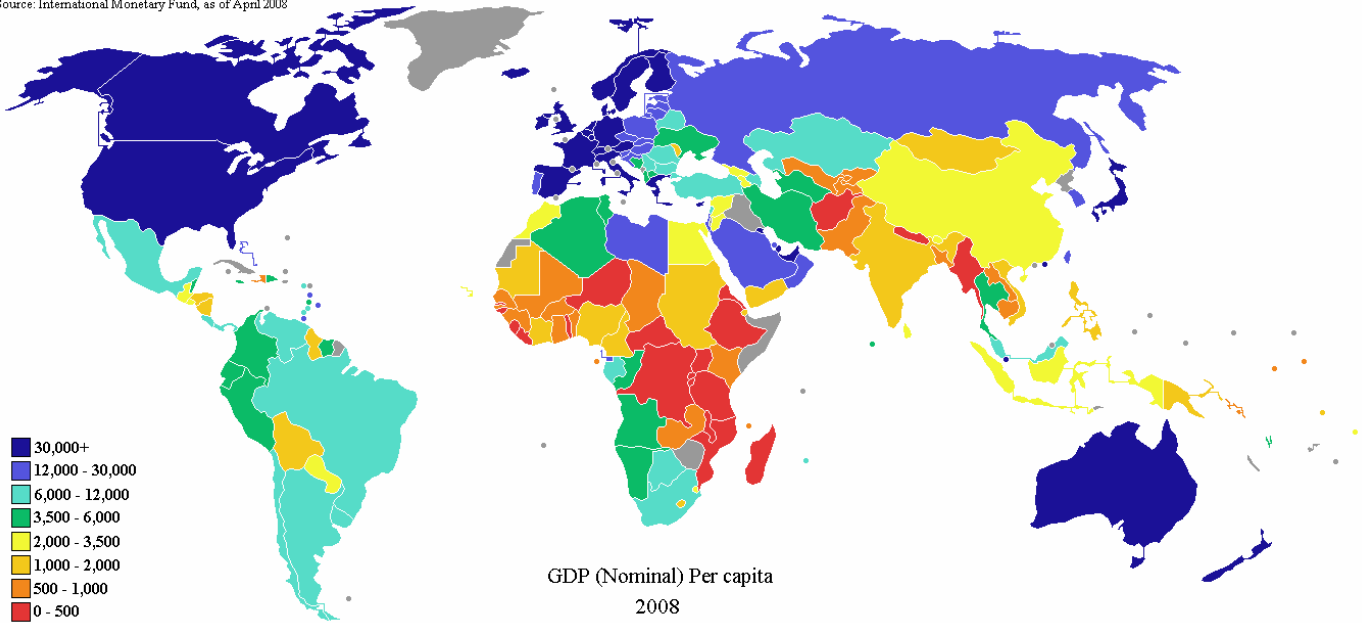
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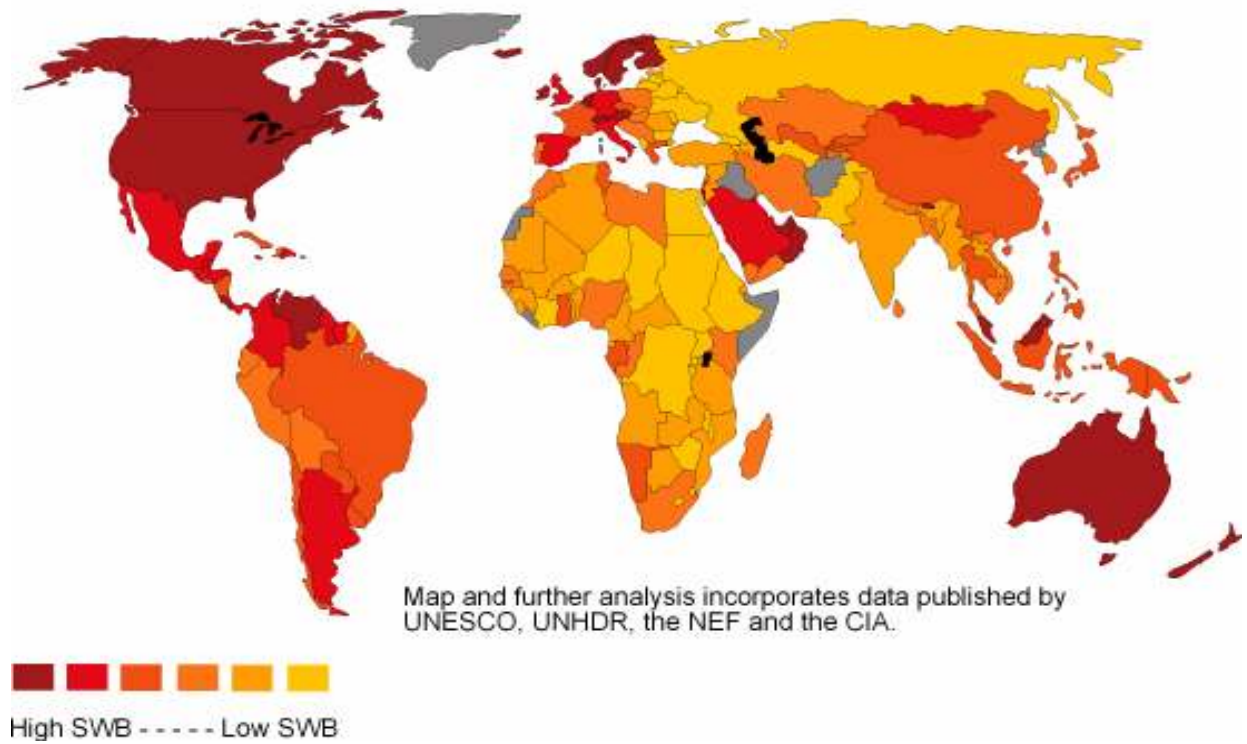
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Appendix A: World comparison GDP per capita and SWB

Source: International Monetary Fund, as of April 2008



A Global Projection of Subjective Well-being



Appendix B: Happiness in the US, 1972 - 98

| Independent Variable | Coefficient | z-Statistic |
|------------------------------|-------------|-------------|
| Age | -0,025 | -5,20 |
| Age ² | 0,038 | 7,53 |
| Male dummy variable | -0,199 | -6,80 |
| Married dummy variable | 0,775 | 25,32 |
| Log income | 0,163 | 9,48 |
| Years of education | 0,007 | 1,49 |
| Black dummy variable | -0,400 | -10,02 |
| Other race dummy variable | 0,049 | 0,59 |
| Student dummy variable | 0,291 | 3,63 |
| Retired dummy variable | 0,219 | 3,93 |
| Housekeeper dummy variable | 0,065 | 1,66 |
| Unemployed dummy variable | -0,684 | -8,72 |
| Self-employed dummy variable | 0,098 | 2,29 |
| Health index | 0,623 | 35,91 |
| Number of observations | 24,128 | |
| Pseudo-R ² | 0,075 | |

Ordered logit estimation. The dependent variable is happiness. Year dummy variables included but not shown (Graham, 2005).

Appendix C: Selection criteria indicators

Analytical soundness

An indicator should preferably:

- be transparent and be based on a theoretical framework (both in technical and scientific terms);
 - be based on international standards and international consensus about its validity;
 - lend itself to being linked to economic models, forecasting and information systems;
 - allow for being broken down into its underlying components;
 - be as objective in its construction as possible.
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Measurability

The data required to support the indicator should preferably be:

- readily available or made available at a reasonable cost benefit/ratio;
 - adequately documented and of known quality;
 - available in homogeneous and coherent databases allowing to assess interdependencies between the indicators;
 - updated at regular intervals in accordance with reliable procedures.
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Policy relevance and utility for users

An indicator should preferably:

- provide a representative picture of economic conditions, social aspects and environmental conditions, pressures on the environment or society's responses;
 - be simple, easy to interpret and able to show trends over time;
 - allow for communicating the result and the direction a policy should head to;
 - be responsive (sensitive and specific) to changes in the environment and related human activities;
 - take into account side-effects (e.g. sustainability at the expense of another community) and reflect local sustainability that enhances global sustainability;
 - be universal and provide a basis for international comparisons;
 - be either national in scope or applicable to regional environmental issues of national significance;
 - be scalable over space;
 - be available rather shortly after gathering the data it is based on (timeliness);
 - have a threshold or reference value against which to compare it, so that users can assess the significance of the values associated with it.
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Adapted from OECD (2003)