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Economics and the Study of Individual Happiness

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Abstract and Keywords

In recent years, the use of happiness data has been influential within economics. Measures of self-reported happiness or life satisfaction provide economists with a means to proxy the concepts of utility or individual welfare. This provides a number of new insights. For instance, the life satisfaction approach enables policy-makers to capture individuals' preferences and the benefits obtained from non-market goods and services in a novel way. As a consequence, insights from happiness research can provide a useful input into politico-economic decisions. In time, aggregate happiness indicators may become a relevant macro input into political discourse, whilst happiness research can be applied to comparative institutional analyses of, for example, democracy and federalism.

Keywords: Economics, happiness, life satisfaction, survey data, income, public goods, unemployment

WITHIN economics a remarkable new development is underway: the theoretical and empirical economic analysis of individual well-being or happiness.¹ This development transcends the borders of standard economics in various ways. The economics of happiness argues that the measurable concepts of happiness or life satisfaction allow us to proxy the theoretical concept of utility in a satisfactory way. This approach provides new insights into how human beings value goods and services and more general social and economic conditions, and suggests new policies that significantly deviate from what has been proposed so far. These developments could even be called “revolutionary” in that they change the way society is looked at from an economics point of view (Frey, 2008). Happiness economics has the potential to change economics substantially in the future, both with respect to analysis of economic problems and the policy recommendations intended to solve them. Our argument rests on three pillars: measurement, new insights, and policy consequences.

Measurement

The measurable concept of happiness or life satisfaction allows us to proxy the concepts of *utility* or *individual welfare* in a satisfactory way. Utility is a term used in economics to represent the relative satisfaction derived from, or the desirability of pursuing, one course of action rather than another. Oftentimes, it is meant to capture what

people obtain from consuming goods and services. Life satisfaction proposes the opposite of something that was (p. 432) considered a revolution in the 1930s, when Sir John Hicks, Lord Lionel Robbins, and others claimed that utility could not and need not be measured. Their approach opened the way to a fruitful application of microeconomics to economic issues, and more recently to issues far beyond economics.² But the situation has changed dramatically since the 1930s. Psychologists have taught us how to measure subjective well-being and thus give life to the concept of utility.

The ability to measure happiness allows us to extend economic theory into new areas. For instance, it enables us to analyze biases in decision-making. Standard economic theory equates the utility expected when deciding between alternative actions or consumption bundles (e.g., spending holidays in the Alps or at the sea) with the utility experienced when realizing the plan or consuming the bundle. In contrast, happiness research suggests that individuals make biased decisions when choosing between alternatives (for an introduction to utility misprediction in economics see Stutzer & Frey, 2007). As a result of these biases in judgment, they find themselves less satisfied with life than they could be according to their own evaluation. Similarly, individuals' utility is lower when they are subject to significant self-control problems. They allow themselves to undertake activities (such as eating candy) which appear attractive to them but which turn out to raise their utility only in the short run. The individuals, after the fact, realize that they would have been better off had they resisted the temptation (Stutzer, 2009).

Happiness research enables us not only to acknowledge these aspects of human behavior but also to analyze them empirically and therewith to evaluate their importance for explaining human behavior. This is not possible in standard theory based on "revealed preference," which presumes that observed behavior is the result of a utility-maximizing calculus in which individuals do not make any systematic mistakes.

New Insights

The economic analysis of subjective well-being teaches us how human beings value goods and services, as well as how they value social conditions. This applies, in particular, to the effects of income, unemployment, and other economic factors on well-being. The new insights go beyond economics to include non-material values, such as the value of autonomy, social relations in the family, etc. Moreover, individuals derive utility from *processes*, not just from outcomes. For instance, they are more satisfied with a court decision if they feel that they have been well treated by the judge, even if the outcome is less favorable for them (Frey, Benz, & Stutzer, 2004). It is understood that economic activity is certainly not an end in itself, but only has value insofar as it contributes to human happiness.³

(p. 433) Policy Consequences

Taking a constitutional perspective, there are two levels at which policy decisions are made: (1) in the current politico-economic process, within a given framework of rules; and (2) at the constitutional level, where the rules of the game as such are determined. Economic happiness research is relevant for both levels. For instance, the life satisfaction approach enables policy-makers to capture individuals' preferences and individuals' welfare for public goods in a novel way. As a consequence, insights from happiness research increase political competition in the current politico-economic process. Moreover, aggregate happiness indicators may become a relevant macro input

in the political discourse. At the constitutional level, happiness research can be applied to comparative institutional analyses of, for example, democracy and federalism. We argue that it is mistaken to jump to the conclusion that governments should pursue a happiness policy maximizing an aggregate happiness indicator conceived to be a social welfare function.

In the following pages, we will provide a primer on how economists use information about happiness as a new approach to measuring individual welfare. Next we will discuss the relationship between two important economic variables and subjective well-being, i.e., income and unemployment. For income, we emphasize the role of income aspirations in the notion of relative utility. For unemployment, we contrast the views that it occurs as a voluntary or an involuntary act. We then address challenges to the rational consumer hypothesis due to limited will power and utility misprediction that can be studied based on reported welfare judgments.

A Primer on the Economic Analysis of Happiness

The economic study of individual happiness is based on a subjective view of utility, which recognizes that everyone has his or her own ideas about happiness and the good life, and that observed behavior is an incomplete indicator of individual well-being. Fortunately, observed behavior is not the only way to capture individual well-being. Consistent with a sensible tradition in economics to rely on the judgment of the persons directly involved, individuals' welfare can be captured and analyzed by asking the person how satisfied he is with his life. Since people are reckoned to be good judges of the overall quality of their life, this is a straightforward strategy.

Much happiness research in economics takes reported subjective well-being as a proxy measure for individual welfare. "Subjective well-being" is the scientific term used in psychology for an individual's evaluation of the extent to which he or she experiences positive and negative affect, happiness, or satisfaction with life.⁴

(p. 434) There are a number of different measurement techniques available to capture subjective well-being (see also Chapters 10, 13, and 14). These can be distinguished along two dimensions: cognition, the evaluative or judgmental component of well-being (usually assessed with questions asking about satisfaction with life overall); and affect, the pleasure–pain component of well-being (Diener, 1984). With regard to the latter, it is common to distinguish further between positive affect (e.g., happiness, joy) and negative affect (e.g., anger, sadness), treating them as independent. It is also useful to distinguish between measures that attempt to capture a person's level of subjective well-being in general, as opposed to those that focus on the proportion of time spent in one, rather than another, mental state. Because people's satisfaction with their lives tends to be relatively stable from moment to moment, duration measures usually focus on affect (Kahneman & Krueger, 2006). A primary example of a duration measure is the U-index, which measures the proportion of time an individual spends in an unpleasant state (Kahneman & Krueger, 2006).

The measures may be elicited through a variety of methods, including: (1) global self-reports in surveys, (2) the Experience Sampling Method, which collects information on individuals' actual experiences in real time in their natural environments, and (3) the Day Reconstruction Method, which asks people to reflect on how satisfied they felt at various times during the day (on the latter two techniques, see Kahneman, Krueger, Schkade, Schwarz, and Stone (2004) and Stone, Shiffman, and De Vries (1999)).

Provided that self-reported subjective well-being is a valid and empirically adequate measure for human

well-being, statistical analyses can be conducted that allow for exploration of the relationship between known determinants such as socioeconomic and sociodemographic characteristics and well-being.⁵ This approach has been successfully applied in numerous studies on the correlates of subjective well-being and has given rise to many interesting findings, including the relationship between individual well-being and economic conditions such as income, unemployment, inflation and inequality (for reviews see the references in footnote 1). We discuss some specific results on the relationship between happiness and income as well as unemployment in the following two sections.

Income and Happiness

Persons with higher income have more opportunities to attain whatever they desire: in particular, they can buy more material goods and services. Standard economics therefore takes as self-evident that higher income and consumption levels provide higher well-being. This conclusion also follows from the concept of utility in economics, which is based on the notion that people's utility depends on what they have in absolute terms. Research on subjective well-being allows us to test this notion empirically.

(p. 435) **Paradoxical empirical findings**

The relationship between income and happiness measured at a particular point in time and place is the subject of a large empirical literature. As a robust and general result, it has been found that richer people, on average, report higher subjective well-being (see Clark, Frijters, & Shields, 2008 for a review). The relationship between income and subjective well-being proves to be statistically (usually highly) significant, even when a large number of other factors are controlled for. This evidence from happiness research seems to confirm the standard economic view.

However, there is a second way to study the relationship between income and happiness, namely to ask whether an increase in income over time raises reported subjective well-being. A striking and curious relationship is observed: people in some industrialized countries do not appear to be becoming happier over time, despite economic growth. This was first observed and documented by Easterlin (1974), and has been repeatedly found ever since (Blanchflower & Oswald, 2004; Easterlin, 1995, 2001; Easterlin & Angelescu, 2009). As these two findings on the relationship between income and happiness cannot easily be aligned, they are often referred to as the Easterlin paradox.

The Easterlin paradox has provoked reactions in two directions. One reaction is to challenge the empirical findings. Stevenson and Wolfers (2008), for instance, argue that some of the data on which the analyses of Easterlin and others rely should be dismissed due to changes in methodology (e.g., in Japan different survey questions have been used to measure subjective well-being in different years). Others document that there are Western countries like Denmark, Germany, and Italy that experienced substantial real per capita income growth as well as a (small) increase in reported satisfaction with life in the 1970s and 80s (Diener et. al. 2000). Moreover, the relationships presented between income and happiness over time are often not analyzed *ceteris paribus*. In other words, it is difficult to examine income and happiness in isolation, and additional factors that also change over time may contribute to observed outcomes. However, for the USA, a negative trend in subjective well-being over time is found even when individual characteristics are controlled for (Blanchflower & Oswald, 2004).

Given the current state of empirical data, it is difficult to reject, on statistical grounds, any hypothesis about the

relationship or non-relationship between income and subjective well-being over time. Perhaps the safest position is to accept that there is no clear-cut trend, positive or negative, in self-reported subjective well-being over periods of 20–30 years in rich countries. Of course, this is interesting in itself; it indicates that there is more to subjective well-being than just the absolute level of income.

The role of income aspirations

In order to shed light on the apparent paradox highlighted by Easterlin, happiness research in economics has sought to develop a concept of utility that is more psychologically sound. Two processes are emphasized. First, it is noted that whilst additional material goods and services initially provide extra pleasure, this is usually only transitory. Happiness with material things wears off, whereas satisfaction depends on change and disappears with continued consumption (Stutzer & Frey, 2007). This process, or mechanism, that reduces the hedonic effects of a constant or repeated stimulus, is called adaptation.

(p. 436) Second, people make social comparisons with relevant others and hence it is not the absolute level of income that matters most, but rather one's position relative to other individuals. Indeed, several economists in the past (e.g., Duesenberry, 1949; Veblen, 1899) have noted that individuals compare themselves to significant others with respect to income or consumption. Higher income people also have a higher *relative* income compared to others, and therefore a higher status in society (Frey & Stutzer, 2002a). Socially comparative or even competitive processes in consumption complement processes of hedonic adaptation.

It is suggested that the two processes make people strive for ever higher aspirations. Together, they can also explain why persons with high income at a given point in time report higher subjective well-being than those with low income. This is the social comparison effect suggesting that individuals derive utility from being superior to others. In contrast, there is no clear statistical relationship between income per capita and average life satisfaction in industrialized countries over time. This is the adaptation effect, which suggests that people get used to a higher income and therefore do not derive any additional utility from it after some time has passed (Frank, 1999).

There is now direct empirical evidence for the important role of income aspirations in individual welfare from two empirical studies for Germany and Switzerland (Stutzer, 2004; Stutzer & Frey, 2004). This is made possible by using two data sets that both include individual data on reported satisfaction with life, as well as income evaluation measures as proxies for people's aspiration levels.⁶ It is found that higher income aspirations reduce people's satisfaction with life. In Switzerland and the New German Laender, the negative effect on subjective well-being of an increase in income aspiration level is of a similar absolute magnitude as the positive effect on well-being of an equal increase in income (Stutzer, 2004). This suggests that subjective well-being depends largely on the gap between income aspirations and actual income and not on the income level as such. Thus, the higher the ratio between aspired income and actual income, the less satisfied people are with their life, *ceteris paribus*. This supports the notion of relative income, which describes that individuals do not focus on the absolute income level but rather compare their income to the income of other individuals.

What are the consequences of the research insights relating to relative income? The empirical basis is still too small to be able to draw firm implications for economic theory and economic policy, and caution is required because such implications might be far-reaching. However, it would be interesting to study in greater depth how income aspirations relate to, for instance, redistributive taxation or public policy in general.

Unemployment and Happiness

Standard economics has always considered unemployment a social bad with negative consequences for society. The economic policy proposals made by Keynes and his followers (p. 437) were an effort to overcome this ill and to establish full employment. However, the assessment changed dramatically with the advent of new classical macroeconomics (see e.g., Snowdon & Vane, 2005). This school argued that unemployment is largely voluntary: most of those not working just refuse to do so at the prevailing wage rate. In this view, an important reason why the reservation wage is higher than the prevailing wage is that unemployment benefits are too high. People prefer not to work and to cash in these benefits. Happiness research in economics offers a new approach to this debate about the individual and social costs of unemployment.

Unemployment reduces subjective well-being

The basic finding from happiness data is that unemployment reduces the individual well-being of those personally affected. Following their innovative work in Britain, Clark and Oswald (1994, p. 655) summarize this result as follows: “Joblessness depresses well-being more than any other single characteristic including important negative ones such as divorce and separation.” In Germany, Winkelmann and Winkelmann (1998) found a negative effect of personal unemployment on life satisfaction that would require a sevenfold increase in income to compensate. Importantly, in these two analyses, indirect effects like income losses that may, but need not, accompany personal unemployment are kept constant. Being unemployed therefore has psychological costs over and above those due to potential decrease in material living standards (see Clark, 2003; Frey & Stutzer, 2002a, pp. 95–109; Stutzer & Lalive, 2004).

High unemployment rates also have non-negligible effects on people who are not personally affected by unemployment. Based on survey data from population samples from European Union member countries between 1975 and 1992, Di Tella et al. (2003) show that aggregate unemployment decreases average reported life satisfaction even if personal unemployment is taken into account. The question that naturally arises is why even people who are employed feel less satisfied with their lives when unemployment rates increase.

Costs of high unemployment for the employed

The potential reasons that explain why workers' well-being decreases when unemployment rates increase can be divided into two broad categories (Luechinger et al. 2010). First, a high rate of unemployment may have general negative effects on society that affect everyone in a region. Such reasons include not only the direct effects of unemployment on crime and public finances, but also the general increase in income inequality within a society—an increase that may have the effect of triggering workers' empathy with the unemployed. Moreover, high unemployment rates affect factors specific to people's individual workplaces such as, for instance, changes in working hours and salaries (Frey, 2008).

Second, high unemployment also affects anticipated economic distress. For instance, the probability that a worker may himself experience a spell of unemployment in the future increases. A large literature documents the importance of self-reported job security on individuals' well-being (see e.g., De Witte, 1999; Duncan, White, Cheng, & Tomlinson, 1998; Green, 2006). Moreover, people may also expect salary decreases, reduced promotion opportunities and fewer possibilities to change jobs.

(p.438) In an empirical study, Luechinger, Meier, and Stutzer (2010) isolate the negative anticipatory feelings of angst and stress due to economic insecurity. In order to distinguish between general negative externalities of unemployment and changes in economic risks to individuals, workers were studied in two sectors of the economy that differ fundamentally in their exposure to economic shocks—people working in the private sector and those working in the public sector. Public sector employees usually work in organizations that very rarely go bankrupt, and enjoy extended protection from dismissal. Thus, for institutional reasons these workers face a reduced risk of losing their jobs in comparison with workers in the private sector. For Germany, the researchers found that the subjective well-being of people working in the private sector was affected more strongly by general economic shocks than that of people working in the public sector, suggesting that a substantial fraction of the psychological costs brought about by general unemployment is due to increased economic insecurity.

In sum, research on happiness has identified two major aspects of unemployment that are largely neglected in standard economics. The first is that unemployment is not simply an underutilization of resources and not simply a decision between choosing to stay employed (at a low wage) and becoming unemployed (with unemployment benefits). Rather, unemployed individuals experience a loss in psychological well-being that goes beyond the reduction in income involved. The second major difference to standard economics is that the experience of utility losses goes beyond the persons actually unemployed. Persons with a job are also negatively affected by a higher unemployment rate; this is due in part to an increase in economic insecurity.

Happiness Research Challenges the Rational Consumer Hypothesis

Neoclassical economic theory relies on revealed behavior—that is, on the actual choices people make—in order to evaluate the utility generated by the option chosen in a particular decision. This assumes that individuals are perfectly informed about what will bring them how much utility, and that they are perfectly capable of maximizing their utility given the options available to them. Further, this implies that people do not make any systematic mistakes when making decisions and that, if mistakes occur, individuals will correct them in the long run by learning. Scitovsky (1976) criticized this view as “unscientific” because “it seemed to rule out – as a logical impossibility – any conflict between what man chooses to get and what will best satisfy him” (p. 4).

Research on happiness has given rise to two insightful extensions of neoclassical economics’ traditional emphasis on ex ante (that is, before the event) evaluation and observed decision. First, the standard economic concept of decision utility can be extended by using the concept of subjective well-being to indicate individual welfare judgments (similar to the concept of experienced utility by Kahneman et al. (1997)). This separation of concepts makes it possible to distinguish between the utility gained from experiences and the utility derived from observed behavior. The second extension is closely related to the first. It emphasizes that individuals may not be fully rational when they take decisions. Rather, their rationality may be imperfect with respect to the cognitive processes involved. The crucial question is: (p.439) How do people fare after they have made decisions? This is particularly relevant if people have limited self-control, i.e., are subject to restricted willpower.

Limited self-control and individual well-being

In standard economics people are considered to have no self-control problems; they are able to make decisions that

are concordant with their long-term preferences. Viewed this way, consuming goods and pursuing activities that some people consider addictive, such as smoking cigarettes, taking cocaine or watching TV, are considered a rational act. Contrary to this view, many people judge their own and other people's behavior as irrational in the sense that they think that they would be better off if they behaved differently and cared more for their future well-being.

Based on revealed preference, it is difficult, if not impossible, to discriminate between the view of consumers as rational actors and consumers mispredicting utility or facing self-control problems. However, with a measure of individual well-being, competing theories can be distinguished that make the same predictions concerning individual behavior, but differ in what they put forward as individual utility levels. This kind of test is a powerful tool in challenging theories that proved resistant to a multitude of observed behavior patterns.

The new approach is briefly illustrated for a specific issue, namely cigarette smoking. Other possible illustrations would be TV viewing (Benesch, Frey, & Stutzer, 2010; Frey, Benesch, & Stutzer, 2007) or obesity (Oswald & Powdthavee, 2007; Stutzer, 2009). The standard economic model predicts that recent increases in cigarette taxes and tighter restrictions on smoking reduce smoking and make individuals worse off. Smokers could always voluntarily refrain from smoking; the additional restrictions are only perceived as a reduction of the choice set. However, some smokers may have limited willpower to quit smoking. Such persons may welcome smoking restrictions and higher taxes as a kind of self-control mechanism. An approach that incorporates limited willpower into the process of decision-making thus predicts that smoking is reduced while individuals feel better off.

Research on happiness contributes to this debate by directly analyzing the effect of tobacco taxes on people's subjective well-being. Two longitudinal analyses across US and Canadian states used data from the General Social survey to study the effect of changes in state tobacco taxes on the reported happiness of people who were predicted to engage in smoking at the prevailing tax rates (Gruber & Mullainathan, 2005). It was found that a cigarette tax of 50 cents (in real terms) significantly raised the likelihood of being happy among those who tend to be smokers. In fact, with this tax they would be just as likely to report being happy as those not predicted to be smokers (i.e., the proportion of smokers in the lowest happiness category would fall by 7.5 percentage points). This result favors models of time-inconsistent smoking behavior, in which people have problems with self-control. Moreover, the result shows that price increases can serve as a self-commitment device by forcing individuals to reduce smoking as this activity has become more expensive.

The misprediction of utility

Standard economics *assumes* people can successfully predict future utility—that is, how they will feel about future events. In contrast, in many careful experiments and surveys, psychologists have actually studied whether people are successful in forecasting utility (for reviews, (p. 440) see Hsee et al. 2012; Kahneman & Thaler, 2006; Loewenstein & Schkade, 1999; Wilson & Gilbert, 2003). While they find that people accurately predict whether an experience will primarily elicit good or bad feelings, people often hold incorrect intuitive theories about the determinants of happiness; that is, they overestimate the impact of specific life events on their experienced well-being with regard to intensity, as well as with regard to duration. For instance, many people predict that a win of their favored soccer team would leave them in a happy mood for days. In fact, every day events take over and determine people's mood such that the joy over the win is short term, if there is elation at all.

The standard economic model of consumer decisions is probably appropriate for most goods and activities and for most situations. It also applies when individuals make random prediction errors. There are, however, situations in

which people have to make trade-offs between different activities, goods, or options that differ systematically in the extent to which their future utility can be predicted. If this is the case, systematic economic consequences emerge (Frey & Stutzer, 2008). There are options, or attributes of options, that are more salient than others when making a decision, and are thus relatively overvalued. If people choose options according to this evaluation, their experienced utility is lower than what they expected and lower than what they could have experienced had they not mispredicted their utility. Moreover, they consume different goods with different attributes and pursue different activities than in a situation where no option in the choice set would have special salience.

There are four major sources for systematic over- and undervaluation of choice options that can be distinguished: (1) the underestimation of adaptation,⁷ (2) distorted memory of past experiences, (3) the rationalization of decisions, and (4) false intuitive theories about the sources of future utility (Frey & Stutzer, 2008).

Future research may further explore the tensions people face when they have to trade off material and non-material or social goods and activities. Misprediction of utility might be more likely across these two categories of options. When people face various possible alternatives, material factors get more attention and are overvalued due to the neglect of adaptation, rationalization and memory biases. This would imply consequences with regard to behavior (material goods are over-consumed) and with regard to individual well-being (people are less well off than they would be without mispredicting utility).

The Use of Happiness Research for Public Policy

From a constitutional point of view (Buchanan & Tullock, 1962; Mueller, 1996), there are two levels at which policy decisions are taken: (1) in the current politico-economic process within given rules; and (2) at the constitutional level, where the rules of the game as such (p. 441) are determined. We briefly inquire how the insights gained from happiness research affect public policy at the two levels.

Happiness research for the current politico-economic process

One of the major contributions of happiness research, directly relevant for public policy, refers to the new instruments that enable individuals' preferences and welfare to be captured. As a consequence, insights from happiness research increase political competition in the current politico-economic process. There is a demand for happiness research by politicians, public officials, and representatives of special interest groups as they hope to strengthen their position in the competition for votes or in bargaining for government policies. As we will explore in this section, a point of interest is the valuation of public goods and public bads. There are also hopes that a complementary indicator of aggregate happiness might guide policy making more towards citizens' preferences than indicators of aggregate national income alone. In the following, we discuss happiness research in these two areas.

Valuation of public goods

The provision of public goods (e.g., clean air, security) is a central function of government agencies. More and more often, government agencies are required to provide cost-benefit analyses to back their proposals for government programs. However, the benefits derived from public goods are inherently difficult to measure because they are not exchanged on markets. In reaction to the demand by public agencies and private actors, a wide variety

of methods related to stated and revealed preference have been developed for the valuation of public goods (see, e.g., Freeman, 2003).

Within happiness research, another promising method is emerging. It is called the Life Satisfaction Approach (LSA) (see Frey, Luechinger, & Stutzer, 2010). With reported subjective well-being as a proxy measure for individual welfare, public goods can be directly evaluated in utility terms. The marginal utility of public goods or the disutility of public bads is estimated by correlating the amount of public goods or public bads with individuals' reported subjective well-being. By measuring the marginal utility of a public good or the marginal disutility of a public bad, as well as the marginal utility of income, the tradeoff ratio between income and the public good can be calculated.

This approach avoids some of the major difficulties inherent in both the stated preference and the revealed preference methods. For instance, the contingent valuation method (Freeman, 2003)—asking people how much, in principle, they would be willing to pay for some non-market good—often faces the problem of the hypothetical nature of the questions asked and the unfamiliarity of the task. People may, for instance, be asked how much they would be willing to pay to preserve a particular kind of fish in the North Sea. Moreover, one cannot exclude the failure of respondents to consider the effect of their budget constraints and substitutes. Symbolic valuation in the form of attitude expression and superficial answers is likely to result (Kahneman & Knetsch, 1992). Similarly, the problem of strategic answers (in order to bias the result in the respondent's preferred direction) can be addressed only to a limited extent. The LSA is not affected by either of these problems. It does not rely on respondents' ability to consider all relevant consequences of a change in the provision of a public good. It suffices if respondents state their own life satisfaction with some degree of (p.442) precision. Moreover, there is no reason to expect strategic answering behavior. A more detailed comparison of the LSA with the standard non-market valuation techniques can be found in Kahneman and Sugden (2005) and Dolan and Metcalfe (2008).

The LSA has, for example, been used to value air pollution (Luechinger, 2009; Welsch, 2006), airport noise nuisance (van Praag & Baarsma, 2005), terrorism (Frey et al., 2009), droughts (Nick et al., 2009), and flood hazards (Luechinger & Raschky, 2009). Recent studies applying the LSA have already reached a high standard, and preconditions for its application are better understood and formulated. What has so far been an academically driven development of a new method may soon become an empirical tool that is in demand in the political process.

Aggregate happiness indicators as complements to gross national product

Happiness indicators are increasingly accepted as complements to the long-established measures of national income as a way to infer aggregate welfare within a nation, thus following the lead of the social indicators approach and of the capabilities approach (e.g., Sen, 1999). The Human Development Index, e.g., measures social welfare by aggregating per capita income, longevity, and school participation rates, attributing each one equal weight. The capabilities approach inquires to what extent the individuals have actual access to goods and services. The UK and Australia as well as some other countries are committed to producing national measures of well-being. Recently, a specific module was added to the European Social Survey generating comparative information on a wide range of aspects of individual well-being (Huppert et al., 2009). Aggregate happiness indicators have several interesting qualities in comparison to traditional measures of economic activity. First, measures of happiness include *non-material* aspects of human well-being such as the influence of social relations, autonomy, and self-determination. These are excluded, or most insufficiently included, in the traditional national accounts. Second, measures of happiness consider *outcome* aspects of components already included in gross national product (GNP) via input measures. This holds in particular with respect to the vast area of government activity (measured in GNP

by the costs of material and of labor). Third, measures of happiness look at *subjectively* evaluated outcomes in line with the basic methodological approach of economics. In contrast, the capabilities approach and the United Nations Human Development Index look at objectively observable functioning (Sen, 1999).

In sum, aggregate happiness indicators provide new and complementary information about preference satisfaction that could become a relevant input into political discourse. So far, robust effects of unemployment and inflation on the popularity and re-election support of governments have been documented (for a review, see Lewis-Beck & Paldam, 2000). This research is based on the idea that voters hold governments responsible for the state of the economy and thereby also fuel political competition providing incentives to governments for a sound economic policy. An aggregate happiness indicator might intensify this competition as politicians get incentives to justify their actions in terms of a broader and better indicator of individual welfare. However, not too much should be expected. Aggregate happiness indicators are relatively cheap to assemble. While this allows replicating surveys that seem rigged, it also allows parties with special interests to easily come up with yet another measure serving those interests but confusing voters. A group active in the construction (p. 443) industry may, for instance, propose a social welfare indicator which attributes great weight to the quality of housing. As a result, such an aggregate happiness index indicates a rise in social welfare when more houses are built even if other aspects of welfare are treated lightly.

Happiness research for the constitutional level of policy

Happiness research can also provide valuable insights on the constitutional level of public policy. However, this requires that research questions be chosen that relate institutions to reported subjective well-being in a comparative manner. This provides the public with access to information about the institutions that might best allow them to pursue their idea of the good life. Some insights have already been produced, which can be brought into the political discussion process. They include policy issues such as, for example, the role of direct democratic decision making in citizens' well-being (Frey & Stutzer, 2000), the effect of mandatory retirement and mandatory schooling on happiness (Charles, 2004; Oreopoulos, 2007), the consequences of social work norms and birth control rights on women's well-being (Lalive & Stutzer, 2010; Pezzini, 2005) or the relation between working time regulation and people's subjective well-being (Alesina, Glaeser, & Sacerdote, 2005). However, to our mind, happiness research has so far only skimmed the surface of what promises to become a challenging area of comparative institutional research.

Concluding Remarks

This chapter has presented only a selection of possible applications and recent advances in the economic study of individual happiness. Many more have been undertaken. No attempt has been made to be comprehensive. Rather, the intention is to convey to the reader that happiness data offers a useful proxy measure for individual welfare. It therewith points to new ways of tackling old questions, and opens the possibility of exploring issues that have previously been seen as difficult, or even impossible, to address empirically. The examples provided cover several fields of study, ranging from income aspirations and unemployment to limited willpower and utility misprediction, suggesting that the new approach may be useful for many different issues in economic research. Time will show whether the potential of economic research on subjective well-being is enough to make it part of a new core of economics.

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Notes:

(1) There are several surveys of the state of economic research on subjective well-being available in the form of journal articles (e.g., Di Tella & MacCulloch, 2006; Dolan et al., 2008; Frey & Stutzer, 2002b; Stutzer and Frey 2010), books (e.g., Frey, 2008; Frey & Stutzer, 2002a; Layard, 2005; van Praag & Ferrer-i-Carbonell, 2004) and readers (Bruni & Porta, 2007; Easterlin, 2002).

(2) Areas of non-market economics include, e.g., the economics of the arts, sports economics, the economics of terrorism, etc.

(3) There is, of course, the fundamental issue of whether happiness is the ultimate goal to be pursued. Other valid goals, for instance, may be loyalty, responsibility, self-esteem, freedom, or personal development.

(4) The empirical study of subjective well-being used to be the province of hedonic psychology (for reviews, see Diener, Suh, Lucas & Smith, 1999; Kahneman, Diener & Schwarz, 1999).

(5) Technically, subjective well-being is modeled in a microeconomic function $W_{it} = \alpha + \beta X_{it} + \varepsilon_{it}$. In this model, W_{it} is the true well-being of individual i at time t . $X = x_1, x_2, \dots, x_n$ are known variables, like sociodemographic and socioeconomic characteristics, or environmental, social, institutional, and economic conditions for individual i at time t . Multiple regression analyses are conducted to estimate the model parameters and, as the dependent variable is measured on a ranking scale, normally ordered logit or probit estimation techniques are applied.

(6) The income evaluation question in the German Socio-Economic Panel reads as follows: “Whether you feel an income is good or not so good depends on your personal life circumstances and expectations. In your case – the net household income _____ DM is just sufficient income.” The reported amount is taken as a proxy for people's income aspirations.

(7) The aspect of underestimated adaptation to new situations has been neatly introduced in theoretical models of intertemporal decision-making (Loewenstein et al. 2003). Based on their model of projection bias, various phenomena can be modeled, like the misguided purchase of durable goods or consumption profiles with too much consumption early on in life. Misprediction of utility thus provides an alternative to seemingly irrational saving behavior that is usually addressed in a framework of self-control problems.

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