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Economic Approaches to Understanding Change in Happiness

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ABSTRACT

Economic Approaches to Understanding Change in Happiness*

Are people condemned to an inherent level of experienced happiness? A review of the economic research on subjective well-being gives reason to the assessment that happiness can change. First, empirical findings clearly indicate that people are not indifferent to adverse living conditions when reporting their subjective well-being as observed for limited freedom of choice, low levels of democratization, unemployment, low income, etc. Second, considering people's adaptation to life events and (external) conditions reveals substantial heterogeneity in the speed as well as the degree of reversion. Together, the evidence suggests that reported subjective well-being is a valuable complementary source of information about human well-being and the phenomenon of adaptation. Many challenges, of course, remain. First, we are only at the beginning of understanding variation in the process of adaptation. The modeling of happiness over the life course promises a productive perspective. Second, adaptation might well pose a challenge to individual decision-making when people are not good in predicting it. Third, adaptation might have great consequences for public policy and the idea of social welfare maximization depending on how fast and slow adapting people are treated.

JEL Classification: D03, D60, I31

Keywords: adaptation, economics and happiness, life course perspective, subjective well-being

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I. Introduction

Is a woman's or a man's happiness her or his fate for life depending on how nature played the wheel of fortune? Is happiness a trait accompanied by some swings of moods and intermezzos of adaptation to life events but generally devoid of change? Economic research on subjective well-being (SWB) suggests a no to the two rhetorical questions motivated by hedonic relativism or the set-point theory.[1] This chapter reviews the arguments and the evidence primarily from work by economists that give reason to the assessment that happiness can change.

First of all, there is a tacit understanding in economic research that happiness can change. At the back of many economists' mind there is the concept of utility as preference satisfaction. Utility and so also happiness is attained through consumption whereby a comprehensive concept of consumption is applied that includes the consumption of all sorts of goods and services as well as the experience of activities. The economic approach is flexible enough to include procedures as a source of utility when people live and act under a set of institutional conditions as well as many more aspects of the state of the world or people's mind.[2]

Whether the pleasures and pains from consumption and experience are enduring or only temporary is not conceptually crucial for the economic approach to human well-being. The economic view is thus prima facie compatible with adaptation as a phenomenon of reduced well-being gains from some option after some time. It is even compatible with complete adaptation. Temporary changes of happiness are still changes. Suffering low happiness – even for a short time – means lower individual well-being. One might invoke here, "in the long run we are all dead".

However, whether adaptation can actually be fully integrated in the traditional economic approach is questionable and it would probably not be productive either. Adaptation is often understood as a process or mechanism that reduces the hedonic effects of a constant or repeated stimulus. People get used to a new situation or repeated stimuli, a process that can be recognized as preference change and thus a deviation from the neoclassical economic model of man. Moreover, people might not fully and correctly predict these processes and in fact underestimate their capacity to adapt.[3] This aspect of utility misprediction has far-reaching consequences beyond the random mistakes in expected utility

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[1] The expression 'hedonic relativism' was part of the title of the influential book by Brickman and Campbell (1971) proposing the idea of a hedonic (or happiness) set point. Economic research on SWB is surveyed in a number of books (e.g., Bruni & Porta, 2005; Frey & Stutzer, 2002a; Frey, 2008; Layard, 2005; van Praag & Ferrer-i-Carbonell, 2004 and – in prose – Powdthavee 2010a) and review articles (Di Tella & MacCulloch, 2006; Dolan et al., 2008; Frey & Stutzer, 2002b; Stutzer & Frey 2010).

[2] The differentiation between outcome and process utility is introduced in Frey et al. (2004) with the aim to provide a productive concept to think about the sources of individual well-being.

[3] A related argument can be phrased that people belief in the possibility to change their happiness and act accordingly (but not always in their best interest).

theory/the von Neumann-Morgenstern model of expected utility maximization.[4] In this chapter, adaptation is considered as a valuable psychological concept that enriches the economic approach when applied to the study of individual well-being.

As explained, many studies on people's SWB in economics take the possibility of change in happiness for granted. This change in well-being might be a constant shift due to alterations in the environmental conditions or a temporary flow of pleasures and pains. The strong belief in the changeability of happiness motivates the study of its determinants in order to find the drivers of high human well-being (and implicitly this research also tests the underlying hypothesis of change in happiness). The research is supposed to finally lead to policy recommendations regarding environmental conditions that are conducive to SWB. Extending this line of reasoning, the Life Satisfaction Approach has been developed. It not only tries to identify specific determinants of individual well-being but aims to value them in monetary terms. By measuring the marginal utility of say a public good as well as the marginal utility of income, the trade-off ratio between income and the public good can be calculated (see more below). This allows taking public good aspects of government projects more easily into account in cost-benefit analyses.

So while economists generally have no qualms about the changeability of individual happiness for the better, there is a fundamental doubt on whether changes in people's well-being can be captured based on the new approach of subjectively reported assessments of one's affective well-being or satisfaction with life. Adaptation is related to false consciousness lurking in the back as a criticism of the whole enterprise of economic SWB research. The criticism points to the potential systematic divergence between true preference (satisfaction) and the satisfaction observed and measured in surveys. People surrender under the impression of an unchangeable "adverse" environment and "falsely" report being happy. This criticism entered as an important argument against utilitarianism (and later against the economics of happiness) the capabilities approach of Sen (1999).[5] In the work on affective well-being by Kahneman et al. (2004), the idea of adaptation as distorting the metric of utility (in particular of the disadvantaged) is taken up in the aspiration treadmill hypothesis. It states that people adapt their judgment about life relative to their goals in response to changes in circumstances (while in fact still experiencing the same affective well-being). In contrast, the hypothesis of a hedonic treadmill states that people adjust both in response to changes in circumstances i) their 'objective' happiness and ii) their assessment of how the new circumstances measure up to their life goals.

The fundamental issue that people are not well equipped to form absolute judgments is a challenge to all research that relies on people's assessment of the their own situation as well as needs be it in empirical happiness or capabilities research. When we think that empirical research on SWB helps as a complementary approach to understand change in happiness and the sources that bring it about, we are probably well advised to approach adaptation head-on both as a process of true hedonic habituation, redeployment of attention or practical

[4] The misprediction of utility and its economic consequences are discussed in (Loewenstein et al., 2003; Kahneman & Thaler, 2006; Hsee et al., 2012 and Frey & Stutzer, 2014).

[5] An analysis of the differences, similarities and synergies between the SWB approach and the capabilities approach in economics is provided by Comim (2005).

adjustment as well as a process of changing reference standards in people's reporting of their well-being. We try to follow this route in this chapter.

We start in Section II with how economic research on SWB has taken up the idea of hedonic adaptation from psychology. This approach naturally introduces and emphasizes events in people's life and thus a time perspective. How do people react to shocks in their life circumstances? Under what conditions is there more or less adaptation to the new situation? What makes people more or less resilient? Section III takes these issues up and presents a conceptual view of the life course perspective currently developed in economics. In Section IV some of the existing work on the conditions that are supposed to change happiness are discussed in the light of research on adaptation and the life course perspective. In particular, we refer to economic conditions, social and political factors and public goods and bads that are assessed based on the life satisfaction approach. Section V offers some concluding remarks.

II. Hedonic adaptation

a) Empirical approaches in economics

Influenced by the early claims that people have SWB set points (Brickman & Campbell, 1971; Headey & Wearing, 1989), many writings in the psychology literature have worked on the assumption that humans quickly revert back to a relatively stable level of SWB despite major positive or negative shocks in terms of life events. By contrast, traditional economists tend to base their assumption about people's utility function on the idea that there is generically no habituation or adaptation to either good or bad life events. This is the idea that permanent life changes cause permanent changes in SWB.

One reason for such an apparent divide between two social science disciplines is that, until recently, much of the empirical analysis used to support the set-point theory of SWB in the psychology literature had been carried out using cross-section – often tiny – data sets. An early (and highly influential) example of such work is the study of happiness of paraplegics and lottery winners by Brickman et al. (1978). In their study, Brickman et al. report data in which lottery winners were only slightly happier than people in the control group, while the differences in SWB levels between the controls and the paraplegics are not as large as one would expect, thus leading them to conclude that adaptation to both positive and negative life events are generally complete over time.[6] And although Brickman et al.'s findings have found considerable empirical supports from subsequent cross-sectional studies, in which external conditions have been demonstrated to account for little variance in reports of SWB (Lykken & Tellegen, 1996), it remains inconclusive, at least to economists and some psychologists working in this area, that *all* external conditions do not have a long-lasting impact on people's SWB.

Part of the skepticism revolving around the validity of previous empirical research on adaptation can be attributed to the common perception amongst economists that causal

[6] The sample size in Brickman et al (1978) was tiny: there were only 22 controls, 22 lottery winners and 29 paralyzed accident victims.

implications of cross-sectional estimates are hard to interpret. As cross-sectional studies do not allow for a systematic, within-person comparison between respondents' pre- and post-event levels of SWB to be made, cross-section patterns can only be suggestive. One could imagine, for example, that individuals with a spinal-cord injury in Brickman et al.'s study might have been young and athletics before the injury, and, thus, they might have had higher than average SWB. If so, the less than anticipated differences in SWB levels between them and the control groups, which has been referred to by many as the evidence of hedonic adaptation amongst the paraplegics, might have confounded the fact that spinal-cord injury patients suffered a very large drop in SWB from pre-injury levels, something which they had never adapted to even with time. Hence, in order to make empirical advancement in this area, a test of hedonic adaptation has to have a number of special features:

i. the data must be longitudinal in nature, and individuals in the sample must be followed over a reasonably long period, so that information on them is available before and after a good or a bad life event;
ii. there needs to be a control group who does not experience the event;
iii. the sample should be representative of the population;
iv. a set of other variables has to be available in the data set, so that confounding influences can be differenced out.

One of the first studies that made explicit use of a large-scaled longitudinal data set to estimate the extent of hedonic adaptation to a life event is a study on adaptation to marriage by Lucas, Clark, Georgellis and Diener (2003). Using a hierarchical linear model, which allows for the mean levels of SWB – which is life satisfaction in their case – to be estimated for different assessment phases (e.g. baseline phase, reaction phase, and adaptation phase), Lucas et al. demonstrate that, on average, people revert back within a few years to their pre-marriage level of SWB. This is interpreted as quick and complete adaption to marriage.[7] However, there appears to be substantial individual differences in the rate of adaptation, and the extent of adaptation seems to depend critically on the degree to which individuals reacted to the event – people who were strongly affected by marriage tend to adapt more slowly than those who were less affected. The same researchers applied the same empirical strategy to show that there is only partial adaptation to divorce (Lucas, 2005) and unemployment (Lucas et al., 2004), and essentially no adaptation to severe disability (Lucas, 2007).

The hierarchical linear regression method, which is a special case of random effects models, assumes zero correlations between the individual fixed effects and the life event of interest. However, according to Headey (2007), it is possible that there may be some unobserved fixed personal characteristics that simultaneously determine both SWB and selection into experiencing the life event in question, which, if left unaccounted for, could

[7] Some psychologists put forward another concept that may explain this pattern, i.e., an event explanation that marital transitions cause short-term changes in SWB (e.g., Johnson & Wu, 2002). There is also a possible selection explanation for the pattern. "Most people only get married if they expect to experience a rewarding relationship in the future. They predict their future well-being as spouses based on their current well-being. Therefore, the last year before marriage becomes the last year, because the couples experience a particularly happy time in their relationship" (Stutzer & Frey, 2006, p. 337).

potentially bias the estimated adaptation effect.[8] One could imagine, for example, that people who were born with predispositions that make them happy might also be risk loving and engage more in risky activities, and thus, are also more likely than others to get themselves seriously injured. If so, then failure to allow for such heterogeneity will bias the true impact of disability on SWB. As a result, studies in the economic literature tend to prefer fixed effects models, which allow the individual fixed effects to be differenced out from biasing the estimates altogether, to hierarchical linear models when modeling adaptation.

By explicitly controlling for individual fixed effects, Oswald and Powdthavee (2008) report evidence in which the negative effect of being severely disabled partially dissipates after a few years of disability. Using the same longitudinal data sets as Lucas (2007), which are the British Household Panel Survey (BHPS) and the German Socio-Economic Panel (SOEP), they estimate the rate of hedonic adaptation to severe disability to be around 30%, whilst essentially no adaptation to severe disability was found in the estimation of random effects equations. Hence, Oswald and Powdthavee's (2008) results seem to suggest that it is important to take into account unobserved heterogeneity bias in the estimation of adaptation models.

b) Examples for evidence from longitudinal studies

Controlling for individual fixed effects, a number of other studies in the economic literature have also documented evidence of significant adaptation effects in overall life satisfaction to some but not all external conditions. For instance, in a study of leads and lags in life satisfaction, Clark et al. (2008a) report evidence based on twenty waves of the SOEP in which the rates and the degrees of adaptation appear to vary significantly across different life events and genders. On the one hand, they find complete adaptation to divorce, widowhood, birth of first child, and layoff for both men and women. On the other hand, they only find partial adaptation to unemployment for women, and essentially zero adaptation to unemployment for men. Frijters et al. (2011b) report a similar set of findings in their study of anticipation and adaptation effects to different life events in the Household, Income and Labour Dynamics in Australia (HILDA) panel data set. More specifically, they find that people adapt much more slowly to negative life events (e.g. deterioration in financial situation) than positive life events (e.g. marriage). Apart from the death of a close relative and changes in housing, individuals were found to have fully adapted to all life events after two years. In another study based on the SOEP panel data from 1984 to 2005, Frey and Stutzer (2014) explore the adaptation to spending more time commuting to work. They first estimate a panel fixed effect model that integrates current as well as lagged commuting time for one to three years in the past. Based on the estimations, the pattern of adaptation is simulated. People seem not to adapt but to become even increasingly sensitive toward the burden of commuting (the latter effect not being statistically significant, however).

[8] For example, based on a panel data set for Germany over 17 years, Stutzer & Frey (2006) document substantial differences in reported life satisfaction between singles of a given age who marry later in life in comparison with the well-being of those who stay single, controlling for numerous observable characteristics.

What these longitudinal studies seem to be implying are that (i) it would be impossible to use cross-section data to establish the long-run impact of life events because such data cannot identify adaptation effects, and (ii) there is a significant heterogeneity in the rates and the degrees of adaptation across different life events and sub-groups of population.

c) Theoretical explanations

There is currently little theoretical work in economics to provide a rational for (differential) adaptation. Previous efforts to delineate economic theories of hedonic adaptation are by Rayo and Becker (2007) and Graham and Oswald (2010). Rayo and Becker (2007) link hedonic adaptation to the ability of the human eye to quickly adjust to changes in the amount of light in order to optimally perceive contrast. According to their model, nature might have optimally designed human beings' emotional responses to behave in the same way. People evaluate alternatives based on a happiness function with a time-varying reference point. This reference point provides optimal incentives for fitness (i.e., the happiness function is evolutionary efficient). Graham and Oswald (2010) use the concept of hedonic capital to explain how hedonic adaptation occurs. Adaptation emerges from a model of evolution in which nature "rationally" uses happiness as a motivating device to make agents live their lives efficiently. Happiness in this approach can be thought of as an accumulated stock of psychological resource on which agents can draw upon to buffer well-being in times of a life shock. In other words, individuals with high levels of hedonic capital will exhibit high psychological resilience, i.e., low volatility of well-being and the ability to adapt to negative shocks faster than people with lower levels of hedonic capital. While useful as a benchmark, these economic models fail at explaining the longitudinal patterns in which adaptation to some life events is quicker and more complete than others.

According to psychologists Schkade and Kahneman (1998) and Wilson and Gilbert (2008), hedonic adaptation cannot be reduced to the type of adaptation found in the sensory systems. Rather, it is a process that occurs due to a reduction of attention from the new circumstance. In the paraplegic case, adaptation occurs when patients' attention is withdrawn from their conditions: spinal-cord injury patients are likely to think about their new circumstances many times each day at the beginning, but the allocation of attention eventually changes, so that they spend most of their time paying attention to daily experiences such as having breakfast or watching TV (Kahneman et al., 2006). The extent and speed of withdrawal of attention varies, however, from experience to experience (Wilson & Gilbert, 2008; Dolan & Kahneman, 2008). In the AREA model of Wilson and Gilbert (2008), the process of affective adaption is determined by people's attempt to understand events that attract their attention. Thereby, people attend and emotionally react to unexplained events that are relevant for their self. If they are successful and understand the events, they give them less attention and the affective reactions to them get weaker. Key variables that impede explanation are an event's novelty, unexpectedness, variability, uncertainty and explanatory incoherence. For example, one reason why people adapt to a rise in income much faster than they do with the onset of a severe disability is likely because one's paycheck is largely in the background most of the time, whereas being seriously disabled is full-time. We do not spend most of our waking moments thinking about how much money we earn. However, we may

still be reminded about our disability from time to time if it incapacitates us from doing day-to-day activities such as climbing stairs or getting dressed by ourselves.

What these so-called "attention" theories indicate is that the rates and the degrees of adaptation to a life event depend largely on what people are focusing on during the course of their life. This leads to the idea that a change in the overall SWB is more likely to be permanent if it is caused by a life event that permanently alters the way we evaluate our overall SWB whenever we are prompted to think about it. For example, Powdthavee (2009) uses the BHPS to show that people do not fully adapt to severe disability because severe disability permanently lowers respondents' health satisfaction and income satisfaction. Similarly, people do not fully adapt to unemployment because unemployment permanently lowers respondents' income satisfaction and satisfaction with social life (Powdthavee, 2012a).

In recent theoretical and empirical considerations, adaption is related to people's personality. The focus is thus on identifying groups of individuals who are better (or worse) at adapting to negative life shocks. Using the SOEP, Boyce and Wood (2011) report evidence to what extent the 'Big Five' personality traits prior to the onset of disability influence how well an individual psychologically adjusts after a disability has occurred. More specifically, they document evidence that more agreeable individuals adapt significantly more quickly and to a larger extent to disability than their less agreeable counterpart. A recent paper by Powdthavee (2012b) demonstrates using the BHPS that the negative psychological effect of unemployment is significantly larger for workers who had previously reported higher levels of fear of being bullied at school when they were between 11 and 15 years old, and that essentially no adaptation to unemployment is found for these individuals over time. Despite the emerging evidence on adaptation in longitudinal data, the findings on systematic heterogeneity are still scarce and imperfectly understood.

III. A Life Course Perspective on SWB

a) A conceptual framework

One implication from the recent findings in the area of hedonic adaptation is that the past (including a genetic component) may be an important predictor of how well people habituate and adapt to life shocks in adulthood. More generally, these findings highlight is that early life characteristics and circumstances may potentially have significant power in predicting adult SWB in general. This idea is underpinned by substantial findings in the multi-disciplinary literature that childhood and parental characteristics strongly predict later life outcomes, including education, employment, income, crime, behaviors and lifestyles (see, e.g., Case et al., 2005; Blanden et al., 2007; Mensah & Hobcraft, 2008; Conti & Heckman, 2010; Frijters et al., 2010; Goodman et al., 2011; Heady et al., 2014).

The conceptual framework of well-being over the life course is embedded in the household production model developed by Becker (1981) and (Becker & Tomes (1986). The model essentially argues that children's cognitive and non-cognitive abilities are more malleable early on in the life cycle. As children become older, there will be less about them that can be changed through parental and school inputs. This implies that there is less scope for policy interventions to improve cognitive and non-cognitive outcomes later on in a child's

life. To the extent that early characteristics of a child - e.g. personality traits, values, cognitive skills – matter for him or her to make successful life choices later, the model also predicts that these early childhood characteristics matter for later life satisfaction.

b) First evidence

Focusing on well-being consequences, recent research in economics by Frijters et al. (2011a) looks at the long-term relationship between childhood characteristics and adult life satisfaction. In their study, they utilize long-run cohort data sets of people in Britain from the National Child Development Study (NCDS), which consists of individuals born in a particular week in 1958. They investigate whether childhood and parental characteristics at ages 0, 7, 11, and 16 strongly predict adult life satisfaction (or the average life satisfactions observed over the ages of 33, 42, 46, and 50).

It is found that characteristics of the child and family at birth – e.g., birth weight, number of siblings, maternal and paternal education – explain very little variation (approximately 1.2% of variance) in the average adult life satisfaction. Including a comprehensive set of child and parental characteristics at ages 7, 11, and 16 improve the predictive power to only 2.8%, 4.3%, and 6.8%, respectively. Significantly more variance in the average adult life satisfaction can be explained by including contemporaneous adulthood variables, including health and socio-economic status, in the life satisfaction equation. For example, adding variables such as income, employment status, and health at age 50 increase the model's predictive power to 15.6%. Frijters et al. conclude based on their results that average adult life satisfaction is not strongly predictable from a wide range of early childhood characteristics. They also draw the implication that children from a disadvantaged background are equally likely to lead a satisfied life as adults as children from a relatively less impoverished background.

Layard et al. (2013), on the other hand, argue that the past may matter a lot more to adult life satisfaction than what had initially been suggested by Frijters et al. Using data from the 1970 British Cohort Study (BCS70), Layard et al. estimate a sequential model in which early childhood and family characteristics are used in the first step to predict different indicators of having a successful life at age 34, including emotional health, income, employment, education qualifications, good conduct, good health, and having a family. The predicted success variables are then used in the second step to predict adult average life satisfaction. What Layard et al. had been able to show is that there is a strong link between early childhood characteristics and adult life satisfaction, although the association is mostly indirect and mediated through different indicators of having a successful life. In other words, Layard et al.'s results suggest that early life characteristics matter significantly in determining later outcomes, such as income and employment. It is these outcomes measured contemporaneously with life satisfaction that determine how satisfied we are with our lives as adults.[9]

[9] Note that the conclusions made by Layard et al. (2013) are similar to the ones made by Heady et al. (2010) in which life choices have been shown to have a significant impact on a permanent measure of life satisfaction.

Of course, many more relationships can and should be modeled theoretically and explored empirically to understand individual time patterns of SWB. A particular challenge will be the systematic integration of external conditions on the life course of happiness.

IV. (External) Conditions Affecting Subjective Well-Being

People's SWB is better understood if a time dimension is taken into account as dynamics of many sorts play an important role. However, whether specific processes are modeled under a life course perspective or when considering adaptation, external conditions ultimately determine the course of individual well-being. The focus on external (living) conditions fits economists' approach to understanding change in happiness. It extends and complements economic research on the welfare consequences of societal and environmental conditions, economic policies and alternative sets of institutions.

a) The empirical challenge of causal relationships

Research in economics on the determinants of SWB is motivated by the ambition to understand the (external) drivers of individual well-being in order to improve the human lot. In essence, causal relationships and pathways have to be identified to pursue this route. Thus, all the identification issues emerge that are well known in economic evaluation research. While experiments are attractive to approach identification issues, they are still rare with respect to the conditions of SWB.[10] Accordingly, researchers have to be creative in deriving insights from less than optimal data. In this respect, the study of individual panel data derived from repeated representative surveys of the same persons turned out to be productive. It allows for the control of unobserved individual-specific characteristics that might well be correlated with individual reporting behavior, as well as with the experience of some condition such as unemployment, for example. Similarly, the study of repeated cross-sections at the country level allows for control over factors that generate unobserved heterogeneity between countries. As countries differ in many respects, even with the inclusion of numerous control variables, partial correlations from simple cross-section analyses are at risk of an omitted variable bias. Moreover, as almost any factor can be imagined to have a direct influence on a person's well-being, instrumental variable approaches are oftentimes difficult to be applied with convincing precisions.

Despite these inherent difficulties in the study of the determinants of happiness, many valuable insights have been provided. Moreover, economists have started to explore the effect of positive and negative affect as well as life satisfaction on behavior (see, e.g., Goudie et al., 2014). The better the mutual relationship is understood, the firmer conclusions about the sources of individual well-being are possible. In the following some conditions are briefly discussed emphasizing links to adaption and the life course perspective.

[10] For an application in development economics, see Cattaneo et al. (2009).

b) Economic condition I: Income

Within the many factors that potentially affect human well-being, income is by far the most prominent in the economics of happiness. This might not come as a surprise as income or a person's material living standard, normally captured by GDP or GNP, is the main empirical indicator of individual welfare in received economics. To put into doubt that income and happiness are close correlates, constitutes an important challenge to traditional economics.

Many empirical tests reveal a significant positive correlation between income and SWB. This holds for people living in households with a high income and/or earning a high labor income but also in general for people living in a rich rather than in a poor country. The controversy emerges, when it comes to the relationship between income growth and the development of SWB over time. Are the empirical observations consistent with the cross-section correlation between income per capita and average SWB across countries? Does income growth produce higher average SWB? Proponents of the Easterlin Paradox claim that it does not (e.g., Easterlin, 2013). In contrast, critics of the relativist position see the findings compatible with absolute income contributing to higher SWB (e.g., Stevenson & Wolfers, 2013; Veenhoven &Vergunst, 2013). The issue is still debated because of limited long-term data for a large sample of countries. Depending on the set of countries, statistical tests are not powerful enough to reject the hypotheses that there is no correlation between income growth and happiness growth as well as that the correlation between income growth and happiness growth is statistically significantly smaller than the one implied by the cross-section correlation between income per capita and average SWB in a country. Sample selection is important in such tests. Is evidence for the US – where there seems to be no long-term correlation between income growth and happiness - sufficient to support the claim? Do we interpret the income development in the transition economies as long-term growth or as a recovery from the historic break-up of communism and the command economy?

The latter question hints at an even bigger challenge in the interpretation of the happiness development in countries over time. What are the underlying processes and causal relationships that lead to the observed correlations between income and happiness? To what extent does a happy population indicate conditions that are conducive to a prosperous economy? There might well be factors like favorable political institutions that promote happiness as well as economic success. Happiness in nations might then well capture the extent to which the institutional structure in a society allows people to benefit from the organizational and technological possibility frontier. There are, of course, more traditional arguments questioning GDP as an indicator of people's welfare. For example, not all the sources for increases in statistically measured national income are considered welfare enhancing. Public expenditures for reconstruction after a catastrophe are a prominent one. A possible lesson from the debate is that there is more than absolute income. This aspect has been fruitfully explored in the economic analysis of income and happiness (see Clark et al., 2008b for a review). In particular, the notion of relative income has been filled with empirical content. For example, the impact of the relative income position within one's neighborhood is explored in Luttmer (2005) showing a negative effect of local average earnings on self-reported happiness ceteris paribus, i.e. controlling for an individual's own income. This empirical finding is consistent with the idea that people form aspirations about their income based on social comparisons and due to processes of adaptation to previous income.

Adaptation to previous income is found to be substantial in various studies. For instance, based on the SOEP panel data for Germany between 1984 and 2000, Di Tella et al. (2010) estimate that 65 percent of an initial positive effect of higher income on reported satisfaction with life is dissipated over the following four years. Income aspirations have been empirically approximated based on people's reports about what they consider a sufficient income for their household. Reported SWB is found to strongly depend on the discrepancy between household income and the reported aspirations (e.g., Stutzer, 2004, Knight & Gunatilaka, 2012). Income aspirations thus seem to be an important mediator variable when we want to understand how income and SWB are related. Income aspirations might also be interesting from a life course perspective as people grow up in households with vastly different consumption standards. Moreover, income aspirations seem to follow a strong, inverted-u age pattern (Stutzer, 2004) echoing the u-shaped statistical relationship between age and SWB.

Many questions have remained open so far in the understanding of income as a condition for high SWB. What are the drivers of income aspirations more generally and - when they are formed by social comparisons - who compares to whom? Interesting first insights are provided based on recent survey evidence (Clark & Senik, 2010). For example, high-income people engage less in income comparisons than low-income people and colleagues are the most prominent reference group. Another issue concerns the marginal utility of income. Previous research provides evidence that the elasticity with respect to income is smaller than minus one (Layard et al., 2008). However, partial correlations for the effect of income on SWB are often difficult to interpret. This not only holds in cross-section analyses involving issues of reversed causality and omitted variable bias but also in panel data studies. A specific concern refers to the limited available information about the reasons for the variation in people's or households' income. If people earn more because they put in more effort or time or accept a more stressful job, these income gains are fundamentally different from some vague idea of a windfall income gain. In recent work, new sources for income variation have been exploited to get a better idea of the marginal utility of income, like, for example, inter-industry wage differentials (Pischke, 2011) and whether a pay slip was shown to the interviewer in order to get a more accurate reading of total income received by the individual (Powdthavee, 2010b).

c) Economic condition II: (Un)employment

There is a long tradition of research on the conditions at the workplace that contribute to a satisfying job: People are either directly asked about the importance of various job attributes, or the determinants of reported job satisfaction are explored in multiple regression analyses. This research is meaningfully complemented by recent work on general well-being or life satisfaction in economics. A productive comparison is the one between employees and self-employed people revealing that autonomy on the job is a valuable source of utility for which self-employed people are willing to accept a lower expected salary (Benz & Frey, 2008). Probably even more is revealed about employment as a source of individual well-being if the phenomenon of unemployment is taken into account.

In many empirical analyses, being unemployed is related to systematically lower scores of evaluative SWB measures than being employed. However, it is also observed that

moment-to-moment net affect need not be lower for unemployed people even if they report significantly lower satisfaction with their life (Knabe et al., 2010). This holds even if the loss in income is statistically taken into account. It reflects that individual unemployment involves psychic costs due to a loss of social status, self-esteem, personal relationships and a disciplining time structure bound to a workplace.

In recent work, this general insight has been refined. For example, company closures are studied as a reason of unemployment revealing large non-pecuniary costs of job loss (Kassenboehmer & Haisken-DeNew, 2009). In other work, the psychic costs of unemployment are related to social work norms (Clark, 2003; Stutzer & Lalive, 2004). Moreover, long-term studies reveal limited adaptation to unemployment (see Section II for references). In a recent analysis, this result is confirmed for panel data from the BHPS on life satisfaction as well as mental stress based on the GHQ12 (Clark & Georgellis, 2013). It has turned out difficult to identify conditions that make the lot of unemployed people less burdensome. Studying the interaction with social capital (visiting friends and relatives, engaging in voluntary work, etc.), Winkelmann (2009) does not find that it moderates the effect of unemployment, or – in other words – works as a buffer. Informative from a life course perspective are the negative effects of individual unemployment on SWB even after re-employment, so called scarring effects (Clark et al., 2001; Knabe & Rätzel, 2011).

High unemployment rates also have negative effects on people who are not personally affected by unemployment. Based on Eurobarometer data from 12 European countries between 1975 and 1992, Di Tella et al. (2003) show that aggregate unemployment decreases average reported life satisfaction beyond changes in aggregate income. The potential reasons include direct effects of unemployment on crime and public finances, but also aspects specific to the workplace like changes in working hours and salaries. Moreover, 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 related literature documents the importance of self-reported job security for individuals' well-being (see, e.g., Green, 2011).

In an empirical study, Luechinger et al. (2010) isolate the latter source of reduced individual welfare: 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 are 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 enjoy extended protection from dismissal and work in organizations that very rarely go bankrupt. In their study for Germany based on the SOEP, they find that people working in the private sector are affected more strongly by general economic shocks than are those working in the public sector. This suggests that a substantial fraction of the psychic costs brought about by general unemployment is due to increased economic insecurity.

d) Social factors

In order to put the economic conditions affecting happiness into perspective, the study of alternative sources of well-being is revealing. It turns out that happiness depends much on

personal relationships, i.e. the quantity and quality of social relations that people have with family, friends, work mates and fellow community members. If these relationships, often referred to as social capital, are good, people experience high SWB (for a review, see Helliwell & Putnam, 2004; Powdthavee, 2008).

Importantly, the benefits of social capital are not confined to outcomes like informal mutual assistance or the access to valuable information due to weak ties. There is rather a strong non-instrumental component of interpersonal relationships that contributes to individual well-being. These so called relational goods involve socializing as an important aspect. They also have a public good component as one persons' engagement in social relations makes them more rewarding for others (Becchetti et al., 2008). In addition to socializing, there is also empirical evidence that performing volunteer work is rewarding in itself (e.g., Meier & Stutzer, 2008).

There are also strong relational aspects to being involved in religious activities. Indeed many studies document that religious people, on average, report higher SWB (see Steiner et al., 2010 for a review). Thereby two sources are distinguished: internal and external religiosity. Internal religiosity refers to faith, i.e. a belief in God and his will. External religiosity involves observable religious (community) activities like going to church. Regarding internal religiosity, positive correlations with various measures of SWB have been documented (Pollner, 1989). The same holds for the frequency of church attendance (or external religiosity) being positively correlated with reported happiness (e.g., Greene & Yoon, 2004). An interesting link to research on adaptation emerges, as people who report a religious denomination seem to suffer less from adverse life events than people who report not to belong to a religion. This is found in a cross-section analysis based on the European Social Survey in 2002/03 (Clark & Lelkes, 2005). The finding holds in particular for individual unemployment as well as for divorce in the case of Protestants but not in the case of Catholics. Surprisingly, there are no such buffering effects over and above someone's denomination, i.e. with religious involvement either in terms of church going or in terms of praying. Based on the Consumer Expenditure Survey and two waves from the National Survey of Families and Households in the US from 1987/88 and 1992/94, Dehejia et al. (2007) study the buffering effect of religious involvement in case of income shocks. They find that for people who often attend religious services consumption expenditures (on non-durables) covary less with changes in household income than for people who report low religious involvement. The implied degree of insurance from religious attendance is even higher for reported happiness. For those who attend service once a week rather than once a year, two thirds of the reduction in happiness from a negative income shock is buffered. Thereby the effects are larger for African Americans than for whites. If the large buffering effects were to be explained by transfers within the community, they would have to be large. The results rather suggest that a strong faith and religious involvement are a source of psychological resilience for individuals to cope with stress and adversity.

e) Political factors

Living conditions are strongly affected by decisions in the political sphere. Whether the design of policies and institutions makes a difference in people's SWB is thus of outmost

relevance when we look for conditions that are conducive to human well-being. As a byproduct we also learn about the possibility to change the SWB in societies counter to the prejudices of hedonic relativism. Two routes for analysis might be meaningfully distinguished. The first route explores how basic institutions of democratic governance vis-à-vis autocratic governance or various types of democratic institutions affect SWB. The second route more specifically studies the consequences of single policies on various groups in society. Along both lines, research has only just revealed its potential and waits to be expanded.

Regarding the role of basic political institutions of democracy and federalism, Frey and Stutzer (2000) explore the relationship between direct democracy and local autonomy and people's reported life satisfaction in Switzerland. They find that easier access to direct participation instruments and more autonomy of municipalities vis-à-vis the upper level government are correlated with higher SWB. In a large study based on five waves of the World Values Survey and the European Values Survey between 1981 and 2007, Inglehart et al. (2008) analyze whether the process of democratization observed in many countries led to an increase in SWB. They find that democratization is an important factor over and above economic development and social liberalization. Thereby all the three main sources seem to work via an increased sense of freedom. This finding on sense of freedom as a mediating variable echoes the analysis and interpretation of Frey and Stutzer (2000) that democracy contributes to people's well-being by generating procedural utility, i.e. well-being people gain from living and acting under institutionalized processes as they contribute to a positive sense of self, addressing innate needs of autonomy, competence, and relatedness. The reference to procedural aspects and the positive sense of self might also explain why the well-being differences turn out sustainable. There is relatively less adaptation to these stimuli than to stimuli that provide less of a feedback of how people see themselves like with material living conditions per se.

Policy analysis is an important part of applied research in economics. Measures of SWB offer a new dependent variable to generate complementary evidence on the consequences of policy measures. This approach is particularly attractive for policies that have rather unclear net welfare effects on various groups of the population or are per se difficult to evaluate based on observed behavior as a welfare indicator. A question referring to the first case is, for example, how women's rights affect women's well-being. Focusing on birth control rights, Pezzini (2005) studies the relationship between women's rights and women's reported satisfaction with life in twelve European countries. While the extension of abortion rights and access to the pill may reduce women's bargaining power in the marriage market, evidence indicates that they also lead women to invest more in education and skills valued on the labor market. Moreover, these rights are statistically related to higher life satisfaction of women in childbearing age. Regarding the second case, an area where behavioral reactions are difficult to interpret in terms of welfare consequences is tobacco control policies. Not only many smokers would negate that less smoking due to smoking bans and higher cigarette taxes is per se a welfare improvement. It is rather necessary to explore the net effect of consequences of these policy measures on people's consumption utility as well as possible negative externalities and internalities whereby the latter might emerge due to people's limited will power. In a longitudinal analysis based on repeated cross-sections from

the Eurobarometer, Odermatt and Stutzer (2013) study how the introduction of smoking bans across European Union member countries as well as cigarette prices are related to reported life satisfaction. While they find a generally negative effect of higher prices on smokers' SWB (and no effect on likely non-smokers), smokers' who would like to quit benefit from the introduction of smoking bans and report higher life satisfaction in turn. This finding illustrates the potential of the approach to study the conditions of low and high SWB for specific groups in the population.

There are, of course, many more economic, social and political factors that affect individuals' well-being and that are of interest to economists. This not only holds for economic variables like inflation (see, e.g., Wolfers, 2003) or income inequality (see, e.g., Alesina et al., 2004) but also for socio-demographic characteristics that are affected by public policy such as, for example, the level of education (see, e.g., Oreopoulos & Salvanes, 2011). Moreover, environmental economists hint to evidence on, for example, the effect of air pollution on people's SWB. Air pollution as a policy outcome cannot only be assessed regarding its relevance for people's SWB, but based on the Life Satisfaction Approach also regarding its valuation in monetary terms.

f) Public goods and public bads

The study of happiness data provides evidence on the extent to which living conditions are adverse or favorable to people. For example, environmental degradation may be reflected in lower SWB. While this quantification is interesting as such for our understanding of external conditions affecting SWB, it can be extended to a valuation in monetary terms and thus to a new approach for the valuation of public goods.[11] It is called the "Life Satisfaction Approach" (LSA) (for a review, see, Frey et al., 2010). It proposes that public goods can be directly evaluated in utility terms when reported SWB is used as a proxy measure for individual welfare. 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 SWB. By measuring these marginal utilities as well as the marginal utility of income, the trade-off ratio between income and the public good can be calculated.[12]

Van Praag and Baarsma (2005) pioneered and successfully applied this approach. They use it to value airport nuisance in Amsterdam. The LSA has further been developed by Luechinger (2009) to value the negative consequences of sulfur dioxide in Germany. Using individual level panel data from the SOEP between 1985 and 2003 and exploiting the variation in SO_2 across 450 German counties, he applies an advanced identification strategy to

[11] The benefits derived from public goods are inherently difficult to measure because they are not directly exchanged on markets. But public agencies in particular have a demand for the measurement of preferences for public goods. Increasingly, they are required by law to provide cost-benefit analyses to evaluate the social desirability of government programs. The economics of happiness provides a promising complementary method that avoids some of the major difficulties inherent in previous approaches to value public goods. The different established stated preference and revealed preference methods for the valuation of public goods are discussed, e.g., in Freeman (2003).

[12] The LSA is compared to the standard non-market valuation techniques in Kahneman and Sugden (2005) and Dolan and Metcalfe (2008).

find that the annual marginal willingness to pay for a one kilogram per capita reduction in SO_2 amounts to 340 US-$ (in prices of 2007).

The LSA has also been used to value other forms of air pollution (Welsch, 2006, MacKerron & Mourato, 2009), terrorism (Frey et al., 2009), droughts (Carroll et al., 2009), flood hazards (Luechinger & Raschky, 2009), health problems (Powdthavee & van den Berg, 2011), and scenic amenities (Ambrey & Fleming, 2011). Recent studies applying the LSA have already reached a high standard, and preconditions for its application are better understood and formulated. As the empirical applications often exploit short-term variation in people's exposure to a public good or a public bad adaptation issues are so far largely unexplored with the LSA.

V. Concluding Remarks

When it comes to people's welfare and statements about some people being happier than others, happier these days than in the past or happier under some specific circumstances than others we are reminded of rather absolute claims of truth in particular as many people see happiness as a major goal in life or even as their ultimate one. It might well be a natural protective reaction that we take refuge to some form of relativism in response to such claims.

One line of reasoning questions people's capacity to judge their overall SWB and attributes them a false consciousness in particular when exposed to adverse living conditions. Another line of argument does not question people's judgment of their well-being but sees changes in SWB as only a temporary phenomenon before people revert to their baseline level of SWB.

Both perspectives are exposed to some evidence from research primarily in economics. Empirical findings clearly indicate that people are not indifferent to adverse living conditions when reporting their SWB as observed for limited freedom of choice, low levels of democratization, low levels of income, etc. Regarding people's adaptation to life events and (external) conditions reveals substantial heterogeneity in the speed as well as the degree of reversion. Together the evidence suggests that reported SWB is a valuable complementary source of information about human well-being and the phenomenon of adaptation.

Many challenges, of course, remain. First, in our mind, we are only at the beginning of understanding variation in the process of adaptation or what is empirically observed as reversion towards the well-being level experienced prior to some major change in life. In an attempt to provide an economically relevant dimension along which adaptation might systematically differ, Frey and Stutzer (2014) propose as a criterion the nature of needs – either being intrinsic or extrinsic – that choices are satisfying. The emphasis is thus on the intrinsic and extrinsic attributes of choice options. They hypothesize that people adapt less to intrinsically rewarding activities and goods than to extrinsic satisfiers because the former provide feedback to the self and so attract attention. The positive or negative experiences thus tend to be renewed with every new act of consumption. Beyond these thoughts, economics with its emphasis on incentives has a big potential to better understand how people react to life events over and above some narrow hedonic habituation. Related to this, the emerging life course perspective is promising as it invites to systematically take into account resources of

resilience. These resources might turn out as a combination including traditional economic variables like savings next to psychological resources like will power.

Second, adaptation might well pose a challenge to individual decision-making when people are not good in predicting it. Referring to the differentiation above, when making a decision and neglecting adaptation, individuals would tend to undervalue the future utility of intrinsic attributes compared to extrinsic attributes. This distortion then leads to a systematic discrepancy between predicted utility and experienced utility and is particularly relevant when people have to make trade-offs between alternatives that satisfy intrinsic needs and ones that serve extrinsic wants (Frey and Stutzer, 2014).

Third, adaptation might have great consequences for public policy and the idea of social welfare maximization depending on how it is treated. Let us consider the case where courts have to decide about compensation for losses suffered in a car accident. For the same physical harm, should they award lower damages to people with a strong capacity to adapt and higher damages to others? Or in the area of government taxation, what costs of taxation should be taken into account? Materialists with high income aspirations suffer a great deal from personal income taxes. Should they be exempted from tax and government services be financed by people who can easily adapt to whatever material living standard they are confronted with? The means for dealing with hedonic adaptation are not part of a simple idea of happiness maximization in public policy. Frey and Stutzer (2012) propose that a solution can be found at the constitutional level behind the veil of uncertainty in which nobody knows whether he or she will be affected by some life event and whether he or she is a quick or slow adaptor. A collective decision making rule is required to indicate how adaptation and aspiration effects have to be dealt with in public policy. Obviously such decisions have grave consequences for economic policy, which simple happiness maximization approaches do not address.[13]

In sum, the question about the possibility of change in happiness might generate an easy first affirming response based on economic reasoning. However, the issue of adaptation potentially also poses a serious challenge to our understanding of the optimality of individual decision-making. Moreover, welfare implications of happiness changes and policy recommendations are less straightforward when adaptation is taken into account and ask for procedural considerations on how adaptation is taken into account. Ending on the bright side, we are not stuck in a hedonic treadmill and might well be reminded that also the temporary pleasures are pleasures worth cherishing. So we have good reasons to look for the institutional conditions and the personal environment that are most conducive to high individual well-being.

[13] Related work by Loewenstein and Ubel (2008) emphasizes the shortcomings of measures of experience utility related to the phenomenon of hedonic adaptation; e.g., due to scale recalibration when assessing subjective health. The authors conclude that methods of deliberative democracy could achieve an approach based on decision utility of people who are informed about research on experience utility. Deliberative democracy could thus be interpreted as their constitutional proposal indicating how to deal with the insights on hedonic adaptation.

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