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WHAT CAN ECONOMISTS LEARN FROM HAPPINESS RESEARCH?

Bruno S. Frey
Alois Stutzer

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CESifo
Center for Economic Studies & Ifo Institute for Economic Research
Poschingerstr. 5, 81679 Munich, Germany
Phone: +49 (89) 9224-1410 - Fax: +49 (89) 9224-1409
e-mail: office@CESifo.de
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Abstract

Over the past few years, there has been a steadily increasing interest on the part of economists in happiness research. We argue that reported subjective well-being is a satisfactory empirical approximation to individual utility and that happiness research is able to contribute important insights for economics. We report how the economic variables income, unemployment and inflation affect happiness as well as how institutional factors, in particular the type of democracy and the extent of government decentralization, systematically influence how satisfied individuals are with their life. We discuss some of the consequences for economic policy and for economic theory.

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Bruno S. Frey
University of Zurich
Institute for Empirical Research in Economics
Bluemlisalpstr. 10
CH-8006 Zurich
Switzerland
bsfrey@iew.unizh.ch

Alois Stutzer
University of Zurich
Institute for Empirical Research in Economics
Bluemlisalpstr. 10
CH-8006 Zurich
Switzerland

1 Introduction

Over the past few years, there has been a steadily increasing interest on the part of economists in happiness research. For a long time it has been the province of psychology.[2] Most recently, this psychological research has been linked to economics (Kahneman, Wakker and Sarin 1997, Loewenstein, O'Donoghue and Rabin 2000). General interest in the measurement and the determinants of subjective reported well-being has been raised by a symposium (Frank 1997, Ng 1997, Oswald 1997). The pathbreaking contribution by Easterlin (1974) was noted by many economics scholars but at the time found few followers. Since the late 1990s, economists have started to contribute large scale empirical analyses of the determinants of happiness in different countries and periods as well as in panel studies (for example Alesina, Di Tella and MacCulloch 2000, Blanchflower and Oswald 2000, Di Tella, MacCulloch and Oswald 2001, Frey and Stutzer 1999, 2000).

We argue that happiness research is able to contribute important insights for economics which so far have been treated lightly or have been totally neglected. Some of the results clearly contradict the standard assumptions of economics as used in most models, but others support the conventional economic views. This paper does not intend to provide a general survey on happiness research (which is provided in Kahneman, Diener and Schwarz 1999, Lane 2000, and Frey and Stutzer 2001). Rather, we wish to show which insights may be important, if not necessary, to integrate into economics.

Section 2 discusses the relationship between happiness and utility. It is argued that reported subjective well-being is a satisfactory empirical approximation to individual utility. Sections 3 to 5 report how the economic variables income, unemployment and inflation affect happiness. Section 6 shows that, in addition to current economic conditions, institutional factors, in particular the type of democracy and the extent of government decentralization, also systematically influence how satisfied individuals are with their life. The last section 7 discusses the consequences for economic policy and for economic theory.

2 Happiness and Utility

"For most people, happiness is the main, if not the only, ultimate objective of life" (Ng 1996: 1). And so, in the end, economics is about individual happiness. Happiness, or subjective well-being, can be measured by representative surveys.

Nevertheless, standard economic theory employs an "objectivist" position based on observable choices made by individuals. Individual utility only depends on tangible factors (goods and services), is inferred from revealed behavior (or preferences), and is in turn used to explain the choices made. This "modern" view of utility has been influenced by the positivistic movement in philosophy. Subjectivist experience (e.g. captured by surveys) is

[2] See for example Argyle (1987), Diener, Suh, Lucas and Smith (1999), Kahneman, Diener and Schwarz (1999), Michalos (1991), Myers (1993), Ryan and Deci (2000), Strack, Argyle and Schwarz (1991). There are also contributions by sociologists, in particular Veenhoven (for example 1993), and political scientists (Inglehart 1990, Lane 2000).

rejected as being „unscientific“, because it is not objectively observable and is not necessary for economic theory (Robbins 1932, Hicks 1934, Allen 1934). It is assumed that the choices made provide *all* the information required to infer the utility of outcomes. Moreover, the axiomatic revealed preference approach is not only applied to derive individual utility, but also to measure social welfare. To do so, social welfare comparison is based on the consumption behavior of households.

The positivistic view is still dominant in economics. Sen (1986: 18) observes that “the popularity of this view in economics may be due to a mixture of an obsessive concern with observability and a peculiar belief that choice [...] is the only human aspect that can be observed“. Its dominance is reflected in the contents of microeconomic textbooks. However, not all contemporary economists subscribe to this view. Numerous scholars have challenged standard economic theory from different angles.

- There are numerous examples for non-objectivist theoretical analyses in economics. They incorporate emotions (e.g. Elster 1998), such as regret (e.g. Bell 1982, Loomes and Sugden 1982), self-signaling (self-esteem), goal completion, mastery and meaning (Loewenstein 1999) or status (e.g. Frank 1985a), as well as even broader considerations beyond the normal use of utility (e.g. Sen's 1982 „entitlements“).
- Standard theory assumes independent utilities, although interdependent utilities often fit particular observed behavior better (e.g. Clark and Oswald 1998). More important, interdependent utilities question traditional welfare propositions (e.g. Boskin and Sheshinski 1978, Holländer 2001, Layard 1980).
- By focussing on the value of outcomes rather than on observed decisions, various types of utility can usefully be distinguished (Kahneman, Wakker and Sarin 1997). Predicted utility “refers to beliefs about the experienced utility of outcomes”; remembered utility “is inferred from a subject’s retrospective reports on the total pleasure or displeasure associated with past outcomes”, and instant utility measures “hedonic and affective experience, which can be derived from immediate reports of current subjective experience or from physiological indices” (pp. 376f). Thus experiences are counted three times due to the effect of anticipation and memory on current utility (see Elster and Loewenstein 1992). These hedonistic concepts are based on an old tradition. The initiators of the modern analysis of decision-making (Bernoulli 1738 and Bentham 1789) indeed understood utility as satisfaction, referring to the hedonic quality in terms of the pleasure and pain of current experience as well as of memory, imagination and expectations.
- Subjective experience is a valuable source of information about individual utility. Choices are not always rational (in the sense of consistency), an insight which has been integrated into economics in the literature on anomalies in decision-making (e.g. Thaler 1992). It is therefore questionable whether utility can generally be derived from observed choices.
- Consequentialism, of which utilitarianism is a special case, is not the only aspect relevant for behavior, but procedural utility should also be considered (Sen 1995, 1997, Le Menestrel 2001).

The exclusive reliance on an objectivist approach by standard economic theory is thus open to doubt, both theoretically and empirically. In any case, it restricts the possibility of understanding and influencing human well-being.

Directly measurable subjective happiness is a promising complement to derived "objective" decision utility (as commonly used in economics). Measures of subjective well-being can serve as proxies for "utility". They are captured in surveys on individuals' happiness or life satisfaction. It is a sensible tradition in economics to rely on the judgement of the persons directly involved. Therefore, people are reckoned to be the best judges of the overall quality of their life, and it is a straightforward strategy to ask them about their well-being. With the help of a single question or several questions on global self-reports, it is possible to get indications of individuals′ evaluation of their life satisfaction or happiness. Behind the score indicated by a person is a cognitive assessment to what degree the overall quality of life is judged in a favorable way (Veenhoven 1993). People evaluate their level of subjective well-being with regard to circumstances and comparisons to other persons, past experience and expectations of the future.

Subjective well-being is usually investigated under the assumption that it is cardinally measurable and interpersonally comparable; i.e. two claims that economists are likely to be skeptical about. To avoid problems with regard to a cardinal interpretation of subjective variables, it is often possible to treat the subjective data ordinally in econometric analyses. In contrast, whether people associate the same degree of subjective experience with a certain score on a ladder of life satisfaction is more difficult to assess. However, there is a lot of indirect evidence that cardinalism and interpersonal comparability are much less of a problem practically than theoretically. In a number of studies, the consistency and validity of survey answers on subjective well-being have been documented. Happy people are, for example, more often smiling during social interactions (Fernández-Dols and Ruiz-Belda 1995) and are rated as happy by friends and family members (Sandvik, Diener and Seidlitz 1993), as well as by spouses (Costa and McCrae 1988). Furthermore, the measures of subjective well-being reflect life-changes (Ehrhardt, Saris and Veenhoven 1999), persons' recall of positive versus negative life-events (Seidlitz, Wyer and Diener 1997), and are to a large extent unbiased with regard to social desirability (Konow and Earley 1999). But there is, of course, room for methodological concerns (e.g. Schwarz and Strack 1999, Bertrand and Mullainathan 2001).

Nevertheless, happiness or reported subjective well-being is a satisfactory empirical approximation to individual utility, with fruitful applications in empirical economic research from which economists should not be too shy to learn.

3 Effects of Income on Happiness

3.1 The Conventional View

Most economists take it as a matter of course that higher income leads to higher happiness. And why should it not? A higher income expands individuals' and countries' opportunity set, i.e. more goods and services can be consumed. The few people not interested in more commodities need not consume them; they are free to costlessly dispose of any unwanted

surplus. It therefore seems obvious that income and happiness go together (provided, of course, that the two are correctly measured). Consequently, economics textbooks do not even make an effort to provide a reason, but simply state that utility U is raised by income Y: U = U(Y), with U'>O.

But there are also some economists who do not suscribe to the idea that higher income produces higher happiness. One of them is John Kenneth Galbraith who, in his famous book on the *Affluent Society* (1957), pointed out the limited use of higher private income while the public sector is starving. The first economist to seriously study the data on happiness, Richard Easterlin (1974), concluded that "money does not buy happiness". Another author claiming that the most cherished values cannot be bought on markets is Tibor Scitovsky with his *Joyless Economy, The Psychology of Human Satisfaction* (1976). Scitovsky even argues that a high level of wealth brings continuous comforts and thereby prevents the pleasure that results from incomplete and intermittent satisfaction of desires. More recently, Robert Frank, in his *Luxury Fever* (1999), emphasizes that ever increasing income and consumption does not bring higher happiness.

In the following, three different aspects of the relationship between income and happiness are discussed:

- Are persons in rich countries happier than those in poor countries? (Section 3.2),
- Does an increase in income over time raise happiness? (Section 3.3),
- Are persons with high income in a country happier than those with low income? (Section 3.4).

3.2 Income and Happiness between Countries

Various studies provide evidence that, on average, persons living in rich countries are happier than those living in poor countries (for example Diener, Diener and Diener 1995, Inglehart 1990). The differences in income between the countries are measured both by using exchange rates as well as purchasing power parities in order to control for the international differences in the cost of living. The data on happiness are from the World Value Survey, the best source available today for international comparisons of life satisfaction.

Figure 1 illustrates the relationship between average per capita income in a country (on the horizontal axis) and average life satisfaction (on the vertical axis).

Figure 1 about here

The figure shows that reported subjective well-being indeed rises with income. Some of the authors identify a curvilinear relationship: income provides happiness at low levels of development but, once some kind of threshold has been passed, income has little or no effect on happiness.

A visual inspection of the relationship between income and happiness across countries is, however, of limited value. The positive correlation may be produced by other factors than income as such. In particular, countries with higher per capita incomes tend to have more stable democracies than poor countries have. So it may well be that the seemingly observed positive association between income and happiness is in reality due to the more developed democratic conditions (see section 6.1 and 6.2).

In addition to democracy, there are many other conditions going with income which may produce the observed positive correlation between income and happiness. Just to name two more: the higher the income, the better the average health and the more equal the distribution of income. Thus, both health and distributional equality may seemingly make happiness rise with income.

Another aspect to consider is whether causality runs from income to well-being, as implicitly assumed so far. An inverse causation can well be imagined (see for example Kenny 1999). It might, for instance, be argued that the more satisfied the population is with its life, the more it is inclined to work hard, and therefore the higher is its per capita income. Or, happy people may be more creative and enterprising, leading again to higher income. But there is substantial evidence that it is indeed income that causes subjective well-being. It has been established that essentially all social indicators are more positive in nations of higher income: in richer countries there is more and better quality food, cleaner drinking water, better and more wide-spread education, better health services, greater longevity, more parity between the sexes, and more respect for human rights (Easterly 1999).

The available evidence thus suggests that across nations income and happiness go together. The notion that the people in poor countries are happier because they live under more "natural" and less stressful conditions can be considered a myth.

3.3 Income and Happiness over Time

Several scholars (e.g. Blanchflower and Oswald 2000, Lane 1998 and Myers 2000) have identified a striking and curious relationship: per capita income in the United States has risen sharply in recent decades, but the proportion of persons considering themselves to be "very happy" has fallen over the same period. Graphically, the development of income and happiness diverges like opening scissors. Consider, for instance, figure 2.

Figure 2 about here

Between 1946 and 1991, income per capita in the United States rose from about $ 11,000 to $ 27,000 in 1996 $, that is by a factor of 2.5 or by 150 percent. This is a tremendous rise in average purchasing power. The rise was reflected in almost all households having an indoor toilet, a washing machine, telephone and color television, as well as a car (see Easterlin 2000b or Lebergott 1993). The figure also shows, however, that this tremendous rise in material well-being was accompanied by a modest *decrease* in average happiness. In 1946, average

happiness rated on a 3-point scale was close to 2.4. In 1991, after 45 years of affluence, average happiness dropped to 2.2.

This result can be taken as an indication that "money does not buy happiness", or that there is more to subjective well-being than income. One of the most important processes is that people adjust to past experiences.

Human beings are unable and unwilling to make absolute judgements. Rather, they are constantly drawing comparisons from the past or from their expectations of the future. Thus, we notice and react to deviations from *aspiration levels*. A rise in our income initially provides a surge of satisfaction, but after some time we get accustomed to it and are not happier than before.

Additional material goods and services initially provide extra pleasure, but it is usually only transitory. Higher happiness with material things wears off. Satisfaction depends on change and disappears with continued consumption. This process or mechanism that reduces the hedonic effects of a constant or repeated stimulus is called adaptation. And it is this process of hedonic adaptation that makes people strive for ever higher aspirations.

Adaptation level theory is well grounded in psychology (in particular Helson 1964, Brickman and Campbell 1971, Parducci 1995 and, for a modern discussion, Frederick and Loewenstein 1999), as is the concept of aspiration levels (Irwin 1944). According to aspiration level theory, happiness is determined by the gap between aspiration and achievement (Michalos 1991, Inglehart 1990, ch.7). In economics, the theories of preference change have concentrated on habit formation (e.g. Marshall 1890, Duesenberry 1949, Modigliani 1949, Pollack 1970 and more recently Carroll and Weil 1994).

Four important consequences follow:

(1) The upward adjustment of expectations induces human beings to accomplish more and more. They are never satisfied. Once they have achieved something, they want to achieve even more. The theory of "rising expectations" does not only hold for material goods and services but also for many immaterial achievements. A promotion, for example, makes for temporary happiness, but at the same time raises the expectation and aspiration for further promotions.

(2) Wants are insatiable. The more one gets, the more one wants. The marginal utility of income is thus not defined anymore in this framework as the utility function changes with the income level.

(3) The greater opportunities provided by higher income do not always raise happiness. Opportunities may well generate higher aspirations, therewith lowering subjective well-being. As a result, people who are trapped in a situation are not necessarily more unhappy than those with many opportunities.

(4) Most people think that they felt less happy in the past, but expect to be more happy in the future (Easterlin 2000a). This asymmetry can be explained by changing aspirations, as will be illustrated below.

The effects of changes in income affecting aspiration levels is shown in figure 3 (see Easterlin 2000a).

Figure 3 about here

Initially, people have a certain aspiration level A_l so that income Y_1 produces happiness H_1. Rising income, say from Y_1 to Y_2, raises happiness from H_1 to H_2. If it rises further, say to Y_3, happiness is further increased to H_3. The points a, b and c trace a curve with decreasing marginal utility of income, as normally assumed in economic theory. This curve holds for a particular point in time. It suggests that a higher income indeed makes people happier.

But, over time, aspiration adjusts to the higher income level. The aspiration level curve A_l shifts downward to A_m. Ex post, the rise in income from Y_1 to Y_2 does not produce any increase in happiness if the aspiration curve indeed shifts as much downward as assumed in the graph. If the increase in income jacks up aspirations even higher, say to the aspiration curve A_h, income Y_2 produces even lower happiness than the lower income Y_1. This corresponds to Figure 4.1, with the average happiness level shown on the vertical axis.

Aspiration level theory suggests that increases in income and aspiration levels are closely connected. The increase in happiness expected on the basis of a given aspiration curve – for example along the points a, b, c on aspiration curve A_l – does not materialize. Rather, an increase in income is accompanied by a downward shift in the aspiration curve. In equilibrium, one may, for example, observe that the sequence of points a, e, f materializes. As the curves are drawn, higher income matches higher happiness, but an increase in income produces a much smaller increase in happiness than with given aspiration levels.

As indicated above, the figure helps to explain the asymmetry in evaluations of happiness referring to the past and to the future. A person with income Y_3 judges his or her past happiness on the basis of the *current* aspiration level A_m. As income has risen, say from Y_2 to Y_3, the previous income is evaluated to have produced happiness H_1 at point d which is lower than today's happiness level H_4, as given at point e. Current happiness is thus taken to be higher than in the past. In actual fact, when the individuals *actually* received income Y_2, they had a lower aspiration level and therefore that income actually produced happiness H_2 in the past, which in our figure is even higher than today's happiness H_4.

Future income is also evaluated on the basis of the *current* aspiration level. Let's assume a person situated at point e with income Y_3 and happiness H_4. He or she anticipates that an increase in income from Y_3 to Y_4 produces a well-being along curve A_m, so that happiness H_3 at point f is to be expected. But the person does not take into account that the aspiration level also rises and that the aspiration curve will therefore shift downwards, say to curve A_h. In actual fact, therefore, when the higher income Y_4 is indeed reached, the level of happiness is only H_4 at point g, and not H_3 as would have been the case if the aspiration level had stayed constant at point f. The actual happiness of the increase in income is thus systematically lower than expected beforehand (in our figure 3, happiness even stays constant).

3.4 Income between Persons

Persons with higher income have more opportunities to achieve whatsoever they desire: they can buy more material goods and services. Moreover they have a higher status in society. Higher income yields higher utility, and conversely the poor are unhappy.

In contrast, the research on happiness has looked at the relationship between income and subjective well-being in a more differentiated way. There are many reasons why income does not buy happiness. Perhaps the most fundamental one is that it may be impossible to reach happiness by earning and spending income. Happiness is in this sense "priceless", i.e. cannot be achieved by material factors.

The relationship between income and happiness at a particular point in time and location (country) has been the subject of a large empirical literature. As a robust result, it is found that richer people, on average, report higher subjective well-being. However, differences in income only explain a low proportion of the differences in happiness among persons. Other factors are thus at least as important in explaining why some people are happier than others.

The relation between income and happiness is studied for income levels as well as for increases in income. The effect of an individual's increase in income on happiness is carefully analyzed in a longitudinal study using data on windfalls. It is found that lottery winners and people receiving an inheritance reported higher mental well-being in the following year (Gardner and Oswald 2001). For the effect of the level of income on happiness consider, for example, the following figure 4 showing the percentage distribution of the US population in 1994 according to happiness at seven different income levels.

Figure 4 about here

The percentage of persons rating themselves to be "very happy" rises from 16 percent for those with incomes below $ 10,000 to 44 percent for those with incomes above $ 75,000. Conversely, the percentage of persons considering themselves to be "not too happy" falls from 23 to 6 percent. The "mean happiness" rating rises from 1.8 for those with incomes below $ 10,000 to 2.8 for those with incomes above $ 75,000. However, a simple correlation between happiness and income is only 0.20.

Data for Europe from the Euro-Barometer Survey Series (1975-1991) reveal a similar picture. There is a correlation between happiness and income but it is small in magnitude. For example, 88 percent of those persons located in the upper quartile of the income bracket rate themselves to be "fairly satisfied" or "very satisfied", while 66 percent of those in the lowest income quartile do likewise (see the data presented in Di Tella et al. 1999).

More refined regressions, taking into account a large number of factors independent of income influencing happiness – such as age, gender, education, or health – also find a relatively small positive effect of income on happiness. Other economic (in particular unemployment) and non-economic (in particular health) factors exert a much greater influence.

What has been said so far refers to rich countries. It is undisputed that poverty makes for unhappiness. Several scholars therefore assume that the relationship between income and happiness is curvilinear. Figure 5 provides such a picture for the United States from 1981-84.

Figure 5 about here

For people with low levels of income, a rise in income strongly raises well-being. But once an annual income of about US $ 15,000 has been reached, a rise in income has a much smaller effect on happiness. Higher income is still experienced as raising well-being, but at a smaller rate.

There may be many different reasons why higher income does not simply translate into higher happiness. One of the most important ones without doubt is that people *compare* themselves to other persons. It is not the absolute level of income that matters most but rather one's position relative to other persons. This idea of *relative income* is part of the more general aspiration level theory. Concepts of interdependent preferences due to comparisons with relevant others (see e.g. Becker 1974, Frank 1985b, Pollak 1976) supplement ideas focussing on preference changes due to comparison with, for example, one's past consumption level or expected future income.

In economics, Easterlin (1974, 1995) used the concept of aspirations as a frame of reference to explain happiness. He acknowledges that people with higher income are, on average, happier, but raising the incomes of all does not increase the happiness of all, because in comparison to others income has not improved. This interpretation of the data is supported by laboratory findings showing the importance of relative judgements for happiness (Smith, Diener and Wedell 1989, Tversky and Griffin 1991).

Many economists of the past have noted that individuals compare themselves to significant others with respect to income, consumption, status or utility. Thorstein Veblen (1899) coined the notion of "conspicuous consumption", serving to impress other persons. The "relative income hypothesis" has been formulated and econometrically tested by James Duesenberry (1949), who posits an asymmetric structure of externalities. People look upwards when making comparisons. Aspirations thus tend to be above the level reached. More wealthy people impose a negative external effect on the poorer people, but not *vice versa.* As a result, savings rates depend on the percentile position in the income distribution, and not solely on the income level, as in a traditional savings function.

A major line of research has been opened by Bernhard van Praag and Arie Kapteyn (1973) and associates (e.g. Kapteyn and Wansbeek 1985, van Praag and Frijters 1999). They construct an econometrically estimated Individual Welfare Function with a "preference shift" parameter which captures the tendency of material wants to increase as income increases. They find that income increases shift aspirations upwards but that individual satisfaction nevertheless increases. The preference shift "destroys" about 60-80 percent of the welfare effect of an increase in income, so that somewhat less than a third remains.

Fred Hirsch (1976), in his book “Social Limits to Growth”, emphasizes the role of relative social status by calling attention to “positional goods” which, by definition, cannot be augmented because they solely rely on not being available to others. This theme was taken up by Robert Frank (1985, 1999) who argues that the production of positional goods in the form of luxuries, such as exceedingly expensive watches or yachts, is a waste of productive resources as overall happiness is thereby decreased rather than increased.

There is little doubt that people compare themselves to other people and do not use absolute judgements. But it is crucial to know with *what* other persons such a comparison is being made. In a study of 10,000 British workers, Clark and Oswald (1996) have identified the reference group to be persons with the same job, education, gender etc. They conclude that the lower the income of the group one compares oneself with, the more satisfied people are. In consonance, Neumark and Postlewaite (1998) find that if the spouse, or another household member earns more, satisfaction is lower.

All this evidence is consistent with a positive correlation between income and happiness within a society. However, it emphasizes the relevance of the relative position in the income distribution rather than the absolute level of income.

4 Unemployment

4.1 Conventional Views

Most economists take unemployment to be an unfortunate event to be avoided as much as possible. To become unemployed is considered to be burdensome, and above all involuntary. But there are also economists who hold a quite different view. Following the “new classical macroeconomics”, unemployment is voluntary. People choose to go out of employment because they find the burden of work and the wage paid unattractive compared to being unemployed and getting unemployment benefits. Involuntary unemployment is a disequilibrium phenomenon and exists only in the short run until individuals and firms have adjusted.

The issue of whether, and to what extent, the unemployed are dissatisfied is therefore unresolved. For that reason happiness research on unemployment is of particular importance.

In this section, two questions and their ramifications will be discussed:

- What is the level of happiness of an unemployed person (section 4.2)?
- How does general unemployment in an economy affect happiness (section 4.3)?

4.2 Personal Unemployment

How particular people are affected when they become unemployed needs to be analyzed with the help of a micro-analysis which looks at individual data. Such a study (Di Tella, MacCulloch and Oswald 2001) was undertaken for twelve European countries over the period 1975-1991, employing Euro-Barometer data. In the survey, the following life satisfaction question is included: ”On the whole, are you very satisfied, fairly satisfied, not very satisfied

or not at all satisfied with the life you lead?". The analysis, which controls for a great number of other determinants of happiness, such as income and education, finds that the self-proclaimed happiness of those persons being unemployed is *much* lower than employed persons with otherwise similar characteristics. The loss of happiness experienced by unemployment amounts to 0.33 units in the above mentioned satisfaction scale, ranging from 1 ("not at all satisfied") to 4 ("very satisfied").

Many other studies (see Darity and Goldsmith 1996 for a survey) have also found that, for many different countries and time periods, personally experiencing unemployment makes people very unhappy. In their path-breaking study for Britain, Clark and Oswald (1994: 655) summarize their result as "joblessness depressed well-being more than any other single characteristic including important negative ones such as divorce and separation."

All these results refer to the "pure" effect of being unemployed. The income loss, as well as other indirect effects which may, but need not, go with personally being unemployed, are kept constant.

The empirical research based on estimating happiness functions contrasts strongly with the views held by the new classical macroeconomists. For those affected, becoming unemployed is considered to be a most unfortunate event creating unhappiness.

It could be argued that what has been found may be interpreted quite differently. While the negative correlation between unemployment and happiness is well established, it may well be that the causation runs in the opposite direction implied so far: unhappy people do not perform well, and therefore are laid off. Happy persons are fitter for working life, which makes it less likely for them to lose their job. The question of reverse causation due to a selection bias has been analyzed in many studies with longitudinal data, before and after particular workers lose their job, for example due to a plant closure. There is evidence that unhappy people are indeed not performing well on the labor market, but the main causation clearly runs from unemployment to unhappiness (see e.g. Winkelmann and Winkelmann 1998 for German data, or Marks and Fleming 1999 for Australian data, the latter considering in detail various effects on mental health).

4.3 General Unemployment

People may be unhappy about unemployment even if they are not themselves put out of work. They may feel bad about the unfortunate fate of those unemployed and they may worry about becoming unemployed themselves in the future. They may also feel repercussions on the economy and society as a whole. They may dislike the increase in unemployment contributions and taxes likely to happen in the future, they may fear that crime and social tension increase, and they may even see the threat of violent protests and uprisings.

The study of 12 European countries over the period 1975-1991 mentioned above (Di Tella et al. 2001) finds that – keeping all other influences constant – a one percentage point increase in the general rate of unemployment from 9 percent (the European mean) to 10 percent reduces stated life satisfaction by 0.028 units on the four-point scale applied. This effect is of considerable size. This small rise in unemployment is equivalent to shifting more than 2

percent of the population downwards from one life-satisfaction category to another, for example from “not very satisfied” to “not at all satisfied”.

The overall effect of unemployment on social well-being can be calculated by adding the loss experienced by those persons being unemployed to the overall effect of unemployment. Consider again a 1 percentage point increase in unemployment. In section 2, it was shown that the unemployed experience a fall of 0.33 in their happiness scale. This figure must be multiplied by the one percent of the population who have been unlucky enough actually to become unemployed: 0.33 x 0.01 = 0.0033. Added to the general effect of a one percentage point unemployment increase of 0.028, it leads to a total decrease of 0.0313 (Di Tella et al. 2001).

This calculation must be taken with a grain of salt. It is at best able to gauge the effects of unemployment on happiness in an approximate way. One reason for having to be careful is that there may be various interactions between personal and more general unemployment, which may in turn affect the evaluation of happiness.

An important interaction refers to reference groups. As is the case for income, individuals tend to evaluate their own situation relative to other persons. For most persons, unemployment lowers their happiness less if they are not alone with this particular fate. When unemployment is seen to hit many persons one knows or hears of, both the psychic and the social effects are mitigated. Self esteem is better preserved because it becomes obvious that being out of a job is less due to one’s own fault and more due to general developments in the economy. Stigma and social disapproval are less prevalent if unemployment hits many other persons at the same time.

In order to empirically test the effect of reference groups on reported well-being, happiness scores are regressed on three types of explanatory variables:

- personal unemployment,
- unemployment among a reference group, and
- an interaction variable combining personal and reference group unemployment,

Using as a reference group the employment state of one’s partner or, alternatively, the region an individual lives in, such a happiness function has been estimated for British data over the period 1991-96, again keeping all other influences constant (Clark 2000). As in virtually all previous studies, the unemployed are much more dissatisfied than people with a job, and the general level of unemployment lowers happiness. In contrast, the unemployed indeed suffer less when a larger proportion of partners, or other people living in their region, are also out of work. The same result is reached when general unemployment in the economy is taken as the point of reference (Kelvin and Jarrett 1985).

Unemployed people’s well-being, moreover, depends on the strength of the social norm to work. Social interaction of unemployed people with other community members, their forced reference group, has the effect of showing them how they are expected to behave, and norm-conforming behavior is enforced through social sanctions. In an estimation across Swiss communities, it has been shown that the stronger the social norm to live off one’s own

income, the lower is unemployed people's reported satisfaction with life (Stutzer and Lalive 2000).

Reference groups are certainly of major importance for showing the extent to which people are distressed by their own unemployment. However, what group one refers to is not given, but can to some extent be chosen (Falk and Knell 2000). People out of work tend to associate with other people out of work, partly because they have time to do so, or partly because they retreat from community life. It is also known that marriages and partnerships have a high risk of breaking down when one of the partners is unemployed. In all these cases, the definition of the reference group adjusts to one's labor market status. Causation then does not run unambiguously from the reference group to the evaluation of unemployment in terms of happiness.

5 Inflation

5.1 The Conventional View

Economics starts from the distinction between anticipated and unanticipated inflation when analyzing how inflation affects individuals. Adjustment is the more costly the higher is the *variability* in aggregate inflation and in relative prices caused by an increase in inflation. People then must invest a lot of effort to inform themselves about, and to insulate themselves from, the expected price rises. They may make many different errors, for instance underestimating the extent of future inflation, or how a particular price changes in comparison with other prices.

Depending on a set of rather restrictive assumptions, the welfare costs of rising prices can be captured by computing the appropriate area under the money demand curve, the basic idea being that economizing on the use of currency imposes costs in terms of well-being. They are reflected indirectly by the demand for money curve. Based on this method, the cost of a ten percent yearly inflation has been calculated to be between 0.3 percent and 0.45 percent of national income (Fischer 1981, Lucas 1981). This is very little and suggests that an anti-inflationary policy rarely is worth the cost it entails in terms of additional unemployment and real income loss.

But many economists would strongly disagree with this conclusion. They point out that stable prices are a crucial prerequisite for a sound economy in which suppliers and demanders can act rationally. Most economists take an intermediate position, not least because the picture emerging from the existing empirical evidence on the costs of inflation is far from clear. There is no convincing evidence that a higher rate of anticipated inflation leads to a higher variability in aggregate inflation or in relative prices. Neither is there strong econometric evidence that higher unanticipated inflation makes inflation more unpredictable or that it causes higher price variability (see the survey by Drifill, Mizon and Ulph 1990). The "common opinion" among academic economists probably is that a rampant inflation is very dangerous for the economy while a constant, and hence predictable, but low inflation (say 1-5 percent per year) is not taken to cause any major problems.

The population seems to feel quite differently. A careful and extensive survey in the United States, Germany and Brazil (Shiller 1997) finds that people are concerned about quite different issues connected with inflation than are economists. People seem to disregard that inflation probably also raises their own nominal income. They obviously concentrate on the possible harm, but not on the possible benefits, of inflation on their standard of living. Experiments (Shafir, Diamond and Tversky 1997) also suggest that people derive satisfaction mainly from the size of their nominal rather than real income, which is a form of "money illusion". In addition to this psychic effect of inflation, the survey identified other concerns generally neglected by economists. One is that inflation allows opportunists to exploit others in an unfair and dishonest way; another is that inflation undermines the moral basis of society. Many fear that inflation produces political and economic chaos and a loss in national prestige due to the falling exchange rate.

5.2 Inflation Depresses Happiness

An analysis of happiness data allows us to go beyond the a priori notions of theoretical economics. They also have a decisive advantage over surveys where people are asked directly how they *feel* about inflation. It may well be that the corresponding questions trigger the reactions which people might not have otherwise. Happiness data are collected independently and are only afterwards linked to *actual* inflation experiences.

In combined time series cross section studies, the development of inflation in several countries over the course of time can be analyzed. Of most interest is the study of 12 European countries over the period 1975-91 (Di Tella, MacCulloch and Oswald 1999). The mean rate of inflation was 7.5 percent per year. Based on an econometric estimate, which keeps all other influences including income and unemployment constant, an increase in the inflation rate by one percentage point – say from the mean rate of 8 to 9 percent per year - is calculated to reduce average happiness by 0.01 "units" of satisfaction, i.e. from an average level in the sample of 3.02 to 3.01. (Average satisfaction is calculated from a cardinal interpretation of the 4-item scale that attributes "not at all satisfied" a value of 1, "not very satisfied" a value of 2 etc.) Correspondingly, an increase in the inflation rate by 5 percent (which historically is a quite likely event) reduces subjective well-being by 0.05 units. This is a substantial effect. It means that 5 percent of the population are shifted downwards from one life satisfaction category to the next lower one, e.g. from being "very satisfied" to "fairly satisfied".

It is also possible to calculate the dollar cost of inflation if the effect on well-being of inflation is compared to the effect of aggregate income per capita. As a higher real GDP per capita of $ 1000 increases average satisfaction by 0.06, an inflation rate 5 percentage points higher would have to be compensated by about $ 850 in additional income per year (in 1985 US dollars) (Di Tella et al. 1999, p. 9).

5.3 Trade-off between Inflation and Unemployment

The results reported in the last section on the effect of unemployment on happiness, and the results concerning inflation just discussed, can now be combined (Di Tella et al. 2001). The

question is by how much, on average, must a country reduce its inflation in order to tolerate a rise of one percentage point in unemployment? Over the relevant range, happiness is assumed to depend linearly on the two economic factors, and the estimate controls for country fixed-effects, year effects and country-specific time trends. It is calculated that a one percentage point increase in the unemployment rate is compensated for by a 1.7 percentage point decrease in inflation. Thus, if unemployment rises by five percentage points (say from 3 to 8 percent), the inflation rate must decrease by 8.5 percentage points (say from 10 to 1.5 percent per year) to keep the population equally satisfied. The so-called "Misery Index", which simply adds the rate of unemployment to the rate of inflation, distorts the picture by attributing too little weight to the effect of unemployment, relative to inflation, on self-reported happiness.

6 Institutional Effects on Happiness

6.1 Type of Democracy

People's happiness is influenced by the kind of political system they live in. It is to be expected that people living in constitutional democracies are happier because the politicians are more motivated to rule according to their interests. If they disregard the wishes of the population, the politicians and parties in a democracy fail to be reelected and lose their power. Democratic institutions, in particular the right to participate in elections and vote on issues, thus contributes to citizens' happiness.

Researchers on happiness have looked at the interaction of democracy with happiness. The extent to which a constitution is democratic and allows its citizens to take decisions according to their own preferences can be captured by various indices of freedom.

Figure 8.1 presents a graphical representation of a comprehensive measure of freedom, combined with a 4-item measure of happiness, in 38 mainly developed nations at the beginning of the 1990s (Veenhoven 2000a). A visual test reveals that freedom (horizontal axis) and happiness (vertical axis) are positively related.

Figure 6 about here

The comprehensive index of the constitutional set-up used in this figure has been captured in the following three areas:

- *Political freedom* measures the possibility of citizens to engage in the democratic process or, conversely, the restrictions on political participation. It is composed of two sub indices, the first relating to civil rights, such as freedom of speech (with 11 items), and the second to political rights (9 items).
- *Economic freedom* measures the opportunity for individuals to engage in the free exchange of goods, services and labor. It is based on sub indices (each in turn composed

of a number of items), referring to the security of money, free enterprise, freedom from excessive taxation and the possibility of undertaking monetary transfers.

- *Personal freedom* measures how free one is in one's private life, for example, to practice one's religion, to travel or to get married.

To combine the sub indices, average z-scores are calculated. All three - political, economic and personal freedom - are strongly and statistically significantly correlated with happiness (Veenhoven 2000). Controlling for differences in per capita income, the correlation with economic, but not political and personal, freedom remains statistically significant. In contrast, no correlation could be found between freedom and happiness in developing countries (Lane 2000, p. 265-6).

Such studies are certainly illuminating, but they can only inform us in a limited way about the influence of various constitutional conditions on subjective well-being. One reason is that not too much faith should be put on the comparability of happiness measures *across* nations. Countries differ from each other in many ways, and it is not sufficient just to control for unequal per capita incomes to capture the influence of democracy. Moreover, the meaning of happiness may significantly differ between countries, so that it is questionable whether large scale international comparisons of happiness should be undertaken at all. Finally, the cross-section studies only report correlations and do not deal with causation. Even if we ignore the other problems, it remains open whether democracy fosters happiness, or whether happiness is a precondition for democracy. It has been argued, for instance, that high satisfaction with life in a population increases the legitimacy of the political regime installed and it may thus foster democracy (Inglehart 1990, 1999).

In the following, we therefore concentrate on *specific* institutions of democracy in *one particular country.*

6.2 Referenda

The possibility of citizens to directly participate in politics is an important feature of democracy. The constitutions of many countries allow popular referenda, but they are sometimes only used as a device to inform the government when it no longer knows what to do. Often it is used as a plebiscite in which the voters are asked to support the government's policy. In many cases, it is restricted to local and sometimes trivial issues while the decisions on important issues are reserved for the professional political actors in parliament and government. In the United States, there are many popular referenda at the local level as well as in some states (especially in California), but the constitution does not allow them at the national level. The only country with an extensive set of direct political participation rights at *all* levels of government, and with respect to *all* issues, is Switzerland. Of the roughly 500 referenda made in all countries in the world at the *national* level between 1793 and 1978, 300 or 60 percent were held in Switzerland (see Butler and Ranney 1994).

A referendum in which all the citizens have the possibility to participate meets the crucial requirement that it gives decision-making power to people *outside* the group of (professional) politicians. The constitutional setting determines to a large extent what issues are put on the political *agenda,* and what issues are prevented from appearing. In representative

democracies, politicians are often very skillful not to let those problems, which are to their disadvantage, be discussed in the democratically legitimized institutions. For example, they usually succeed not to have their privileges (e.g. their income and pensions) discussed in open parliamentary sessions. In direct democracies, however, in which the citizens may put any issue to the ballot, the agenda is much less under the control of the *classe politique*.

The effect of direct democracy on various aspects of society has been carefully analyzed in a number of econometric studies for the United States:

- Government expenditure and government revenues are lower in institutions of direct democracy (Matsusaka 1995);
- Per capita dept is substantially lower with a referendum requiring a qualified majority (McEachern 1978);
- Land prices are higher because people find it attractive to live and work in such communes (Santerre 1986);
- Public expenditures for education are higher when a referendum is possible (Santerre 1989; 1993).

The following insights have been gained on the basis of econometric studies for Switzerland:

- A comparison of Swiss communes with different degrees of institutionalized forms of participation in political decisions reveals that the outcomes correspond more closely to the voters' preferences the more directly democratic they are (Pommerehne 1990);
- The growth of public expenditure is more strongly determined by demand factors (i.e. by the citizens' willingness to pay) than by supply factors (in particular by the politicians' and bureaucrats' own interests) (Pommerehne and Schneider 1978);
- Public supply is the less costly, the more direct the democratic institutions are (Pommerehne 1978);
- Tax morale is higher than in representative democracies (Pommerehne and Weck-Hannemann 1996, Frey 1997);
- Per capita incomes in cantons with more strongly developed direct participation possibilities of the citizens are significantly higher than in cantons with less developed forms of direct participation (Feld and Savioz 1997).

All these results control for a great number of variables unrelated to direct democracy. They provide strong evidence that the deviations from the citizens' preferences are indeed significantly lower in a referendum compared to a representative democracy.

The influence of direct democracy on happiness has been analyzed using data on reported subjective well-being for Switzerland in 1992-1994 (Frey and Stutzer 2000). The major explanatory variable is the institutionalised right of individual political participation via popular referenda, which varies considerably between the 26 Swiss cantons. The estimates reveal that the extent of direct democratic participation possibilities exerts a statistically significant, robust and sizeable effect on happiness *over and above* the demographic and economic determinants normally taken into account. When the full variation in the

institutional variable is considered, i.e. when individuals in the canton with the highest democracy index (Basel Land) are compared to citizens in the canton with the lowest direct participation rights (Geneva), the former state with an 11 percentage points higher probability that they are completely satisfied. This effect is larger than living in the top rather than in the bottom income category.

6.3 Federalism

The decentralization of decision making is an alternative means for better fulfillment of the voters' preferences: individuals tend to leave dissatisfying jurisdictions while they are attracted to those caring for the population's preferences at low cost. The possibility to vote with one's feet (Tiebout 1956; see also Buchanan 1965, Hirschman 1970) tends to undermine regional cartels by politicians. The division of competence between communities and the cantonal government, or the extent of fiscal decentralization, is thus another constitutional factor systematically influencing happiness. In the study for Switzerland mentioned above (Frey and Stutzer 2000), the extent of local autonomy is measured by an index based on survey results. Chief local administrators in 1,856 Swiss municipalities were asked to report how they perceive their local autonomy on a 10 point scale.

The estimate reveals a statistically significant positive effect of decentralization on subjective well-being. For local autonomy, the proportion of persons who indicate being completely satisfied with life increases by 3.3 percentage points, compared to a situation in which the communes are one index point less autonomous vis-à-vis their canton.

7 Consequences

7.1 Economic Policy Advice

The insights gained about happiness are in many respects useful for economic policy undertaken by governments. Some examples suffice to illustrate the point:

- An important part of *anti-poverty policy* deals with the question of what “poverty” is. Traditionally, the definition relies on disposable income. Happiness research allows the problem to be approached more fundamentally by considering reported satisfaction levels. Such complementary measurement also allows equivalence scales to be established (Schwarze 2000). They indicate the increase in income necessary to compensate for a larger family, while maintaining the subjective well-being of the family.
- *Welfare policy* is faced with the question of how much economic destitution is responsible for persons feeling unhappy. To what extent can persons with low income be helped by financial support? If low income is due to unemployment, the research results suggest that not much is achieved by providing the person with a higher income. Rather, the policy should be directed towards providing the person with appropriate employment.
- The use of measures of happiness allows for a new way of evaluating the *effects of government expenditure*. All too often, the effect is measured by the cost incurred by the state: the more spent, the better. This is obviously not always the case, and in some

instances lower expenditure would be better. The problem has been approached scientifically by using benefit-cost analysis. The benefits are the recipients' marginal willingness to pay, which is best measured by a Contingent Valuation analysis (see Carson et al. 1994 who list almost 1,700 studies in over 40 countries). This method relies on carefully designed surveys in which the persons are put into a quasi-experimental situation (Arrow et al. 1993). This method is best suited to relatively small and isolated public projects, but it breaks down when it comes to more extensive expenditure policies. Simulations using micro-econometric happiness functions with a large number of determinants may be better able to evaluate the widespread effects of such policies.

- *Tax policy* must consider to what extent various income groups are affected. Is it possible to achieve social goals by redistributing income, or are the negative effects on subjective well-being prohibitive? Recently, it has been argued that the fight for *relative* positions is socially wasteful, and that the high income recipients, as winners of these status races, should be more heavily taxed (Frank 1999, more generally Layard 1980). This proposal has been influenced by the findings of happiness research, which suggest that people derive more satisfaction from their position in comparison to other income recipients than from the income level as such. If the redistributive tax policy is able to maintain income rankings, but reduces the absolute differences between income recipients, subjective well-being is little affected, and presumably work incentives are not reduced. But for an overall evaluation, this proposal must consider many additional aspects, in particular what possibilities the high income recipients have to avoid increased taxes.

A widespread temptation is to consider happiness functions as the best existing approximation to a *social welfare function,* and to maximize them. The optimal values of the determinants thus derived are – according to this view – the goals which economic policy should achieve. It seems that, at long last, the so far empirically empty social welfare maximization of the quantitative theory of economic policy (Tinbergen 1956, Theil 1964) is given a new lease of life.

This is exactly how the influential paper by Di Tella, MacCulloch and Oswald (2001) proceeds. They open their paper with the following statement: „Modern macroeconomics textbooks rest upon the assumption of a social welfare function defined on inflation, π, and unemployment, U. However, no formal evidence for the existence of such a function has ever been presented in literature. Although an optimal policy rule cannot be chosen unless the parameters of the presumed W (π, U) function are known, that has not prevented its use in a large theoretical literature in macroeconomics" (p. 1; without footnotes).

Such an endeavor overlooks some fundamental problems in the social welfare maximization approach (Frey 1983, p. 182-194). Only *one* shortcoming, empirical emptiness, has been overcome (provided one is prepared to accept happiness functions as a reasonable approximation to a social welfare function). Two other basic shortcomings remain, namely the problems of preference aggregation and missing incentives. Since Arrow (1951), it has been known that, under a number of „reasonable" conditions, no social welfare function exists that generally ranks outcomes consistently, except a dictatorship. This impossibility result spawned a huge amount of literature (called Social Choice), analyzing its robustness to modifications of the assumptions. Theorem after theorem demonstrated that almost all

changes in the axiomatic structure left the dictatorial result unchanged (see e.g. Sen 1995, Slesnick 1998). It must be concluded that „there is no way we can use empirical observations on their own to produce an ethically satisfactory cardinalization, let alone an ethically satisfactory social welfare ordering“ (Hammond 1991, p. 220-21). This verdict applies to happiness functions if they are used as quasi social welfare functions.

The second problem refers to the missing incentives. Deriving optimal policies by maximizing a social welfare function only makes sense if the government has an incentive to apply the optimal policies in reality. This is only the case if a „benevolent dictator“ government is assumed (Brennan and Buchanan 1985). Empirical analyses in Public Choice (see for example Mueller 1997) suggest that governments are not benevolent and do not simply follow the wishes of the population, even in well-functioning democracies, not to mention authoritarian and dictatorial governments. Hence, to maximize social welfare corresponds to a 'technocratic-elitist' procedure, neglecting the crucial incentive aspect.

Constitutional Political Economy (e.g. Buchanan 1991, Mueller 1996, Cooter 2000) redirects attention to the level of the social consensus where, behind the veil of ignorance, the basic rules governing a society – the fundamental institutions – are chosen or emerge. At the same time, the approach shifts from a (vain) effort to directly determine social outcomes to shaping the *politico-economic process* by setting adequate constitutional provisions.

Research on happiness has identified two basic institutions having an important effect on happiness, *direct democracy* and *federalism*.

7.2 Consequences for Economic Theory

The insights gained from the research on happiness throw new light on important issues analyzed by economics. Most important, they enlarge the scope of empirical measurement and provide new tests for theories.

Happiness is not identical to utility, but it well captures people’s satisfaction with life. For many purposes, it can be considered a useful approximation to utility which economists have evaded to measure (with the exception of benefit-cost analysis). This allows us to empirically study problems which so far could only be analyzed on an abstract theoretical level. Moreover, the analysis of data on subjective well-being may allow for discrimination between competing explanations for empirical findings in behavior (for an application see Stutzer and Lalive 2000). The opportunities offered by information on well-being and affect may not only enrich field research but also laboratory research in experimental economics (see e.g. Charness and Grosskopf 1999, Konow and Earley 1999). These extensions represent a considerable step forward towards a social science able to provide useful information.

Happiness research adds considerable new insights to well-known theoretical propositions. This has been shown with the example of how income, unemployment and inflation affect reported individual well-being.

The research on happiness undertaken leaves many questions open. At the same time it opens up challenging new areas. Further progress is especially needed in four areas:

(1) *The effects of happiness on behavior*. Economists have mainly studied the effects of behavior on subjective well-being, as represented by variables such as unemployment, inflation and income. The reverse effect has so far received scant attention (for a theoretical investigation see, for example, Hermalin and Isen 1999). In the following, we present some ideas for future research that are particularly relevant from the economic point of view. Psychologists have identified some effects of happy persons on behavior. Happy people, for instance, are more prepared to initiate social contacts with friends; are more inclined to respond to requests for help; are less often absent from work; and are less likely to get involved in work disputes (Frank 1997, p. 1833).

The extent of happiness may influence many important economic decisions. Examples are:

- *Consumption activities.* Happy persons are most likely to save and spend different proportions of their income, to distribute differently over time, and to acquire different combinations of particular goods and services than do less happy persons (e.g. Kahn and Isen 1993).
- *Work behavior.* Happier individuals may differ significantly in behavior on the job. There is indeed a very large literature on job satisfaction (e.g. Warr 1999) which analyzes, for example, whether more satisfied workers are also more productive (Iaffeldano and Muchinsky 1985).
- *Investment behavior.* It can be hypothesized that happier people have a different attitude to taking risks than less happy people. They may also prefer different markets and types of financial investments.
- *Political behavior.* Happy people are likely to vote for different politicians and parties, and for different alternatives in referenda, than unhappy people. It has, for instance, been found that such a difference exists where attitudes towards the European Union are concerned (Castles 2000).

(2) Application of Happiness Analysis to Further Areas. There are many topics in economic research for which a complementary analysis of survey data on subjective well-being would be worthwhile. Possible questions are:

- *Evaluation of inequality.* How does inequality in income as well as in wealth affect human well-being (see e.g. Alesina et al. 2000)?
- *Discrimination of women.* Is there a relationship between discrimination of women on the labor market and their life satisfaction (see e.g. Clark 1997, Sousa-Poza and Sousa-Poza 2000)?
- *Environmental economics.* To what extent does environmental quality have an effect on individual well-being?
- *Growth analysis.* Are there systematic differences in measures of subjective well-being for different paths of growth or development (see e.g. Kenny 1999)?

Special emphasis may be put on a *broader set of institutions.* Studies on the impact of institutions on happiness have so far mainly been confined to two elements, namely

(direct) democracy and federalism. They certainly count among the most important basic aspects of a constitution, but there are many other institutions whose impact on subjective well-being is worth studying. Examples would be the institutions of monetary policy, such as the extent of independence of the central bank (see e.g. Eijffinger 1997**)**; the importance of corporatism in policy making (see e.g. Schneider and Wagner 2000); or the prevalence of centralized or firm level wage bargaining between trade unions and employer associations (see e.g. Iversen, Pontusson and Soskice 2000**).**

(3) *Application of More Advanced Methods.* Most comparative studies of happiness between countries employ multiple cross-section regressions. This has been a very useful starting point, but the next important step is to use panel data, that is combined cross-section time-series analyses. The use of this technique for happiness research is only just beginning (in particular in the work by Di Tella, MacCulloch and Oswald 2001), mostly because the necessary data on happiness are still lacking.

(4) *Improved Happiness Measurements.* There is also room for methodological concerns and the quality of the happiness data (e.g. Diener, Suh, Lucas and Smith 1999, p. 277-8). Economists should, however, not be too critical, in view of the deficiencies of what they measure and use as a matter of course. National income is a case in point. Its shortcomings are obvious and need not be discussed here. The main use of happiness measures is, however, not to compare levels of subjective well-being, but rather to seek to identify the *determinants* of happiness.

This paper has reached its goal if it has convinced the reader that happiness research is not a futile or eccentric activity but is able to provide relevant new insights, and can serve as an inspiration for future research in economics.

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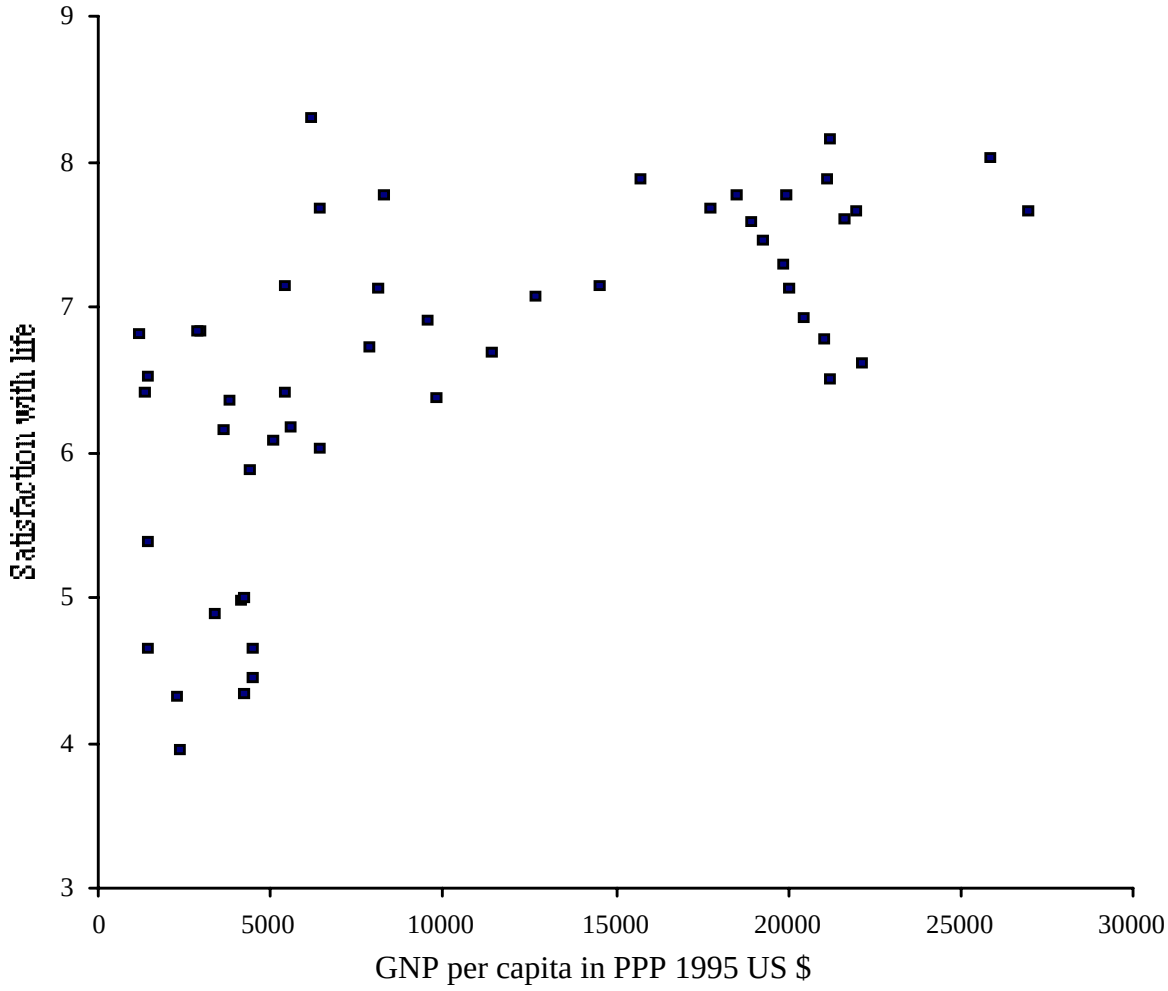
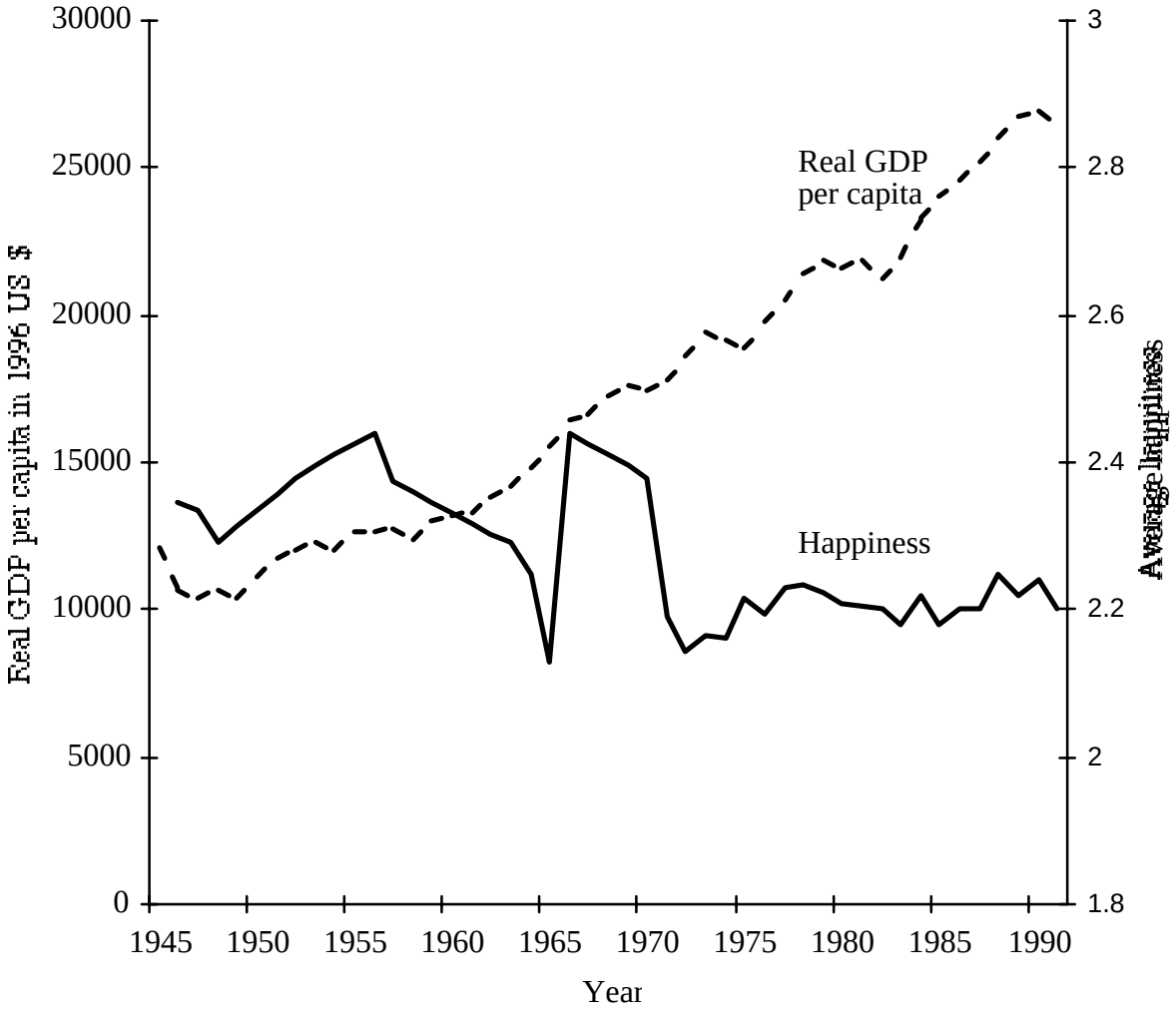
FIGURE 1
LIFE SATISFACTION AND INCOME LEVELS ACROSS THE WORLD IN THE 1990S

Sources: World Values Survey 1990-1993/1995-1997 (ICPSR 2790) and World Development



Report 1997.

FIGURE 2
HAPPINESS AND INCOME PER CAPITA IN THE UNITED STATES BETWEEN 1946 AND 1991



Sources: World Database of Happiness, Bureau of Economic Analysis of the U.S. Department of Commerce and U.S. Census Bureau.

FIGURE 3
HAPPINESS, INCOME AND THE ROLE OF THE ASPIRATION LEVEL

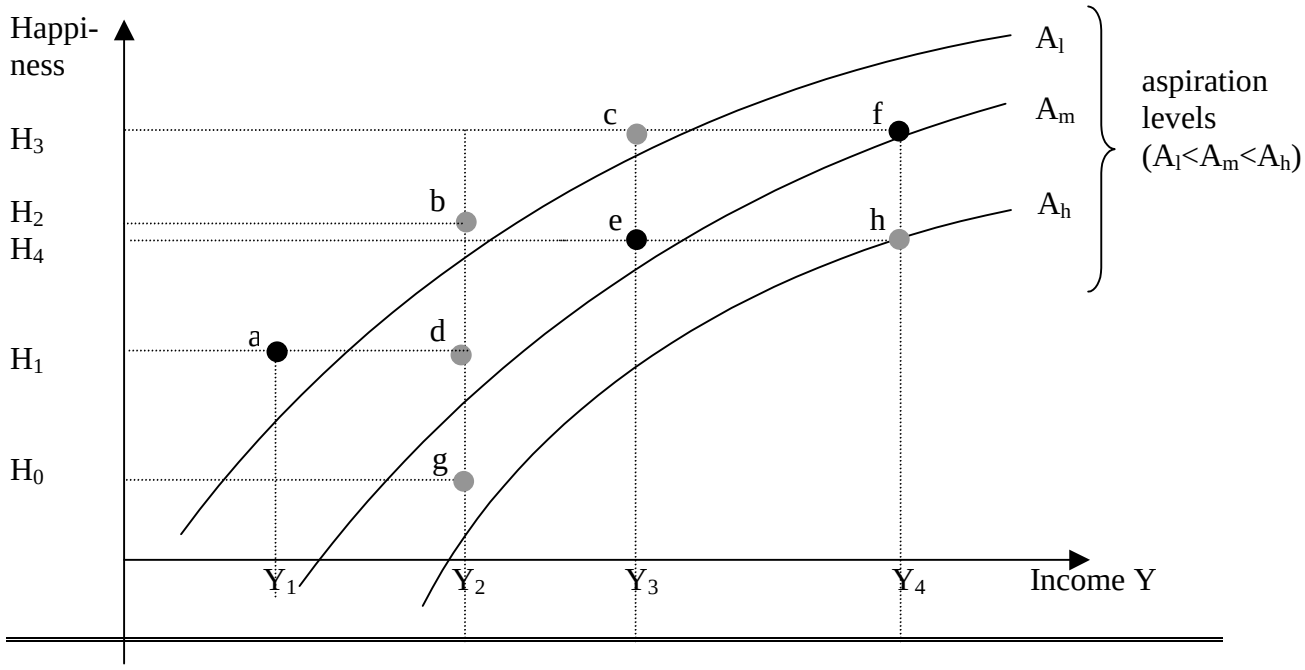
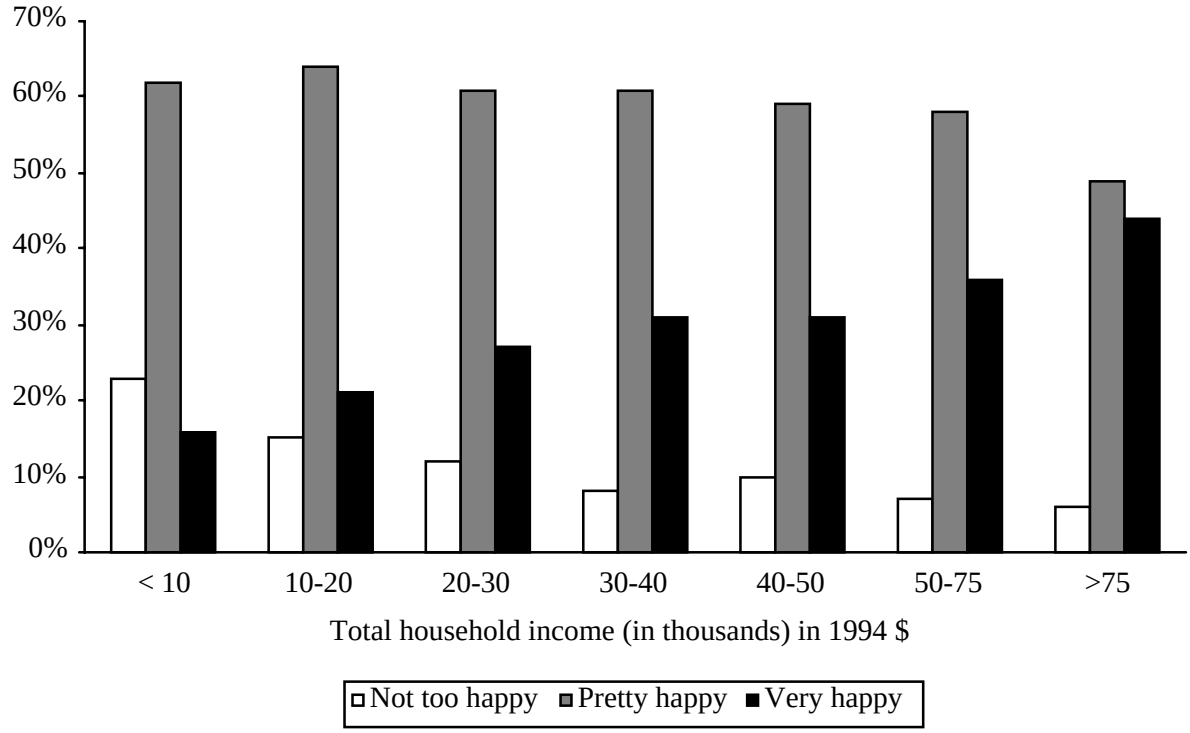


FIGURE 4
POPULATION DISTRIBUTION OF HAPPINESS ACCORDING TO VARIOUS LEVELS OF INCOME, UNITED STATES IN 1994



Source: Data from National Opinion Research Center (1999) presented in Easterlin (2000)

FIGURE 5
INCOME AND WELL-BEING IN THE UNITED STATES, 1981-84

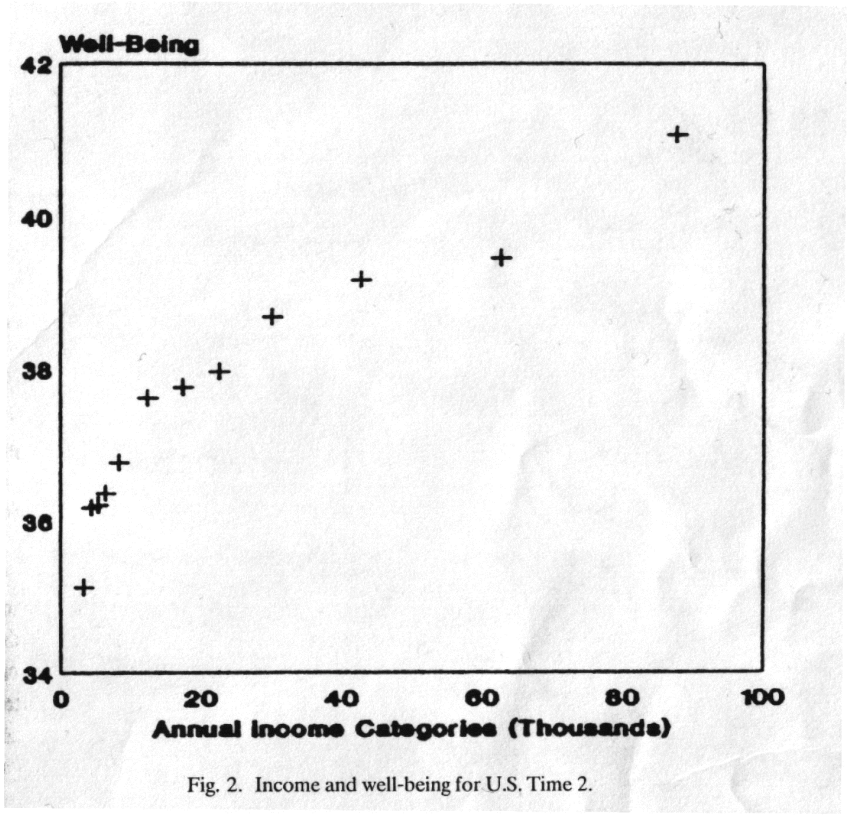
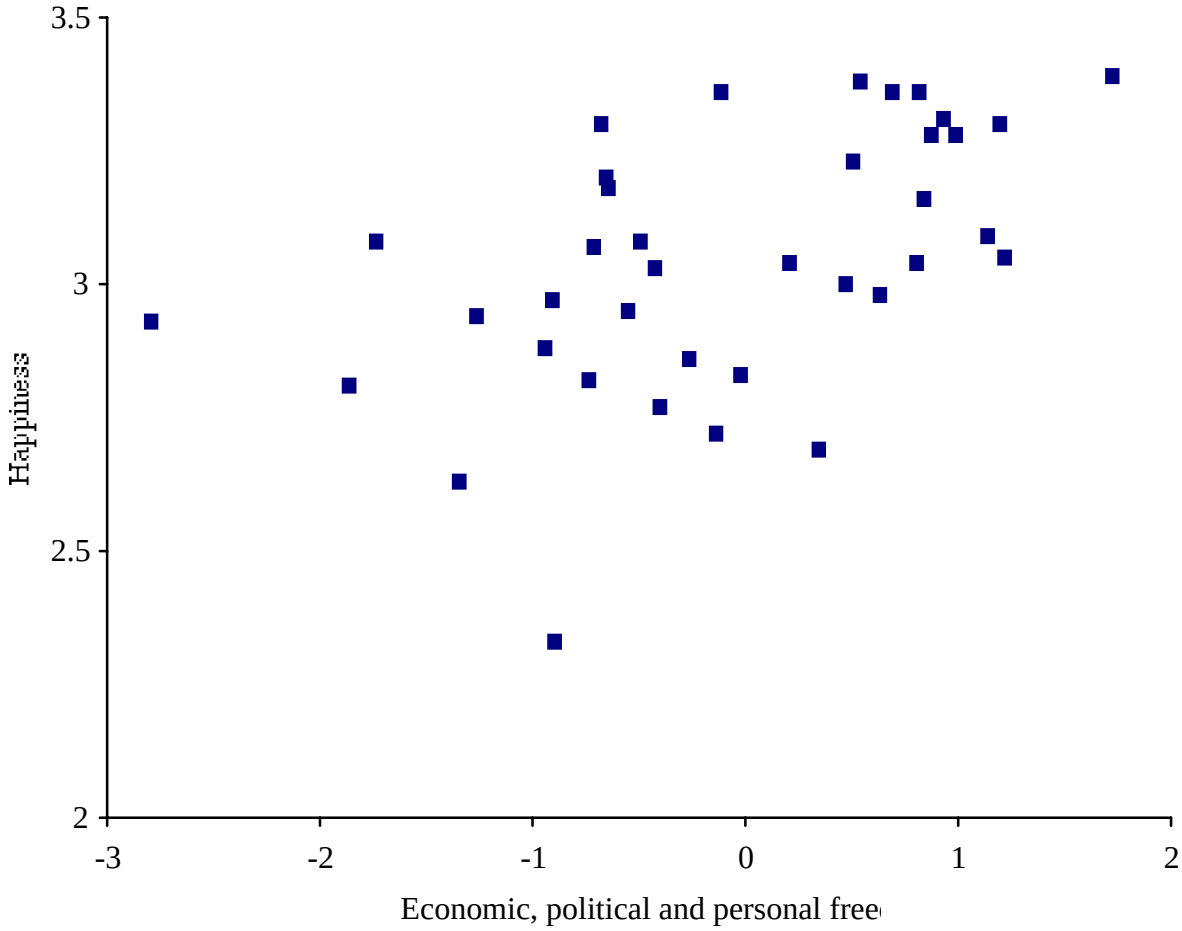


Fig. 2. Income and well-being for U.S. Time 2.

Source: Diener et al. (1993), figure 2 from Kluwer Academic Publishers.

FIGURE 6
FREEDOM AND HAPPINESS ACROSS NATIONS



Source: Veenhoven (2000a), Appendix 1.