The Economics of Happiness

Bruno S. Frey and Alois Stutzer

Economists' reluctance and a new development

Everyone wants to be happy. There are few goals in life shared by so many people. Economic activity—the production of goods and services—is certainly not an end in itself but only has value in so far as it contributes to human happiness.

But, surprisingly enough, economists have long left the study of happiness to other disciplines, especially psychology. True, when the science of economics was founded by the classics, it was taken for granted that happiness can be measured and used to determine whether a particular economic policy raises or lowers the happiness of the people affected. Thus, Jeremy Bentham assumed that utility reflects pleasures and pains, and Isidor Edgeworth was confident that happiness can be measured by a 'hedonometer' (though he was not able to come up with a practical procedure). The situation changed dramatically with the advent of what was then called the 'New' Welfare Economics. In the 1930s, scholars such as John R. Hicks demonstrated that human behaviour, and in particular the demand for commodities, can be explained on the basis of relative (ordinal) utility. No absolute (cardinal) measurement of utility is needed to analyse how individuals react to changes in relative prices. Welfare judgements can be made by resorting to the Pareto criterion and therefore no comparison of welfare levels among individuals is required. This change in thinking greatly simplified economic analysis, while still yielding considerable insights. The success of extending the analysis to related but still separate areas, for example politics, the family or crime,[1] is at least partly due to this revolution.

Bruno Frey is a Professor of Economics at the University of Zurich. Alois Stutzer is a Research Assistant at the University of Zurich.

[1] See, e.g., Becker, 1976; Stigler, 1984; Frey, 1999.

Today, however, we are witnessing yet another dramatic change in economists' thinking. Due to extensive work by numerous psychologists spanning many decades,[2] the measurement of utility has made great progress. It is now possible to approximate individual utility in a satisfactory way using representative surveys. 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 lies a cognitive assessment of to what extent their overall quality of life is judged in a favourable way (Veenhoven, 1993). The measures of subjective well-being or, in short, happiness, prove to be consistent and reliable. Happy people are, for example, more often smiling during social interactions, and are rated as happy by friends and family members, as well as by spouses. Reported subjective well-being is moderately stable and sensitive to changing life circumstances (see e.g. Diener *et al.*, 1999). This progress in measurement allows for the analysis of a paradoxical observation made many years ago by Easterlin (1974). Since World War II, real income in several countries has dramatically risen, but the self-reported subjective well-being of the population has not increased, or has even fallen slightly. In the US, for example, between 1946 and 1991, per capita real income rose by a factor of 2.5 (from approximately $11,000 to $27,000), but over the same period happiness remained, on average, constant. Another paradox requiring explanation is that, since time immemorial, work has been considered a burden on individuals, but empirical research on happiness clearly suggests that being unemployed, even when receiving the same income as when employed, depresses people's well-being noticeably.

Many happiness research findings add new knowledge to what have now become standard views. One is the consistently strong influence of non-financial variables on self-reported satisfaction with life. This does not mean that economic factors, such as employment, income or price stability, are unimportant, but they suggest that the recent interest in issues such as social capital, loyalty, civic virtue or intrinsic motivation,[3] is well taken. The findings also enrich our knowledge on discrimination concerning gender, ethnicity, race and age.

[2] Recent surveys are Diener *et al*, 1999; Kahneman *et al*, 1999; Lane, 2000.
[3] See Putnam, 2000; Ostrom, 2000; Bowles, 1998; Frey, 1997.

There are other reasons for economists to be interested in happiness. One is economic policy. It is often impossible to make a proposal for a Pareto improvement,[4] because social action entails costs for some individuals. Hence, an evaluation of the net effects in terms of individual utilities is needed. Economic policy must also have quantitative evidence on trade-offs, especially those between unemployment and inflation. Another reason why happiness is of interest to economists is the effect of institutional conditions, such as the quality of governance and the size of social capital, on individual well-being.

Happiness functions seek to establish an econometric relationship between the happiness measure and the determinants of happiness. The happiness data are derived from, for example, the Eurobarometer Surveys, which ask the question: "On the whole, are you satisfied, fairly satisfied, not very satisfied or not at all satisfied with the life you lead?" This yields a four-point scale of satisfaction with life. The US General Social Surveys ask the question: "Taken all together, how would you say things are these days—would you say that you are very happy, pretty happy, or not too happy?" This yields a three-point scale of happiness.

Happiness depends on three sets of factors:

- Demographic and personality factors, such as age, gender and family circumstances, as well as nationality, education and health
- Economic factors, in particular unemployment, income, and inflation
- Political factors such as the extent of possibilities for citizens to participate in politics, and the degree of governmental decentralisation.

Happiness functions have been estimated with aggregate as well as with individual data. Recently, panel data have increasingly been used, i.e. the same individuals are re-surveyed over time. As the dependent variable is a scaled index, normally weighted ordered logit or probit estimation techniques have been applied. The following estimation results presented are always the *partial effects* of the variable in question on happiness, i.e. the influence of all other variables in the simultaneously estimated equation is controlled for.

This paper endeavours to provide an impression of this new, and possibly revolutionary, development in economics. No comprehensive survey

[4] i.e. one that would increase welfare for at least one person without reducing the welfare of any other person.

is intended (this is undertaken in Frey and Stutzer, 2002). Rather, the most important findings are presented, especially those that put generally accepted knowledge into doubt. The next parts deal with three major factors of happiness: socio-demographic (section 2); economic (section 3); and institutional factors (section 4). Section 5 offers conclusions.

Socio-demographic factors of happiness

Studies undertaken with data for many different countries and periods of time have identified the following main general results:

- Age affects happiness in a U-shaped manner. Young and old people report being happier than middle-aged people. The least happy people are aged between 30 and 35.
- Women report being slightly happier than men.
- Couples with and without children are happier than singles, single parents and people living in collective households.
- Foreigners report being significantly less happy than nationals.
- People with higher education indicate significantly higher well-being.
- Bad health significantly lowers self-reported happiness.

While these results have been found in a large number of different studies, they should nevertheless be interpreted carefully. Thus, for example, with respect to the influence of age on happiness, it should be taken into account that many old people have health problems which negatively affect their well-being. Moreover, there is the question of causality. For example, does marriage cause happiness or does happiness promote marriage? A selection effect cannot be ruled out. It seems reasonable to assume that dissatisfied and introverted people find it more difficult to find a partner. It is more fun to be with extraverted, trusting and compassionate people. Careful research has led to the conclusion that this selection effect is not strong and that the positive association of marriage and happiness is mainly due to the beneficial effects of marriage.

Economic factors of happiness

Three major influences on happiness have been identified: unemployment, income and inflation.

The effects of unemployment on happiness

Two aspects are worth distinguishing: What is the happiness level of an unemployed person? How does general unemployment in an economy affect happiness?

Personal unemployment

Studies have clearly established that, for many different countries and time periods, personally experiencing unemployment makes people very unhappy. Joblessness reduces well-being more than any other single factor, including important negative ones such as divorce and separation (Clark and Oswald, 1994, p. 655). These results refer to the 'pure' effect of being unemployed. The income loss, as well as other indirect effects which often go with personally being unemployed, are kept constant.

It could be argued that what has been found could 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 people 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 addressed 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 in the labour market, but the main causation seems clearly to run from unemployment to unhappiness.

General unemployment

People are unhappy about unemployment, even if they themselves are not put out of work. This effect is of considerable size (see e.g. Di Tella *et al.*, 2001). People may feel bad about the unfortunate fate of those unemployed and they may worry about the possibility of becoming unemployed themselves in the future. They may also feel repercussions on the economy and on society as a whole. They may dislike the increase in unemployment contributions and taxes that often follow higher unemployment, they may fear that crime and social tension will increase, and they may even see the threat of violent protests and uprisings.

An important interaction refers to reference groups. Individuals tend to evaluate their own situation relative to other people. For most people, unemployment lowers their happiness less if they are not alone with this particular fate. When unemployment is seen to hit many people one knows or hears of, both the psychological and the social effects are mitigated. Self esteem is better preserved, because it becomes obvious that being out of work is less 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 people at the same time. The unemployed indeed suffer less when the partner, or a large proportion of other people living in their region, are also out of work (Clark, 2000). The same result is reached when general unemployment in the economy is taken as the reference point.

The effects of income on happiness

Two aspects of the relationship between income and happiness have been studied. Firstly, does a higher income per capita increase happiness in society? Secondly, are people with high income in a country and at a particular point in time happier than those with low income?

Income level in society

Challenging evidence is provided for the relationship between income *per capita* and subjective well-being in society. In many cross-country studies, it is reported that, on average, people living in rich countries are happier than those living in poor countries. In contrast, there is the striking and curious relationship that has been mentioned above: *per capita* income in several countries has risen sharply in recent decades, but average reported happiness has been virtually constant, or has even fallen slightly over the same period. The positive relationship between income and happiness between countries may thus be produced by factors other 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 more developed democratic conditions.

In addition to democracy, there are many other conditions along with income which may produce the observed positive correlation between income and happiness. Just to name two more: the higher the income, the more parity between the sexes, and the more respect for human rights

(Easterly, 1999). Thus, both parity between the sexes and respect for human rights may seemingly make happiness rise with income.

In order to address further the role of absolute income in happiness in and between countries, another empirical strategy can be applied: cross-sectional data for several periods of time can be combined in order to allow for a control of time-invariant country specific characteristics. These characteristics could comprise stable cultural differences, systematic distortions due to language differences and so on. Such an approach is followed in a study combining data for 49 countries in the 1980s and 90s from the first three waves of the World Values Survey. Separate base levels in subjective well-being for six groups of countries are taken into consideration in the estimation equation. It is found that national income *per capita* (measured in percentage of the value for 1997 in the US) has a very small effect on reported subjective well-being. A 10% increase in *per capita* incomes in a country with half the level of the US (and unchanged income distribution) raises average satisfaction with life by only 0.0003 score points on a scale from one to ten, and the gain disappears even before the US 1997 level of real per capita income is achieved (Helliwell, 2001, p. 15).

Another aspect to consider is whether, when income and happiness between countries are compared, 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 inclined it is 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.

The available evidence suggests that across nations, income and happiness are correlated, but that the effects are small and diminishing. This indicates that, on the one hand, other factors may be more important in explaining differences in reported subjective well-being between countries and, on the other hand, that there is more to the relationship between subjective well-being and the level of income than generally assumed in economics. 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. Additional material goods and services initially provide extra pleasure, but it is usually only transitory. Higher happiness with material possessions wears off.

Satisfaction depends on change and disappears with continued consumption. This process or mechanism, which 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. Aspiration level theory suggests that increases in income and aspiration levels are closely connected. The expected increase in happiness does not materialise. Rather, an increase in income is accompanied by an increasing aspiration level. This could explain why an ever increasing income level in rich countries does not contribute to additional happiness.

Income differences between people

People 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 therefore yields higher utility, and conversely the poor are unhappy. This relationship between income and happiness at a given point in time and in a particular location (country) has been the subject of a large empirical literature. As a robust and general result, it has been found that richer people, on average, report higher subjective well-being.[5] The relationship between income and happiness, both in simple regressions and when a large number of other factors are controlled for in multiple regressions, proves to be positive and sizeable (provided, of course, that the two are correctly measured). In this sense, income does buy happiness.

However, additional income does not, of course, raise happiness *ad infinitum* and cannot be depended on to raise happiness (Diener *et al.*, 1993; Ng, 2001a). Increases in happiness tail off as absolute income rises. Moreover, the low proportion of differences in happiness among people that can be explained by differences in income indicates that other factors are also important in explaining why some people are happier than others.

As has already been pointed out for the case of income level in society, correlations do not establish causation. It may well be that it is not higher individual income that makes people happier, but rather that happier people earn higher income, e.g. because they like to work harder, and are more enterprising. In order to test the direction of causation, windfalls determining income have been analysed. British lottery winners and

[5] e.g., Di Tella *et al.*, 2001; Blanchflower and Oswald, 2000; Easterlin, 2001 for the US, the UK and continental Europe; Frey and Stutzer, 2000, for Switzerland.

people receiving a legacy reported higher mental well-being in the following year. An unexpected transfer of £50,000 is estimated to raise subjective well-being by between 0.1 and 0.3 standard deviations.[6] This suggests that the causation runs indeed from income to happiness.

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 people. It is not the absolute level of income that matters most, but rather one's position relative to other people. Many economists in the past have noted that individuals compare themselves to others with respect to income, consumption, status or utility. Thorstein Veblen (1899) coined the notion of 'conspicuous consumption', serving to impress other people. The 'relative income hypothesis' was formulated and econometrically tested by James Duesenberry (1949), who posited an asymmetric structure of externalities. People look upwards when making comparisons. Aspirations thus tend to be above the level already reached. Wealthier people impose a negative external effect on poorer people, but not vice versa. Fred Hirsch (1976), in his book *Social Limits to Growth*, emphasised the role of relative social status by calling attention to 'positional goods' which, by definition, cannot be augmented, because they rely solely on not being available to others. This theme was taken up by Robert Frank (1985, 1999), who argued 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 *which* other people such a comparison is being made. In a study of 5,000 British workers, the reference group is formed to comprise people with the same labour market characteristics. It is concluded that the higher the income of the reference group, the less satisfied people are with their job (Clark and Oswald, 1996).

The distribution of income also affects happiness. It does so over and above the individual income level. There is a negative effect of inequality on happiness in Europe, but no such effect is measured in the US. This is consistent with the observation that Europeans tend to have inequality

[6] Gardner and Oswald, 2001; see also Brickman, Coates and Janoff-Bulman, 1978.

aversion, while Americans do not. Upward social mobility is perceived to be larger in the US than in Europe, therefore being low on the scale of income distribution is not necessarily seen as affecting future income (Alesina *et al.*, 2001).

Most of the research on the relationship between individual income and happiness has been undertaken for advanced industrial countries. But it has been shown (Graham and Pettinato, 2001) that the results for individual income essentially carry over to both developing countries and to countries in transition.

The effect of inflation on happiness

In combined time series-cross section studies, it has been shown that a higher inflation rate substantially reduces reported happiness. For 12 European countries over the period 1975–91, it has been calculated that an increase in the inflation rate by five percentage points—say from the mean rate of 8% to 13% per year—reduces average happiness by 0.05 units of satisfaction, i.e. from an average level in the sample of 3.02 to 2.97 (Di Tella *et al.*, 2001). This is a substantial amount. It means that 5% 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'.

Trade-off between unemployment and inflation

The results on the effect of unemployment and inflation on happiness can now be combined. 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? It has been calculated for the twelve European countries referred to above (Di Tella *et al.*, 2001) 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%), the inflation rate must decrease by 8.5 percentage points (say from 10% to 1.5% per year) to keep the population equally satisfied. This result significantly deviates from the 'Misery Index' which, for lack of information, has simply been defined as the sum of the percentage unemployment rate and the percentage annual inflation rate. This index distorts the picture by attributing too little weight to the effect of unemployment, relative to inflation, on self-reported happiness.

Institutional effects on happiness

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 people, the politicians and parties in a democracy fail to be re-elected and lose their power. Democratic institutions, in particular the right to participate in elections and vote on issues, thus contribute 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 make decisions according to their own preferences have been captured by various indices of freedom. 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. Analyses with sub-samples suggest that economic freedom contributes to happiness, particularly in poor countries with a low level of general education, while political freedom is more strongly correlated with subjective well-being in rich countries with a high level of education. In both cases, differences in income *per capita* are controlled for (Veenhoven, 2000).

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. 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 cross-section studies only report correlations and do not deal with causation. It remains open whether democracy fosters happiness, or whether happiness is a precondition for democracy. Many of these problems are reduced when one concentrates on *specific* institutions of democracy in *one particular country*.

The possibility of citizens to directly participate in politics is an important feature of democracy. The influence of direct democracy on happiness has been analysed 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 possibilities for direct democratic participation 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 most developed institutions of direct democracy are compared to citizens in the canton with the lowest direct participation rights, 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.

Government decentralisation

The decentralisation of decision making is an alternative means for better fulfilment 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 study for Switzerland mentioned above (Frey and Stutzer, 2000) reveals a statistically significant positive effect of decentralisation on subjective well-being. For local autonomy, the proportion of people who indicate being completely satisfied with life increases by 2.6 percentage points, compared to a situation in which the communes are one standard deviation less autonomous *vis-à-vis* their canton.

Conclusions

Happiness is not identical to utility, but it well reflects people's satisfaction with life. For many purposes, it can be considered a useful approximation to utility. This allows us to empirically study problems that so far could only be analysed on an abstract theoretical level.

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

Effects of unemployment

Economists' views about the costs of unemployment differ. According to 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. In contrast, there are a lot of economists who 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. Happiness research is consistent with this latter view and suggests that unemployment strongly reduces subjective well-being, both personally experienced and for society as a whole.

Effects of income

Most economists take it as a matter of course that higher income leads to higher happiness. 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 dispose of any unwanted surplus costlessly. It therefore seems obvious that income and happiness go together.

The empirical research on happiness evidence both supports and contradicts this generally held idea. In line with common thinking, it is found that at a particular point in time, and within a particular country, higher income is associated with higher individual happiness. In contrast, higher *per capita* income in society seems not to raise reported satisfaction with life in rich western countries. Even at an income level half that of the US, there are only small effects of higher average income on subjective well-being. This can be attributed to the rise in aspiration levels going with increases in income.

Effects of inflation

The econometric analysis of happiness data allows us to go beyond the *a priori* notions of theoretical economics, based on the distinction between anticipated and unanticipated inflation. Adjustment is the more costly, the higher is the *variability* in aggregate inflation and in relative prices caused by an increase in inflation. People must invest a lot of effort to inform themselves about, and insulate themselves from, the expected price increases. 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.

The welfare costs of rising prices have previously been measured by computing the appropriate area under the money demand curve. Based on this method, the cost of 10% annual inflation has been calculated to be between 0.3% and 0.45% of national income (Fischer, 1981; Lucas, 1981). This is very little and suggests that an anti-inflationary policy is rarely worth the cost it entails in terms of additional unemployment and real income loss. In contrast, happiness research finds that inflation systematically and sizeably lowers reported individual well-being.

Effects of democracy

The consequences of democratic rules have mainly been analysed in economics with regard to their effects on economic growth. Data on subjective well-being allow us to look at the interaction between democracy and happiness. The extent to which a constitution is democratic and allows its citizens to make decisions according to their own preferences can be captured by various measures. It is found that increased possibilities to directly participate in public decision-making via popular referenda and a decentralised state significantly contribute to happiness.

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

- *Welfare policy* is faced with the question of to what extent people with low incomes can 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 job opportunities.
- *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?

The discussion in this paper intends to show that the happiness research in which economists have recently become engaged constitutes an important advance over previous economics. This research is only in its initial stages, and much still awaits analysis. For instance, most happiness studies consider developed economies. Additional empirical studies devoted to developing economies could broaden the picture and qualify previous findings. It has sometimes been claimed that comparisons of happiness between countries make little sense because of cultural differences. While differences between cultures are important, they are often exaggerated. Culture may, to some extent, affect what factors influence happiness but, as shown in various studies, there are universal factors determining subjective well-being, and it may also be argued—as Ng (2001b) does—that happiness as an ultimate goal in life is independent of culture.

References

Alesina, Alberto, Rafael Di Tella and Robert MacCulloch (2001) "Inequality and Happiness: Are Europeans and Americans Different?" *NBER Working Paper No. 8198*. Cambridge, MA: National Bureau of Economic Research.

Becker, Gary S. (1976) *The Economic Approach to Human Behavior*. Chicago: Chicago University Press.

Blanchflower, David G. and Andrew J. Oswald (2000) "Well-Being Over Time in Britain and the USA". *NBER Working Paper No. 7487*. Cambridge, MA: National Bureau of Economic Research.

Bowles, Samuel (1998) "Endogenous Preferences: The Cultural Consequences of Markets and Other Economic Institutions". *Journal of Economic Literature*, 36(1), pp. 75–111.

Brickman, Philip, Dan Coates and Ronnie Janoff-Bulman (1978) "Lottery Winners and Accident Victims: Is Happiness Relative?" *Journal of Personality and Social Psychology*, 36(8), pp. 917–927.

Clark, Andrew E. (2000) "Unemployment as a Social Norm: Psychological Evidence from Panel Data". Mimeo. University of Orléans, France.

Clark, Andrew E. and Andrew J. Oswald (1994) "Unhappiness and Unemployment". *Economic Journal*, 104(424), pp. 648–659.

Clark, Andrew E. and Andrew J. Oswald (1996) "Satisfaction and Comparison Income". *Journal of Public Economics*, 61(3), pp. 359–381.

Di Tella, Rafael, Robert J. MacCulloch and Andrew J. Oswald (2001) "Preferences over Inflation and Unemployment: Evidence from Surveys of Happiness". *American Economic Review*, 91(1), pp. 335–341.

Diener, Ed, Ed Sandvik, Larry Seidlitz and Marissa Diener (1993) "The Relationship Between Income and Subjective Well-Being: Relative or Absolute?" *Social Indicators Research*, 28(3), pp. 195–223.

Diener, Ed, Eunkook M. Suh, Richard E. Lucas and Heidi L. Smith (1999) "Subjective Well-Being: Three Decades of Progress". *Psychological Bulletin*, 125(2), pp. 276–303.

Duesenberry, James S. (1949) *Income, Savings and the Theory of Consumer Behavior*. Cambridge, MA: Harvard University Press.

Easterlin, Richard A. (1974) "Does Economic Growth Improve the Human Lot? Some Empirical Evidence". In: Paul A. David and Melvin W. Reder (eds), *Nations and Households in Economic Growth: Essays in Honor of Moses Abramowitz*. New York: Academic Press, pp. 89–125.

Easterlin, Richard A. (2001) "Income and Happiness: Towards a Unified Theory". *Economic Journal*, 111(473), pp. 465–484.

Easterly, William (1999) "Life During Growth". *Journal of Economic Growth*, 4(3), pp. 239–276.

Fischer, Stanley (1981) "Towards an Understanding of the Costs of Inflation: II". *Carnegie-Rochester Conference Series on Public Policy*, 15(0), pp. 5–41.

Frank, Robert H. (1985) *Choosing the Right Pond*. New York: Oxford University Press.

Frank, Robert H. (1999) *Luxury Fever: Why Money Fails to Satisfy in an Era of Excess*. New York: Free Press.

Frey, Bruno S. (1997) *Not Just for the Money: An Economic Theory of Personal Motivation*. Cheltenham, UK and Brookfield, USA: Edward Elgar.

Frey, Bruno S. (1999) *Economics as a Science of Human Behaviour*. 2nd ed., Boston: Kluwer Academic Publishers.

Frey, Bruno S. and Alois Stutzer (2000) "Happiness, Economy and Institutions". *Economic Journal*, 110(446), pp. 918–38.

Frey, Bruno S. and Alois Stutzer (forthcoming, 2002) *Happiness and Economics: How the Economy and Institutions Affect Human Well-Being*. Princeton University Press.

Gardner, Jonathan and Andrew J. Oswald (2001) "Does Money Buy Happiness? A Longitudinal Study Using Data on Windfalls". Mimeo. Warwick University.

Graham, Carol and Stefano Pettinato (2001) "Happiness, Markets, and Democracy: Latin America in Comparative Perspective". *Journal of Happiness Studies*, 2(3), pp. 237–268.

Helliwell, John F. (2001) "How's Life? Combining Individual and National Variables to Explain Subjective Well-Being". Mimeo, Department of Economics, University of British Columbia.

Hirsch, Fred (1976) *The Social Limits to Growth*. Cambridge, MA: Harvard University Press.

Kahneman, Daniel, Ed Diener and Norbert Schwarz (eds, 1999) *Well-Being: The Foundations of Hedonic Psychology*. New York: Russell Sage Foundation.

Kenny, Charles (1999) Does Growth Cause Happiness, or Does Happiness Cause Growth? *Kyklos* 52(1), pp. 3–26.

Lane, Robert E. (2000) *The Loss of Happiness in Market Economies*. New Haven and London: Yale University Press.

Lucas, Robert E. Jr. (1981) Discussion of: Stanley Fischer, 'Towards an Understanding of the Costs of Inflation: II'. *Carnegie—Rochester Conference Series on Public Choice* 15, pp. 43–52.

Ng, Yew-Kwang (2001a) "Is Public Spending Good for You?" *World Economics*, 2(2), pp. 1–19.

Ng, Yew-Kwang (2001b) "The East-Asian Happiness Gap: Speculating on Causes and Implications". Mimeo, Department of Economics, Monash University.

Ostrom, Elinor (2000) "Collective Action and the Evolution of Social Norms". *Journal of Economic Perspectives* 14(3), pp. 137–58.

Putnam, Robert D. (2000) *Bowling Alone and the Revival of American Community*. New York: Simon and Schuster.

Stigler, George J. (1984) "Economics: The Imperial Science?" *Scandinavian Journal of Economics*, 86, pp. 301–13.

Veblen, Thorstein (1899) *The Theory of Leisure Class*. New York: Modern Library.

Veenhoven, Ruut (1993) *Happiness in Nations: Subjective Appreciation of Life in 56 Nations 1946–1992*. Rotterdam: Erasmus University Press.

Veenhoven, Ruut (2000) "Freedom and Happiness: A Comparative Study in Forty-four Nations in the Early 1990s". In: Ed Diener and Eunkook M. Suh (eds) *Culture and Subjective Well-Being*, pp. 257–288. Cambridge, MA: MIT Press.