Knowing what is good for you: Empirical analysis of personal preferences and the "objective good"

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Centre for Analysis of Social Exclusion

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Editorial Note

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Abstract

This paper aims to test empirically if certain frequently used measures of well-being, which are regarded as valuable properties of human life, are actually desired by people. In other words, it investigates whether the "expert judgments" in social science overlap with social consensus on what the "good life" is. The starting hypothesis is that there is an overlap between these two in the case of *basic needs*. For the analysis, individuals' self-reported life satisfaction is used as a proxy for "utility", based on survey data, which includes about 30 000 individuals from 21 different European countries. The results indicate that the commonly used measures of well-being – labour market situation, health, housing conditions and social relations – significantly influence people's satisfaction, ceteris paribus. Next, the stability of preferences is tested using Hungarian data from the 1990s. The results indicate that there was only very limited change in the relationship between life satisfaction and basic measures of well-being despite the landslide of societal and economic transformation.

Keywords: quality of life, capabilities, happiness, basic needs, economic transition
JEL classification: D63, I31, P36

Introduction

Social scientists are interested in understanding how to increase social welfare, but they often encounter doubts relating to whether they really know what is "good" for people. One such dilemma is whether there is an objective account of what the "good life" is, or whether good is to be defined as something that makes us happy or fulfils our desires. In the first case, certain things are considered to enhance our well-being, irrespective of whether we desire or actually enjoy them; the rival theory may be called hedonism or desire-fulfilment, and holds that well-being, at least to some extent, depends on individuals' mental states.

The following question is of a more pragmatic nature: if there is an "objective good", how can we find out what it is? Can any, however well-informed, member of society set the standards of evaluation himself without being paternalistic? If the answer is no, referring to the "liberal" nature of society, where a plurality of values and beliefs prevails, and freedom of choice for individuals has intrinsic value, then the sole alternative is to rely on some "social norms" in judging people's quality of life.

This paper aims to test empirically if certain frequently used measures of well-being, which are regarded as valuable properties of human life, are actually desired by people. In other words, it investigates whether the "expert judgements" in social science overlap with social consensus on what the "good life" is. The starting hypothesis is that there is an overlap between these two in the case of *basic needs*, since basic desires tend to be largely shared by human beings (Harsányi 1997; Nussbaum 2001). For the analysis, individuals' self-reported life satisfaction is used as a proxy for "utility", based on the 2002/2003 wave of the European Social Survey, which includes about 30000 individuals from twenty one different European countries. One of these countries is Hungary, the country which is studied in greater depth in the second part of the paper.

Second, the stability of the relationship of utility and basic measures of well-being is tested by examining whether a major economic and social shock changes the "desirability" of these measures of well-being. Here data from a transition country, Hungary, is used. The data consists of two nationally representative household surveys from an early (1992) and later phase (1998) of economic transition, containing 5000 and 4000 individuals respectively.

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The Sen-sible measure of the "good life"

The utilitarian tradition assumes that people accept utility as an ultimate object of value, and its pursuit is what drives people's behaviour. In economics the "good life" is what people choose to live, given their constraints. The problem is that they often do not act as the best agents for their own welfare. Harsányi claims that a person's "actual preferences" as indicated by his choice behaviour may not express his deeper interests or "true preferences" due to ignorance or incorrect information (1997, p.133.). Kahneman and colleagues show in a series of experimental studies that human behaviour is characterised by cognitive imperfections, time-inconsistent behaviour, loss aversion and "status quo bias" (Kahneman and Tversky 1979; Kahneman and Varey 1991). This indicates that actual human behaviour differs from that implied by standard economic assumptions. It thus seems that a "benevolent dictator" may not want to leave individuals entirely free to promote their own welfare.

Rawls, whose Theory of Justice (1971) is regarded as a landmark opus on social justice in the 20th century, considers primary goods as objects of value. He defines primary goods as "things that every rational man is presumed to want." (Rawls 1971, p.54). His work, however, is not particularly concerned with the definition of such goods. Rawls, as a liberal philosopher, avoids claims to universal truth. In contrast, classical utilitarianism, and other conceptions of justice, for example Plato, Aristotle and the Christian tradition as represented by Augustine and Aquinas, all hold that there is only one conception of the good.

A strong case for the existence of an objective account of the "good life" is presented by Amartya Sen. According to Sen, this "good life" is not subject to recognition by local traditions and individual judgements, but rather is a common feature of humanity. (Sen 1987; Sen 1992; Nussbaum 1993). This account of human good has strong theoretical connections with Aristotle's classic view. 'Eudaimonia' is an objective good, and it is desirable and choiceworthy not simply because it is desired or chosen. In contrast to the overspecified view of the good human life of the Aristotelian tradition, however, Sen does not aim for a full account of desirable human states. Rather, he seems to aim for the identification of the 'space' of value-objects. His extensive writings on this issue may be labelled as his "capabilities" approach (Sen 1985; Sen 1992).

Sen's capabilities neither equal goods nor the utility enjoyed by the individual in their consumption; they stand in between. *Capabilities* may be called 'well-being freedom', 'reflecting the person's freedom to lead one type of life or another' (Sen 1992, p.40). Capabilities include the ability to be adequately nourished, to avoid premature mortality, and to take part in the life of the

community. *Functionings*, in contrast, are the state of being well-nourished and actually taking part in the life of the community.

Although Sen's work received wide acclamation for advancing normative theory, many scholars have expressed scepticism about the empirical applicability of his theory of capabilities. Sen deliberately refrains from providing a comprehensive list of capabilities, or even of basic capabilities. He does not give clear guidance on the methodology of evaluation either. How are the features of the good life to be defined then? Nussbaum (2001) argues that people's "informed desires" play an important role in finding such a list. This position seems to be in line with that of the economist Harsányi, despite his very different starting point. Harsányi also believes that there is a surprising uniformity in people's basic preferences, their basic desires. 'Substantive goods' are intrinsically valuable, he argues, because 'they are the *objects of our basic desires*, which we largely share with other human beings, due to our *common human nature* and to our *common biological and psychological needs*' (1997, p.141, italics in the original). If Harsányi is right, then all we need to do is to describe what these "objects of our basic desires" are.

Using a qualitative method, Nussbaum provides a list of 'central human capabilities', which has been subject to both cross-cultural academic discussion and also discussion in women's groups (2001, p.85). Thus, she argues, this includes items people would choose, and is based on informed agreement. Nussbaum's list includes for example capabilities relating to life, bodily health, emotions, affiliation, and control over one's environment (2001, pp.87-88). The list, however, appears to be rather comprehensive and most items identify notions which appear rather difficult to capture empirically[1]. How has the existing empirical literature identified the adequate measures of the "social good"? What methods have been chosen to evaluate its distribution across individuals?

Existing empirical approaches for measuring well-being

Increasing number of economists believe that utility is measurable, using survey information describing individuals' mental states. These authors argue that the earliest notion of utility, interpreted as pleasure or pain by Bentham, has been unjustly set aside in economic writing from the nineteenth century in favour of 'utility as revealed choice'. Returning to the former notion, i.e. to 'cardinal

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[1]   For example, one of Nussbaum's "central human capabilities" refers to "practical reason". It is defined as "being able to form a conception of the good and to engage in critical reflection about the planning of one's life." (2001, p.87).

utility', or in the terminology of Kahneman (1997), 'experienced utility', would (1) make interpersonal comparisons of utility possible, and (2) enable economics to incorporate systematic elements of human behaviour into conventional analysis (Rabin 1998). This can be done, because 'experienced utility' is measurable (Kahneman and Varey 1991; Kahneman, Wakker et al. 1997).

In applied economics, measures of utility include self-reported life satisfaction and self-reported happiness. These have long been studied by psychologists, and are regarded as two of the numerous measures of subjective well-being. Further, these measures have a high degree of validity, reliability and consistency (see e.g. the review of Diener, Suh et al. 1999). The measures are shown to correlate strongly with other methods of well-being measurement, such as reports of significant others, number of positive and negative events recalled, and clinical interviews (Sandvik, Diener et al. 1993). Others, however, emphasise that individuals' judgments involve pronounced context effects, thus there is room for methodological concerns (Schwarz and Strack 1999).

Empirical studies of the determinants of utility analyse the relationship between individual characteristics and levels of happiness. Unemployment for example is a major cause of unhappiness (Clark and Oswald 1994; Winkelmann and Winkelmann 1998). Unemployment is shown to have high non-pecuniary costs, which indicate the existence of psychological costs beyond the sheer loss of income. In most countries, individuals who belong to upper income groups report somewhat higher subjective well-being (SWB) than people with lower income (Easterlin 1974; Diener and Oishi 2000). Further regularities in the variation of subjective well-being indicate that divorce is negatively correlated, while marriage, education level, good health and religion are positively correlated with happiness (Argyle 1999; Diener, Suh et al. 1999; Clark and Oswald 2002; Frey and Stutzer 2002). The analysis of the determinants of individuals' *happiness or satisfaction with life in general in Eastern European countries* is still relatively scarce (e.g. Namazie and Sanfey 2001; Lelkes 2002; Hayo and Seifert 2003; Senik 2004; Lelkes 2005) although a number of studies have analysed some aspects of well-being in the region, including economic well-being or job satisfaction (Blanchflower and Freeman 1997; Ravallion and Lokshin 2000; Graham and Pettinato 2002).

Other studies, noting the difficulty of basing the notion of social good on people's desire-fulfilment, try to define a more "objective" account of the social good. There are two main approaches: the first tries to identify the prevailing "social consensus"; the other, which may be called "expert judgement", uses a more intuitive approach to identify the measures of well-being. These studies

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often include multidimensional indicators, with reference to the inadequacy of income as a single proxy for utility, or people's quality of life.

Multidimensional measures of well-being tend to be based on "expert judgement". An important originator and proponent of such multidimensional approaches was the United Nations (UN and ILO 1954). Empirical studies in this vein include for example the Swedish Level of Living Research[2] and the Comparative Scandinavian Welfare Study (Erikson 1993). Recently, expert judgement was the apparent basis for selecting social indicators for monitoring social exclusion in the European Union. The list of indicators was subject to academic scrutiny and discussion in relevant European policy making bodies (Social Protection Committee 2001; Atkinson, Cantillon et al. 2002). The existing operationalisations of the capabilities approach predominantly use *functionings* as an approximation of capabilities. In most of these studies, the choice of the relevant functionings is also a matter of judgement. Capability has not yet gained ground as a major currency of interpersonal comparisons.

The other main strand of research establishes the notion of social good based on "social consensus". The Breadline Britain Survey was first systematic attempt in Britain to define what constitutes the minimum standard of living in the public's view, and also to assess in what ways people fail to meet these standards (Mack and Lansley 1985). Subjective approaches may be also used to establish social consensus, and measure well-being on the basis of people's self-reported states. An early application of this subjective approach in economics is the so-called Leyden approach. (Van Praag and Frijters 1999).

The current analysis primarily aims to present a new methodology for testing whether indicators of basic needs do actually constitute part of individuals' utility functions. In other words, do specific accounts of the "objective good" overlap with people's actual preferences? This method seems to provide a useful tool for testing whether, in Sen's terminology, certain basic human capabilities (or functionings) are actually desired by individuals. The proposed method uses representative surveys of individuals in twenty one different European countries, which include various measures of individual well-being and also life satisfaction.

Possible counter-arguments to this approach may emphasise that happiness is relative, thus people do not evaluate their circumstances as such, but compare

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[2]   'Level of living' is a specific term used in the Swedish Level of Living Research, and refers not only to resources, but also to states and achievements of individuals.

them to those in their reference group[3]. A related argument may highlight that happiness is relative, because people compare their current circumstances to what they had in the past. Others call attention to adaptation to circumstances over time[4]. There is however, empirical evidence that happiness is not purely a relative phenomenon. First, there is no full adaptation to certain situations, like unemployment or divorce (e.g. Clark 2003; Clark, Diener et al. 2003; Lucas, Clark et al. 2004). Second, there is evidence that although people compare their incomes to those of others, they derive satisfaction from their actual incomes as such as well (Ferrer-i-Carbonell 2005). In addition, comparison effects may function in counter-intuitive ways. As suggested by research on Russia, income inequality at times of high social mobility can be a source of satisfaction, as individuals tend to hope that their own income may rise as well in the future (Senik 2004). All this seems to support the starting hypothesis of the paper; that there is not full adaptation to situations where the most fundamental basic needs are not met.

Based on previous sociological and economic evidence we expect a small, but prevalent relationship between life satisfaction and specific measures of objective well-being (Cantril 1965; Allardt 1977; Argyle 1999). We can hypothesise with some certainty that both income and labour market status will have significant impact on satisfaction, given the prevailing evidence across many countries (Clark and Oswald 1994; Diener and Oishi 2000). Similarly, health is expected to be strongly correlated with life satisfaction (Clark and Oswald 2002). We are much less certain, however, whether a similar relationship exists between life satisfaction and other measures of objective well-being (such as social isolation or neighbourhood characteristics), once differences in income, labour market status and other personal characteristics across individuals are accounted for. The analysis will therefore provide a systematic test of these basic measures of well-being or "social exclusion" with respect to life satisfaction. In addition, the analysis will provide novel results relating to the impact of economic transition on these life satisfaction equations in an Eastern European country, Hungary. In other words, the stability of the relationship between life satisfaction and basic measures of well-being is tested.

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[3]   In his recent book, Richard Layard (2005) claims that money does not buy happiness above a certain amount in developed countries due to comparison effects, and this is why increasing economic prosperity fails to generate more happiness. Earlier proponents of a similar view were Richard Easterlin and Robert Frank, among others (Easterlin 1974; Easterlin 1995; Frank 1999).

[4]   See e.g. Burchardt (2005), who uses British panel data to test adaptation to income changes.

Data and methods

The analysis is based on two major sources of data. First a cross-national dataset, the European Social Survey 2002/2003 (ESS), which contains nationally representative samples of individuals in twenty two countries, including non-European Union countries such as Hungary or Switzerland and non-European Israel[5]. The survey contains information on a wide range of attitudinal and socio-demographic characteristics. Since the survey design includes strict quality controls, such as random probability sampling, a minimum target response rate of 70% and rigorous translation protocols, we can expect high quality data. The main question of interest is: "*All things considered, how satisfied are you with your life as a whole nowadays? Please answer using this card, where 0 means extremely dissatisfied and 10 means extremely satisfied*". A total of 37903 people provided valid answers to this question, after excluding Israel, and people who are under 16 or over 80. This sample size falls to 29533 in the regression sample due to missing values. For the multivariate analysis, scores of 0 to 2 were collapsed into a single score due to the small number of associated observations. Another subjective well-being question, happiness is also included in the dataset, with responses on a similar 11 point scale (see Table 1). Self-reported happiness is highly correlated with life satisfaction and is used as a complementary variable to test the robustness of the results.

Second, country-specific analysis is conducted using two nationally representative Hungarian household surveys, from an early and a later point in transition. The data were collected in early 1992 and early 1998 by TARKI institute, and include a range of information on individual and household demographics, employment, housing and finances. The sampling methods were the same in the two years, as were the relevant questions for the current analysis, ensuring comparability. The life satisfaction question is very similar to that in the ESS: "*How satisfied you are with your life up till now?*" Responses were similarly on an 11-point scale, where 0 stands for 'not satisfied at all', and 10 for 'fully satisfied' (see Table 5). Respectively, 5365 and 3802 people provided valid answers to this question in 1992 and 1998. The survey contained an age filter, respondents being aged 16 or over. After excluding respondents over the age of 80, and missing values of the regression variables, sample sizes fell to 5148 in 1992 and 3567 in 1998.

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[5]   The ESS contains nationally representative data for the following twenty two countries: Austria, Belgium, Switzerland, Czech Republic, Germany, Denmark, Spain, Finland, France, Great-Britain, Greece, Hungary, Ireland, Israel, Italy, Luxembourg, Netherlands, Norway, Poland, Portugal, Sweden, and Slovenia.

The Hungarian data allow us to test the stability of the estimated well-being relationships. They also serve as a test of the cross-country results in two ways. First, the income variables are aggregated from detailed survey questions, and are hence more likely to be reliable than a single question response. We can thus test different definitions of income, which is important, given the central role of income in much applied work. Second, they contain a greater number of observations for a single country than the ESS (where observations per country range between 700 and 2300). Although in both cases the samples are nationally representative, the higher sample size is expected to produce lower standard errors, and thus may identify statistically significant relationships which cannot be captured in smaller samples.[6]

The measures of basic needs used here include income, labour market participation, health, housing or neighbourhood conditions, and social relations. These describe different aspects of people's quality of life. Participation in the labour market or other productive activity is considered essential in avoiding "social exclusion" (Burchardt, Le Grand et al. 2002). Health is a major aspect of the quality of life and valued very highly by people. The analysis contains both self-assessed health and the occurrence of illness or disability hampering daily activities. Unfortunately health had to be omitted from some parts of the Hungarian analysis due to the lack of comparable data for 1992. The ability to live in decent housing is also regarded as a basic need, although the definition of "decent" is not obvious. Therefore the models include rather conservative measures. In the European dataset, neighbourhood characteristics are analysed, such as whether the respondent or a family member was a victim of burglary or assault in the last five years, and whether he feels (or would feel) safe walking alone locally after dark. The Hungarian data measure the prevalence of housing quality shortfalls, such as dampness, mould, darkness, air pollution, noise, or a dangerous neighbourhood. The third group of measures, social relations, are regarded as essential features of social integration, and in some ways refer back to the classic definition of poverty by Townsend (1979), and more recent studies on social exclusion and well-being (Burchardt, Le Grand et al. 2002; Stewart 2002). The two social relations variables measure the lack of close friendships and limited social contacts with friends or relatives.

This list of indicators may be regarded as measures of an individual's functionings, or sometimes even capabilities, using Sen's terminology. The disability indicator, for example measures the liberty of being able to lead a life

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[6] This does not suggest, however, that the same relationship(s) (i.e., the analytical importance of the coefficient) cannot be captured in smaller samples. On the topic of analytical versus statistical significance, see the special issue of the *Journal of Statistical Significance*, 2004, vol. 33, issue 5, pages 523-675.

without being hampered by physical problems. Similarly, being able to walk home feeling safe may be regarded as a "well-being freedom", or capability. In contrast, being the victim of assault is a specific functioning, or "well-being achievement". One may argue, however, that capabilities and functionings tend to overlap in the case of basic needs, because if someone has the opportunity to fulfil those desires, he will probably fulfil them. No-one would choose to live in unhealthy housing conditions, for example, if they had the option of avoiding them.

In summary, the basic regression that will be estimated is of the form:

LIFE SATISFACTION$_{it}$ = f (INCOME$_{it}$, LABOURMARKETST$_{it}$, HOUSING$_{it}$, HEALTH$_{it}$, SOCIAL RELATIONS$_{it}$, X$_{it}$)

where LIFE SATISFACTION$_{it}$ is *satisfaction with life* for individual *i* in year *t*. Year *t* means 2002 for the sample of European countries and it refers to 1992 or 1998 for the specific Hungarian dataset. INCOME$_{it}$, indicates annual household income corrected for household size[7] and also for inflation for the 1998 data, LABOURMARKETST$_{it}$ and stands for the labour market status of individual *i* in year *t*, HEALTH$_{it}$ indicates both health conditions and self-reported health, HOUSING$_{it}$ refers to a series of indicators related to housing, including either neighbourhood conditions (European data) or housing conditions (for Hungary), SOCIAL RELATIONS$_{it}$ indicates limited social contacts or the lack of friends for individual $_i$ and X$_{it}$ stands for other personal characteristics.

The analysis uses ordered logit models to analyse the relationship between utility and measures of "basic needs". This estimation technique thus allows for the possibility that utility is not cardinal, in contrast to the frequently used ordinary-least-square (OLS) regression approach. Beyond the specific measures of objective well-being mentioned above, control variables include personal characteristics, such as sex, ethnicity, region, age, educational level, marital status, number of children, and religion, measured as churchgoing at least once a month[8]. The choice of this latter set of variables partly reflects their importance as personal attributes, such as gender and ethnicity, and partly their

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[7] Household income was equivalised using a scale based on e=0.7. With equivalisation we attach decreasing weight to each additional household member, e.g. 1 for the first, 0.6 to the second, and 0.5 to the third member, thus are able to account for economies of scale and the lower consumption of children.

[8] Earlier research, using Hungarian data, showed that churchgoers tend to be happier than others, controlling for age, income and other personal characteristics. In addition, money is less of a source of happiness for religious people (Lelkes 2005).

role as determinants of happiness in earlier studies (e.g. Di Tella, MacCulloch et al. 2001; Blanchflower and Oswald 2004; Lelkes 2005).

Life satisfaction and measures of well-being

There is significant variation in life satisfaction across countries as shown in Figure 1. Individuals in Hungary and Poland, and to a lesser extent in the Czech Republic, are the least satisfied. Hungary and Poland also have the highest proportion of dissatisfied people and are among the least happy nations. At the other extreme are Switzerland, and the Nordic countries, which have the highest subjective well-being, as indicated by all three measures of life satisfaction and happiness. The aim of this paper is not to analyse these country differences, but rather to look at the differences across social groups using individual level data.

As Tables 2 and 6 suggest, people living in adverse conditions suffer from them, as they tend to have lower life satisfaction. However, these bivariate results may reflect spurious correlation. These results might conceal for example whether the unemployed suffer from the loss of income or the lack of personal relationships, rather than unemployment per se.

Income
The regression equations estimate the relationship between specific measures of well-being and "utility", as measured by life satisfaction. As Table 3 shows, income is positively correlated with satisfaction, controlling for age and other personal characteristics. Higher incomes yield more satisfaction in a consistent way, so that the top income quintile group is the most satisfied. This relationship between income and satisfaction holds controlling for other determinants of well-being, such as labour market status, health, social contacts or housing conditions (column 6). Higher income thus brings greater well-being, over and above the positive impact of employment, better health or more social contacts.

In order to illustrate the magnitude of this difference in the ordered logit models, the marginal effects were also estimated (see column 7). These marginal effects or elasticities express the probability of being very satisfied (defined as a response of 8 or more on the 0-10 life satisfaction scale). For the richest income quintile, the probability of being very satisfied is 17% higher than for the bottom quintile, ceteris paribus.

Non-income measures of well-being
The importance of personal choice is apparent in the relationship between labour market status and satisfaction. The unemployed are significantly less

satisfied than employees, controlling for income and personal characteristics. The marginal effects reveal that the unemployed have a 19% lower probability of being very satisfied than do employees, accounting for other dimensions of deprivation as well. We can thus conclude that unemployment is involuntary. Voluntary withdrawal from the labour market, such as retirement or child care, on the contrary, is not consistently different from the reference group of employees.

The other inactive, dominantly composed of those who stay at home, are not less satisfied than employees. Similarly, pensioners are no worse off: the full model indicates that they are more satisfied than the employed, accounting for differences in health condition, income and other variables. On the other hand, full-time education for those aged 16 and over (the sample used here), seems to be a source of pleasure. Students are more satisfied than employees, as shown by the statistical significance, the positive sign of the coefficient, and that of the estimated marginal effect. This may be related to the "fun" of that specific life period, although the model accounts for the influence of age and social contacts. Overall, then, there is no evidence for a negative impact of labour market non-participation *per se*, but there is a clear negative effect of involuntary joblessness, namely for the unemployed.

Health is a major component of individuals' subjective well-being. As expected, bad health is negatively correlated with overall life satisfaction, controlling for age and other personal characteristics. This holds for both health indicators: self-reported overall health status and the occurrence of disability or illness which hampers daily activities. The coefficients are negative and significant at the 1% level in both the specific and the full model (columns 3 and 6, respectively). The impact of health on life satisfaction is large: the coefficient of bad health is far greater than that on unemployment or income. Having bad health reduces the probability of being very satisfied by 29% (column 7). As mentioned above, the analogous effect for unemployment is 19%, and for high income it is 17%.

Friendship and interaction are also important elements of overall well-being. Those who have nobody with whom they could discuss personal matters, or people who meet friends, relatives or colleagues less often than once a month, are less satisfied, controlling for the material conditions of life, such as income and housing, and personal attributes such as age and marital status. People with no friends have 13% lower probability of being very satisfied compared to those who have at least one friend.

Neighbourhood conditions have frequently been used as measures of individuals' quality of life, especially in the literature on social exclusion. The

results presented in Table 3 show that there is indeed a correlation between the two. Living in dangerous areas lowers individuals' life satisfaction. This negative neighbourhood effect prevails even when other problems frequently associated with disadvantaged areas are accounted for, such as joblessness, low income, and limited social contacts. People living in unsafe areas have a 7% lower chance of being very content, ceteris paribus.

Robustness of the results
Two specification checks were carried out on the above results. First, an alternative measure of subjective well-being was used, happiness, instead of life satisfaction as the dependent variable, and re-estimated the regressions. The results appear in Table 4. Second, the results were tested with a different dataset. For this purpose, Hungarian survey data were used, which contain more detailed income questions, and therefore arguably more reliable income data. These regressions are shown in Tables 7 and 8.

The overall correlation between self-reported life satisfaction and happiness is 0.7. As already shown in Figure 1, country means of these two alternative measures yield largely similar, although not identical, country rankings. This suggests that life satisfaction and happiness refer to the same latent variable, which may be called subjective well-being, even if they are not identical.

Table 4 shows the regression estimates for happiness. All of the major findings discussed above are confirmed. Higher income is positively correlated with happiness, just as it was with life satisfaction. The unemployed, those in bad health, with limited social contacts, and those who live in unsafe areas are less happy. The size of these effects varies greatly, but each of them is substantial. The unemployed have a 15% lower probability of being very happy (reporting a happiness score of 8 to 10) than employees. For those with bad health this probability declines by 32% compared to people with good health. The chance of being very happy falls by 19% for those with no friends. Living in an unsafe area has an effect of 5%, if all other elements of quality of life examined here are accounted for. Overall, this suggests that the often highlighted aspects of well-being, such as income, involuntary non-participation on the labour market, health, social contacts and neighbourhood conditions are all elements of at least European peoples' utility functions.

The analyses of Hungarian data for 1992 and 1998 show similar results to those in the European dataset. Tables 7 and 8 show the relationship between life satisfaction, and various measures of well-being such as income, labour market status, housing, health, and social contacts. Below I will discuss only the main differences between the European and Hungarian results, and some specific concerns relating to the Hungarian findings.

The Hungarian data allows us to test the robustness of the results to the definition of income. Three alternative measures are used: (1) the log of household income (assuming diminishing returns of income in terms of utility) adjusted for household size, (2) income quintile groups, calculated similarly on the basis of equivalent household income, (3) the log of personal income, which excludes the income of other household members or the income of the household as a whole. As the results show in Tables 7 and 8, the coefficients are statistically significant and have a positive sign for all three alternative variables, we can thus confirm the earlier findings that income correlates with life satisfaction. Income, as a measure of consumption opportunities, is an important element of individuals' utility.

This analysis also shows that personal income is a worse proxy for utility than household income adjusted for household size. The coefficient of personal income is significantly smaller than the coefficients of the two alternative household income variables in both 1992 and 1998, indicating that the relationship of personal income and life satisfaction is relatively weaker. This suggests that there is some sharing of resources within the household, although it does not reveal anything about the extent of this sharing.

Labour market status, as in the European sample, is a major element of life satisfaction. The Hungarian results also indicate the disutility of unemployment. Beyond this, however, they highlight a peculiar aspect of the Hungarian situation, supposedly related to economic transition, the psychological costs of being inactive. Disability pensioners and the inactive who are neither pensioners nor students report lower life satisfaction than employees, ceteris paribus. The specific category of disability pensioners was introduced in the model because this is a typical way of withdrawing from the labour market during economic transition as an alternative to unemployment. The permissive disability pensioner scheme attracted many people as they provided more generous benefits and long-term entitlement compared to unemployment compensation or social assistance.

Housing conditions also affect people's satisfaction. We saw earlier that neighbourhood safety correlates with life satisfaction in Europe. The Hungarian data show a different aspect of housing, that of housing quality problems. Individuals who live in lodging with dampness, noise, pollution or others, report significantly lower levels of life satisfaction in both 1992 and 1998, controlling for differences in income and personal characteristics.

Social contacts also contribute to subjective well-being (see Table 8). Limited interaction with family or friends brings dissatisfaction. The variable used refers to the household (in contrast to that in the ESS data), showing whether they

invite relatives or friends to their own home or visit them less often than once a month, or never meet them. Interestingly, the variable which measures the lack of an intimate friend for an *individual* is not statistically significant in some of the models. This suggests that household members share similar patterns of social interaction. An alternative, although less likely, explanation is that it is primarily a behavioural, or life-style, factor which matters for well-being (such as having meals together with relatives), and not emotional intimacy (of a friendship). This apparent contradiction from alternative measures of social contacts warrants further research.

Test of stability during social change: well-being in Hungary in the 1990s

Economic transition in Hungary, coupled with major societal change, appears to present a valuable opportunity to test the stability of the relationships examined above. In order to demonstrate the scale of the changes, the discussion begins with a brief outline of the scale of social and economic change in the 1990s.

Social change: Facts
In Hungary the decline in the level of employment was close to 30%, which is twice as high as the average over the whole region (Economic Commission for Europe 2000). The decline in employment, and the appearance of unemployment, seems to be an inherent part of the transition process and has been widely discussed in the academic literature (Boeri 1994; Kornai 1994). One may argue that unemployment did not actually appear from nowhere, rather it came out of the 'factory walls': so-called 'unemployment on the job' (Kornai 1992, p. 223) was replaced by 'unemployment without job'. The outstanding decline in Hungarian employment is predominantly due to comparatively radical economic policy, with a rigorous bankruptcy law at an early point in the transition, and a permissive social security benefit system, which allowed 'exit' from the labour market. The labour force participation rate in Hungary, 56%, was 11% points below the European Union average in 1998 (OECD 1999).

Poverty, measured as income below 50% of the national median equivalent household income, was 5% in 1992, and rose to 8% in 1998 (Tóth 2002, Table 11). There is little evidence of increasing fortunes: the income of the rich (measured as the income of the 90th percentile), who have over twice as much income as the median, only rose moderately. This may be due to increasing under-reporting of incomes among the rich. The general problem of declining response rates, however, observable in various countries during transition

causing concern for representativeness and coverage[9], was observed, but was less problematic in Hungary than elsewhere[10].

Housing is dominantly owner-occupied private housing. The data indicate that there was a substantial improvement in housing quality, especially among lodgings with minor quality problems. A major change in welfare policies occurred during the 1990's in the area of housing, including the major privatisation of previously state-owned houses. Between 1990 and 1996 over half a million dwellings were sold, over two-thirds of the existing social stock (Dániel 1997). As a result, the proportion of public housing declined to around 7%.

Social relations seem to be a major deficiency in the country. The proportion of individuals who live in households saying that they invite relatives or friends to their homes or go to visit others in their homes less than once a month or never is 60%, according to the 1998 data. This figure is very high by European standards. European Community Household Panel data shows that the average proportion of "relational (self)exclusion", measured in a similar way, is between 5 and 10% among the total population of 13 countries, with a maximum of 15% (Eurostat 2000, Figure 3.13). A partial explanation for this difference may be that the European survey asks about meeting people at home or elsewhere, while the Hungarian question asks about meeting people *at home*.

There is also an apparent decline in social contacts over the 1990s. Notably, while in 1993 one in five people said that they had no friend with whom they could discuss personal problems, by 1998 this number had risen to over one in three (Albert and Dávid 1998).

The health of Hungarians is fairly poor by European standards, as indicated by high suicide and mortality rates. As a result, life expectancy at birth was only 66 years for men and 75 for women in 1998 (KSH 2000). Reaching the age of 65, Hungarian women and men are expected to live 3.3-3.5 years less than an average person in the OECD (OECD 2001). The two surveys used in this paper

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[9] See Flemming and Micklewright (2000).

[10] Evidence for Hungary indicates that the response rates to budget surveys conducted by the Central Statistical Office fell from an average of 78% in the years between 1983 and 1987 to 61% by 1993-1995. There was also some decline in the response rates in the household surveys used here. The response rates for households fell from 71% in 1992 to 66% in 1998. The problem was particularly severe in Budapest, while families in small towns and villages were the most willing to participate. The special sampling method, which accounted for the possible dropouts, was thus essential in preserving the representativeness of the surveys.

contain one comparable health measure, self-reported health. This shows that nearly one quarter of the people were very dissatisfied with their health, a figure which somewhat worsened over the 1990s (see Table 6).

Social change and the determinants of life satisfaction
Has this massive scale societal change affected how people assess the basic features of their quality of life? Have peoples' preferences changed over time? The use of Hungarian survey data allows us to test the stability of the relationship between some basic measures of well-being and overall life satisfaction. For this, a pooled dataset was used, which consists of the two cross-sections from an early and a later point in economic transition. The regression results are presented in Table 9.

Interestingly, the interaction effects reveal only small changes over time: the majority are not statistically significant. An insignificant estimate here means that there is no difference in the relationship between the variable of interest and life satisfaction in 1992 and 1998. For example, those in the richest fifth of the income distribution are no happier in the late 1990s than in the early 1990s. These two groups are not identical, as there was considerable mobility, which suggests that some of the members of the top quintile in 1998 are "newly rich". Money, however, does not bring *more* satisfaction in 1998, other things being equal.

Entrepreneurship has become more positively associated with life satisfaction over time, even controlling for income, education, and so on. This holds irrespective of the income definition, as Table 9 shows. The coefficient on this interaction term is positive and significant at the 5% level for household income (see columns 1 and 3) and at the 10% level for personal income (column 2). Entrepreneurs in 1998 had an 8% higher probability of being very content than in 1992. Entrepreneurs are the only labour market group whose position has improved over the period observed: they can be called the winners of the transition process.

Conclusion

This paper has proposed a new methodology for testing whether basic measures of well-being do actually constitute part of individuals' utility functions; in other words, whether specific accounts of the "objective good" overlap with people's preferences. This method provides a useful tool for testing whether, in Sen's terminology, certain human capabilities (or functionings) are actually desired by individuals. We use representative household surveys of individuals

from European countries, including various measures of individual well-being and socio-economic characteristics.

The results show that there is an overlap between what social scientists *think* and what people *feel* about basic needs. This finding holds across a sample of twenty-one European countries, including Western-European countries, such as France, Germany, and Great Britain, and Eastern-European ones such as Hungary and Poland. The specific measures of well-being contribute to satisfaction over and above income. Unemployment, bad health, housing problems, and limited social contacts significantly decrease life satisfaction, controlling for income and demographic characteristics. In addition, we conclude that *each* of the elements above contributes to life satisfaction, all of the estimated coefficients being individually significant in the regression analysis. Simply put, unemployment is "bad", over and above the associated lack of social contacts, and housing problems make people unhappy even controlling for income differences. Of all the measures used here, health appears to have the greatest negative impact on happiness and life satisfaction. Bad health status reduces the probability of being very content by about 30%.

The paper also tested the stability of people's preferences, by using Hungarian data from the 1990s, a period of economic transition. Interestingly, there is only limited evidence of any change in the relationship between measures of well-being and life satisfaction despite the landslide of societal and economic change. Money, for example, does not bring any *more* satisfaction in the late 1990s, other things being equal. Entrepreneurship was the only variable of interest which has become more positively associated with life satisfaction over time, controlling for income, education, age and other personal characteristics. Entrepreneurs have thus benefited from the consolidation of the market economy.

These findings have two major implications. First, basic measures of well-being may be regarded as elements of individuals' utility functions. It then follows that a single measure of income is inadequate to describe the inequality of utility across individuals. Second, the method presented – the use of self-reported life satisfaction as a proxy for utility – seems to offer a useful way of testing the social desirability of specific measures of the quality of life.

The results also suggest that there is an overlap between the frequently-used measures of "objective good" and European people's preferences regarding over what a good life means for them. In other words, expert judgements overlap with social consensus in the case of basic needs. One interpretation is that basic desires tend to be largely shared by human beings (Harsányi 1997; Nussbaum

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2001). Social scientists, in general, seem to know what is good for the people, but perhaps only because they actually listen to what people say.

Figure 1: Life satisfaction and happiness in specific European countries, 2002
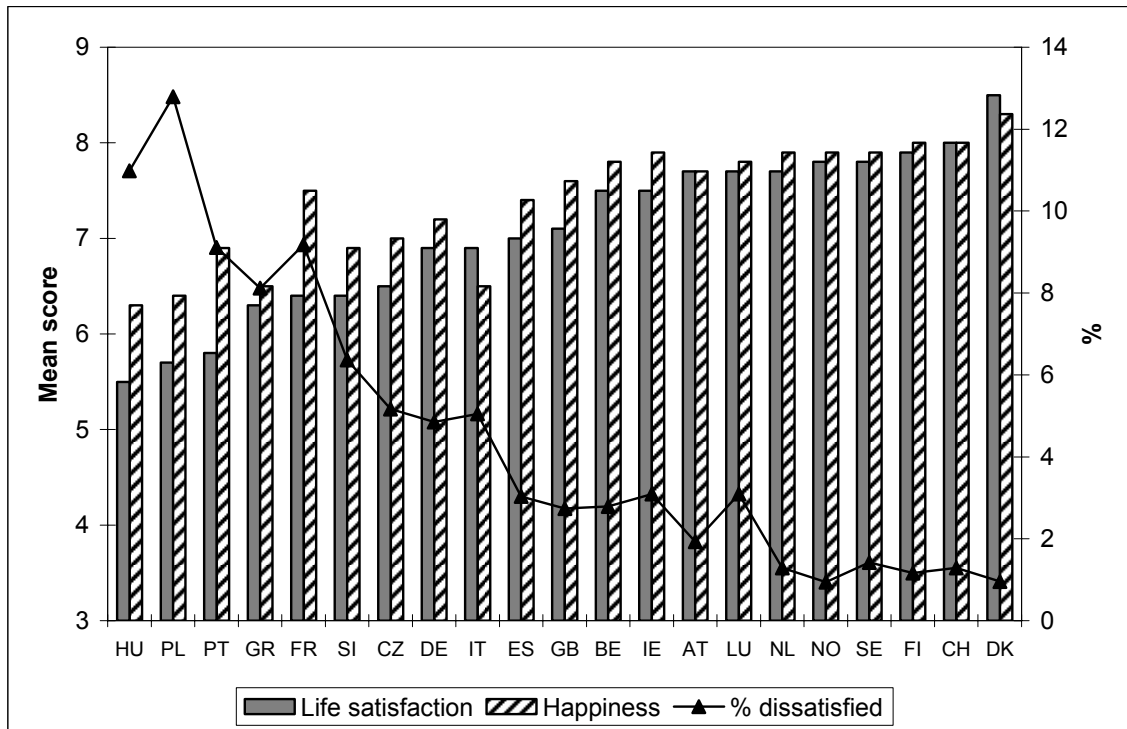
Notes:
Happiness measure: 'Taking all things together, would you say you are very happy, quite happy, not very happy, or not at all happy?'
Life satisfaction measure: 'All things considered, how satisfied are you with your life as a whole these days?' Ten-point scale: 1=dissatisfied, and 10=satisfied; % 'dissatisfied' – scores 0 to 2
Source: Own calculations using the European Social Survey 2002/2003
N= 29533

Table 1: Life satisfaction and happiness in Europe, 2002

	Self-reported satisfaction (%)	Self-reported happiness (%)
Extremely dissatisfied/ unhappy	1.9	0.6
1	1.2	0.6
2	2.5	1.4
3	4.3	2.7
4	4.8	3.2
5	11.4	10.5
6	9.3	9.3
7	17.4	18.3
8	25.2	27.5
9	12.4	16.0
Extremely satisfied/ happy	9.6	10.0
Total	100.0	100.0

Source: Own calculations using the European Social Survey 2002/2003
N=29533

Table 2: Life satisfaction in Europe by specific groups, 2002

	Average life satisfaction	% with low life satisfaction
Bottom income quintile	6.2	8.6
2nd income quintile	6.6	6.0
3rd income quintile	6.8	4.3
4th income quintile	7.1	2.9
Top income quintile	7.3	2.1
Employee	7.0	2.7
Self-employed	7.0	3.6
Student	7.3	1.9
Unemployed	5.3	15.4
Permanently sick or disabled	5.5	13.2
Retired	6.8	5.6
Other inactive	6.8	6.1
Health: good	7.2	2.4
Health: fair	6.3	6.4
Health: bad	5.1	18.3
Hampered in daily activity by illness/disability:		
Yes a lot	5.6	15.7
Yes to some extent	6.3	6.4
No	7.0	3.4
Infrequent social contact: No	6.9	3.7
Infrequent social contact: Yes	5.7	13.4
Has at least one friend	6.9	3.9
Has no friend	5.8	11.8
Crime victim in past 5 years: No	6.9	4.6
Crime victim in past 5 years: Yes	6.6	4.6
Unsafe area: No	6.9	4.2
Unsafe area: Yes	6.1	13.1

Source: European Social Survey 2002/2003
N=29533

Table 3: Life satisfaction and objective well-being in Europe, ordered logit estimates

	(1) Income only	(2) Labour market	(3) Health	(4) Social contacts	(5) Housing	(6) All	(7) Marginal effect (score 8-10)
Second income quintile	0.210**	0.182**	0.185**	0.199**	0.209**	0.157**	0.050**
	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)	(-0.009)
Third income quintile	0.320**	0.280**	0.278**	0.295**	0.322**	0.235**	0.074**
	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.0093)
Fourth income quintile	0.449**	0.394**	0.381**	0.414**	0.454**	0.329**	0.122**
	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)	(0.009)
Top income quintile	0.632**	0.553**	0.509**	0.598**	0.639**	0.454**	0.168**
	(0.038)	(0.039)	(0.038)	(0.038)	(0.038)	(0.039)	(0.010)
Self-employed		0.060				0.054	0.008
		(0.040)				(0.040)	(0.011)
Student		0.153**				0.135**	0.058**
		(0.052)				(0.052)	(0.015)
Unemployed		-0.836**				-0.771**	-0.189**
		(0.054)				(0.055)	(0.014)
Permanently sick or disabled		-0.832**				-0.020	-0.010
		(0.073)				(0.077)	(0.020)
Retired		-0.018				0.149**	0.036**
		(0.042)				(0.043)	(0.012)
Other inactive		-0.045				0.053	0.010
		(0.036)				(0.036)	(0.010)
Health-fair			-0.681**			-0.650**	-0.161**
			(0.029)			(0.029)	(0.008)
Health-bad			-1.381**			-1.305**	-0.291**
			(0.053)			(0.053)	(0.012)
Health hampers a lot			-0.375**			-0.347**	-0.101**
			(0.056)			(0.058)	(0.015)
Health hampers a little			-0.163**			-0.166**	-0.045**
			(0.031)			(0.031)	(0.009)
Infrequent social contact				-0.525**		-0.384**	-0.100**
				(0.039)		(0.039)	(0.010)
Has no friend				-0.592**		-0.509**	-0.133**
				(0.039)		(0.039)	(0.010)
Crime victim in past 5 yrs					-0.151**	-0.109**	-0.033**
					(0.025)	(0.025)	(0.007)

	(1) Income only	(2) Labour market	(3) Health	(4) Social contacts	(5) Housing	(6) All	(7) Marginal effect (score 8-10)
Unsafe area					-0.414**	-0.236**	-0.070**
					(0.052)	(0.053)	(0.014)
Education: lower secondary	0.137**	0.135**	0.034	0.104**	0.138**	0.020	-0.004
	(0.038)	(0.038)	(0.038)	(0.038)	(0.038)	(0.038)	(0.010)
Education: upper secondary	0.193**	0.180**	0.061	0.138**	0.193**	0.026	0.009
	(0.038)	(0.038)	(0.038)	(0.038)	(0.038)	(0.038)	(0.010)
Education: post secondary, non-tertiary	0.327**	0.304**	0.176**	0.257**	0.324**	0.125*	0.037**
	(0.050)	(0.051)	(0.051)	(0.050)	(0.050)	(0.051)	(0.014)
Education: tertiary	0.320**	0.290**	0.136**	0.255**	0.320**	0.088*	0.033**
	(0.041)	(0.041)	(0.041)	(0.041)	(0.041)	(0.041)	(0.012)
Male	-0.118**	-0.126**	-0.167**	-0.104**	-0.135**	-0.157**	-0.035**
	(0.021)	(0.022)	(0.021)	(0.021)	(0.021)	(0.022)	(0.006)
Age	-0.092**	-0.080**	-0.085**	-0.088**	-0.093**	-0.071**	-0.018**
	(0.004)	(0.005)	(0.004)	(0.004)	(0.004)	(0.005)	(0.001)
Age-squared/1000	0.916**	0.800**	0.942**	0.898**	0.927**	0.790**	0.201
	(0.046)	(0.052)	(0.046)	(0.046)	(0.046)	(0.052)	(0.014)
Married	0.534**	0.513**	0.486**	0.502**	0.535**	0.443**	0.107**
	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)	(0.009)
Separated	-0.400**	-0.403**	-0.429**	-0.402**	-0.389**	-0.420**	-0.107**
	(0.086)	(0.086)	(0.086)	(0.086)	(0.086)	(0.086)	(0.022)
Divorced	-0.127**	-0.114*	-0.124*	-0.132**	-0.118*	-0.120*	-0.033*
	(0.049)	(0.048)	(0.049)	(0.049)	(0.049)	(0.049)	(0.013)
Widowed	-0.174**	-0.184**	-0.163**	-0.150**	-0.164**	-0.149**	-0.024
	(0.054)	(0.054)	(0.054)	(0.054)	(0.054)	(0.054)	(0.015)
Children living at home	0.165**	0.129**	0.114**	0.161**	0.168**	0.102**	0.021**
	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.008)
Religious	0.228**	0.214**	0.216**	0.212**	0.223**	0.191**	0.048**
	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.007)
Ethnic minority group member	-0.279**	-0.267**	-0.247**	-0.272**	-0.280**	-0.229**	-0.071**
	(0.060)	(0.060)	(0.060)	(0.060)	(0.060)	(0.060)	(0.016)
Country dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	29533	29533	29533	29533	29533	29533	29533
Log likelihood	-56419	-56225	-55577	-56185	-56366	-55271	

Notes: * significant at 5% level; ** significant at 1% level; Standard errors in parentheses; Dependent variable = self-reported life satisfaction on a nine-point scale (0, 1 and 2 of the original eleven-point scale were collapsed into a single category of "dissatisfied"). Reference categories are bottom income quintile, employee, health=very good, ill/disabled=no; highest level of education= primary or below; never married.

Table 4: Happiness and objective well-being in Europe, ordered logit estimates

	(1) Income only	(2) Labour market	(3) Health	(4) Social contacts	(5) Social contacts	(6) All	(7) Marginal effect (score 8-10)
Second income quintile	0.196**	0.173**	0.186**	0.178**	0.196**	0.159**	0.041**
	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(-0.009)
Third income quintile	0.318**	0.275**	0.280**	0.282**	0.317**	0.227**	0.066**
	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.009)
Fourth income quintile	0.485**	0.434**	0.392**	0.443**	0.485**	0.336**	0.103**
	(0.035)	(0.036)	(0.035)	(0.035)	(0.035)	(0.036)	(0.009)
Top income quintile	0.605**	0.536**	0.493**	0.554**	0.610**	0.430**	0.127**
	(0.036)	(0.037)	(0.036)	(0.036)	(0.036)	(0.037)	(0.009)
Self-employed		0.065				0.057	0.007
		(0.040)				(0.040)	(0.011)
Student		0.017				-0.006	0.020
		(0.052)				(0.052)	(0.015)
Unemployed		-0.622**				-0.549**	-0.151**
		(0.054)				(0.054)	(0.014)
Permanently sick or disabled		-0.666**				0.116	0.000
		(0.074)				(0.078)	(0.020)
Retired		-0.047				0.107*	0.021
		(0.043)				(0.043)	(0.012)
Other inactive		0.025				0.114**	0.019
		(0.036)				(0.036)	(0.010)
Health-fair			-0.691**			-0.664**	-0.171**
			(0.029)			(0.029)	(0.008)
Health-bad			-1.484**			-1.401**	-0.321**
			(0.054)			(0.054)	(0.011)
Health hampers a lot			-0.148**			-0.146*	-0.059**
			(0.057)			(0.058)	(0.015)
Health hampers a little			-0.114**			-0.120**	-0.037**
			(0.031)			(0.032)	(0.009)
Infrequent social contact				-0.621**		-0.491**	-0.129**
				(0.040)		(0.040)	(0.010)
Has no friend				-0.798**		-0.728**	-0.190**
				(0.039)		(0.039)	(0.010)
Crime victim in past 5 yrs					-0.109**	-0.069**	-0.020**
					(0.025)	(0.026)	(0.007)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Income only	Labour market	Health	Social contacts	Social contacts	All	Marginal effect
							(score 8-10)
Unsafe area					-0.294**	-0.117*	-0.051**
					(0.053)	(0.053)	(0.014)
Other controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	29533	29533	29533	29533	29533	29533	29533
Log likelihood	-54065	-53942	-53247	-53686	-54039	-52881	

Notes: * significant at 5% level; ** significant at 1% level; Standard errors in parentheses; Dependent variable = self-reported happiness on a nine-point scale; Reference categories are bottom income quintile, employee, health=very good, ill/disabled=no, highest level of education= primary or below, never married. Other controls = education, male, age, age-squared, marital status, children living at home, ethnic minority, and religion.

Table 5: Life satisfaction in Hungary in 1992 and 1998

	1992	1998	1992	1998
	%	%	N	N
Satisfaction with life so far				
0 (Not satisfied at all)	6.6	5.8	296	246
1	2.5	2.9	113	122
2	3.1	4.0	139	169
3	6.2	7.7	275	325
4	4.4	6.5	198	275
5	29.7	28.1	1327	1193
6	8.3	11.3	372	479
7	10.2	10.6	456	448
8	12.7	11.2	568	475
9	4.9	4.0	218	170
10 (Fully satisfied)	11.4	8.1	510	342

Source: Hungarian Household Panel 1992, TARKI Monitor 1998
N=8715

Table 6: Average life satisfaction in various social groups in Hungary

	Average life satisfaction		% with low life satisfaction	
	1992	**1998**	**1992**	**1998**
Bottom income quintile	4.6	4.4	24.7	26.4
2nd income quintile	5.3	5.2	14.5	15.1
3rd income quintile	5.9	5.3	9.6	12.8
4th income quintile	6.1	6.0	7.5	7.3
Top income quintile	6.6	6.5	5.9	4.1
Employee	6.0	5.8	8.6	7.7
Unemployed	4.3	3.9	27.3	32.0
Disability pensioner	4.8	4.6	23.4	21.8
Retired	5.7	5.2	12.8	14.5
Self-employed	5.8	6.3	9.7	3.8
Student	7.1	6.8	3.5	2.3
Other inactive	5.0	5.1	19.9	18.8
Self-reported health: bad	4.5	4.1	23.2	27.7
Self-reported health: fair	5.5	5.1	11.9	11.0
Self-reported health: good	6.3	6.2	7.3	6.4
Has no friends		5.1		18.4
Has at least one friend		5.7		9.4
Infrequent social contact: Yes		5.2		15.1
Infrequent social contact: No		5.9		8.8
Housing quality: no problem	5.9	5.7	9.6	10.3
Housing quality: some problems	5.5	5.1	14.1	17.2
Housing quality: severe problems	4.6	3.9	22.6	33.5

Source: Hungarian Household Panel 1992, TARKI Monitor 1998
N=8715

Table 7: Life satisfaction and objective well-being in Hungary, 1992, ordered logit estimates

	(1) Income only	(2) Labour market	(3) Health	(4) Housing	(5) All	(6) All	(7) All
Equivalised household income (ln)	0.824**	0.729**	0.718**	0.795**	0.626**		
	(0.061)	(0.063)	(0.061)	(0.061)	(0.063)		
Second income quintile						0.287**	
						(0.084)	
Third income quintile						0.552**	
						(0.086)	
Fourth income quintile						0.609**	
						(0.089)	
Top income quintile						0.800**	
						(0.092)	
Personal income (ln)							0.025*
							(0.012)
Unemployed		-0.673**			-0.642**	-0.634**	-0.681**
		(0.128)			(0.129)	(0.128)	(0.131)
Disability pensioner		-0.476**			0.039	0.032	-0.070
		(0.121)			(0.126)	(0.127)	(0.125)
Retired		-0.006			0.071	0.019	-0.066
		(0.104)			(0.104)	(0.104)	(0.103)
Self-employed		-0.229			-0.219	-0.166	-0.121
		(0.135)			(0.135)	(0.135)	(0.134)
Student		1.133**			1.152**	1.172**	1.398**
		(0.135)			(0.136)	(0.135)	(0.158)
Other inactive		-0.311**			-0.207	-0.209	-0.278*
		(0.106)			(0.106)	(0.107)	(0.116)
Health: bad			-1.125**		-1.141**	-1.137**	-1.204**
			(0.075)		(0.078)	(0.079)	(0.078)
Health: fair			-0.538**		-0.547**	-0.547**	-0.573**
			(0.066)		(0.066)	(0.066)	(0.066)
Housing quality: some problems				-0.270**	-0.277**	-0.289**	-0.292**
				(0.063)	(0.063)	(0.063)	(0.062)
Housing quality: severe problems				-0.615**	-0.554**	-0.571**	-0.617**
				(0.101)	(0.102)	(0.102)	(0.102)
Other controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5148	5148	5148	5148	5148	5148	5148
Log likelihood	-10099	-10030	-9981	-10075	-9896	-9902	-9944

Notes: * significant at 5% level; ** significant at 1% level; Standard errors in parentheses; Dependent variable = self-reported satisfaction on a nine-point scale; Reference categories=bottom income quintile, employee, health=good, housing quality=no problems; Other controls=male, minority ethnic group, education, age, age-squared, marital status, children living at home, religion.

Table 8: Life satisfaction and individual well-being in Hungary, 1998, ordered logit estimates

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Income only	Labour market	Health	Housing	Social contacts	All	All	All
Equivalised household income (ln)	0.646**	0.565**	0.584**	0.600**	0.605**	0.464**		
	(0.066)	(0.068)	(0.065)	(0.066)	(0.066)	(0.067)		
Second income quintile							0.319**	
							(0.103)	
Third income quintile							0.412**	
							(0.105)	
Fourth income quintile							0.682**	
							(0.106)	
Top income quintile							0.869**	
							(0.112)	
Personal income (ln)								0.053**
								(0.014)
Unemployed		-0.822**				-0.770**	-0.719**	-0.815**
		(0.165)				(0.167)	(0.168)	(0.169)
Disability pensioner		-0.414**				0.166	0.186	0.118
		(0.120)				(0.126)	(0.126)	(0.126)
Retired		-0.216				-0.036	-0.033	-0.092
		(0.116)				(0.117)	(0.117)	(0.116)
Self-employed		0.224				0.162	0.199	0.217
		(0.160)				(0.159)	(0.160)	(0.160)
Student		0.815**				0.859**	0.890**	1.242**
		(0.160)				(0.162)	(0.163)	(0.202)
Other inactive		-0.112				-0.008	0.026	-0.027
		(0.116)				(0.117)	(0.118)	(0.121)
Health: bad			-1.395**			-1.428**	-1.410**	-1.449**
			(0.091)			(0.096)	(0.096)	(0.096)
Health: fair			-0.718**			-0.737**	-0.726**	-0.753**
			(0.078)			(0.080)	(0.080)	(0.080)
Housing quality: some problems				-0.278**		-0.247**	-0.243*	-0.257**
				(0.095)		(0.096)	(0.096)	(0.096)
Housing quality: severe problems				-0.923**		-0.782**	-0.765**	-0.862**
				(0.132)		(0.134)	(0.134)	(0.134)
Infrequent social contact					-0.362**	-0.352**	-0.337**	-0.384**
					(0.062)	(0.063)	(0.063)	(0.063)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Income only	Labour market	Health	Housing	Social contacts	All	All	All
Has no friends					-0.144*	-0.119	-0.104	-0.141*
					(0.067)	(0.068)	(0.068)	(0.068)
Other controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3567	3567	3567	3567	3567	3567	3567	3567
Log likelihood	-7029	-6993	-6904	-7002	-7009	-6832	-6822	-6850

Notes: * significant at 5% level; ** significant at 1% level; Standard errors in parentheses; Dependent variable = self-reported satisfaction on a nine-point scale; Reference categories=bottom income quintile, employee, health=good, housing quality=no problems; Other controls=male, minority ethnic group, education, age, age-squared, marital status, children living at home, religion.

Table 9: Life satisfaction and individual well-being during economic transition, pooled data, ordered logit estimates

	(1)	(2)	(3)
Interaction effects:			
Equivalised household income (ln)*year	-0.140		
	(0.090)		
Personal income (ln)*year		0.026	
		(0.019)	
Second income quintile*year			0.039
			(0.135)
Third income quintile*year			-0.112
			(0.137)
Fourth income quintile*year			0.110
			(0.138)
Top income quintile*year			0.092
			(0.143)
Unemployed*year	-0.046	-0.053	0.005
	(0.213)	(0.215)	(0.213)
Disability pensioner*year	0.186	0.266	0.219
	(0.179)	(0.178)	(0.180)
Retired*year	-0.115	-0.026	-0.058
	(0.155)	(0.153)	(0.155)
Self-employed*year	0.422*	0.385	0.402*
	(0.205)	(0.204)	(0.205)
Student*year	-0.343	-0.249	-0.350
	(0.209)	(0.254)	(0.209)
Other inactive*year	0.182	0.234	0.222
	(0.162)	(0.171)	(0.162)
Health: bad*year	-0.178	-0.142	-0.159
	(0.120)	(0.120)	(0.121)
Health: fair*year	-0.149	-0.142	-0.135
	(0.102)	(0.102)	(0.102)
Housing quality: some problems*year	0.011	0.007	0.024
	(0.112)	(0.112)	(0.112)
Housing quality: severe problems*year	-0.251	-0.280	-0.207
	(0.163)	(0.162)	(0.163)
Year	2.569*	0.679	0.672
	(1.126)	(0.420)	(0.395)

Main effects:			
Equivalised household income (ln)	0.616**		
	(0.062)		
Personal income (ln)		0.024*	
		(0.012)	
Second income quintile			0.274**
			(0.088)
Third income quintile			0.530**
			(0.090)
Fourth income quintile			0.579**
			(0.091)
Top income quintile			0.792**
			(0.093)
Unemployed	-0.697**	-0.744**	-0.694**
	(0.134)	(0.136)	(0.134)
Disability pensioner	-0.018	-0.150	-0.032
	(0.129)	(0.128)	(0.130)
Retired	0.090	-0.060	0.036
	(0.103)	(0.102)	(0.103)
Self-employed	-0.263*	-0.168	-0.206
	(0.130)	(0.129)	(0.130)
Student	1.153**	1.417**	1.189**
	(0.136)	(0.160)	(0.135)
Other inactive	-0.185	-0.269*	-0.191
	(0.113)	(0.122)	(0.114)
Health: bad	-1.191**	-1.246**	-1.187**
	(0.078)	(0.078)	(0.078)
Health: fair	-0.558**	-0.578**	-0.558**
	(0.066)	(0.066)	(0.066)
Housing quality: some problems	-0.242**	-0.248**	-0.249**
	(0.061)	(0.061)	(0.061)
Housing quality: severe problems	-0.494**	-0.545**	-0.518**
	(0.096)	(0.096)	(0.097)
Other controls	Yes	Yes	Yes
Observations	8715	8715	8715
Log likelihood	-16826	-16894	-16824

Notes: * significant at 5% level; ** significant at 1% level; Standard errors in parentheses;
Pooled cross-sectional time series dataset, using cross-sectional surveys from 1992 and 1998;
Dependent variable=self-reported life satisfaction on a nine-point scale; Year is a dummy, taking the
value one in 1998; Reference categories=bottom income quintile, employee, health=good, housing
quality=no problems; Other controls = main and interaction effects for male, minority ethnic group,
education, age, age-squared, marital status, children living at home, religion.

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