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## International Evidence on Well-Being

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National Time Accounting (NTA) as propounded by Krueger et al. (see chapter 1 of this volume)—henceforth K2S3—is a way of measuring society’s well-being based on time use. It is a set of methods for measuring, comparing, and analyzing the way people spend their time: across countries, over historical time, or between groups of people within a country at a given time. The arguments for NTA build on earlier work in Kahneman et al. (2004a, 2004b) and Kahneman and Krueger (2006). Krueger et al. argue that NTA should be seen as a complement to the National Income Accounts, not a substitute. Like the National Income Accounts, K2S3 accept that NTA “is also incomplete, providing a partial measure of society’s well-being.” However, National Time Accounting, as K2S3 note, “misses people’s general sense of satisfaction or fulfillment with their lives as a whole, apart from moment to moment feelings” (see chapter 1 of this volume).

Krueger et al. propose an index, called the U-index (for “unpleasant” or “undesirable”), which is designed to measure the proportion of time an individual spends in an *unpleasant* state. The first step in computing the U-index is to determine whether an episode is unpleasant or pleasant. An episode is classified as unpleasant by K2S3 if the most intense feeling reported for that episode is a negative one—that is, if the maximum rating on any of the negative affect dimensions is strictly greater than the maximum rating of the positive affect dimensions. Once they have categorized episodes as

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unpleasant or pleasant, the U-index is defined by K2S3 as the fraction of an individual's waking time that is spent in an *unpleasant* state. The U-index can be computed for each individual and averaged over a sample of individuals. There do seem to be some differences in chapter 1 on how the U-index is actually calculated. For example, in K2S3's table 1.8, the U-index is defined as where "stressed, sad, or pain exceeded happy," whereas in table 1.21 it is defined as the "maximum of tense, blue, and angry being strictly greater than the rating of happy."

It is apparent that K2S3 believe their index is an improvement on the use of data on life satisfaction and happiness, which they suggest has a number of weaknesses. In Kahneman et al. (2004a), these same authors have criticized the use of such data because they argue that there are (a) surprisingly small effects of circumstances on well-being (e.g., income, marital status, etc.), and (b) large differences in the level of life satisfaction in various countries, which they regard as "implausibly large." They go on to argue that

reports of life satisfaction are influenced by manipulations of current mood and of the immediate context, including earlier questions on a survey that cause particular domains of life to be temporarily salient. Satisfaction with life and with particular domains (e.g., income, work) is also affected by comparisons with other people and with past experiences. The same experience of pleasure or displeasure can be reported differently, depending on the standard to which it is compared and the context. (430)

Indeed, Kahneman and Krueger (2006, b) argue that well-being measures are best described as "a global retrospective judgment, which in most cases is constructed only when asked and is determined in part by the respondent's current mood and memory, and by the immediate context." Frey and Stutzer (2005) have a rather different view:

As subjective survey data are based on individuals' judgments, they are, of course, prone to a multitude of systematic and non-systematic biases. The relevance of reporting errors, however, depends on the intended usage of the data. Often, the main use of happiness measures is not to compare levels in an absolute sense, but rather to seek to identify the determinants of happiness. For that purpose, it is neither necessary to assume that reported subjective well-being is cardinally measurable, nor that it is interpersonally comparable. Higher reports of subjective well-being for one and the same individual has solely to reflect that she or he experiences more true inner positive feelings. (208–9)

In the same vein Di Tella and MacCulloch (2007, 17) note, "One would expect that such small shocks can be treated as noise in regression analyses." Consistent with this, however, Krueger and Schkade (2007) have reported that

overall life satisfaction measures . . . exhibited test-retest correlations in the range of .50–.70. While these figures are lower than the reliability ratios typically found for education, income and many other common micro economic variables, they are probably sufficiently high to support much of the research that is currently being undertaken on subjective well-being, particularly in cases where group means are being compared (e.g. rich vs. poor, employed vs. unemployed) and the benefits of statistical aggregation apply. (23)

In their earliest empirical analysis, Kahneman and Kruger (2006) calculated a U-index using data from a sample of 909 working women in Texas and showed that those who report less satisfaction with their lives spend a greater fraction of their time in an unpleasant state. Of the respondents who reported they were “not at all satisfied,” 49 percent of their time was spent in an unpleasant state, compared with 11 percent who said they were “very satisfied.” The authors also found that those who score in the top third on a depression scale spent 31 percent of their time in an unpleasant state, whereas those who score in the bottom third on the depression scale spent 13 percent of their time in an unpleasant state. Krueger et al. extend this work and report a comparison of the U-index based on data they collected in the United States and France—and I understand that results from Denmark are coming shortly. They sampled 810 women in Columbus, Ohio, and 820 women in Rennes, France, in the spring of 2005 and obtained information on both their life satisfaction and their U-index. The American women were *twice* as likely to say they were very satisfied with their lives as were the French women (26 percent versus 13 percent). Furthermore, assigning a number from one to four indicating life satisfaction also showed that the Americans are significantly more satisfied, on average. In contrast to reported life satisfaction, the U-index is 2.8 percentage points *lower* in the French sample (16 percent) than in the American sample (18.8 percent). Thus, the French, according to K2S3, appear to spend less of their time engaged in unpleasant activities (i.e., activities in which the dominant feeling is a negative one) than do the Americans in their samples. Moreover, national time-use data examined by K2S3 indicated that the French spend relatively more of their time engaged in activities that tend to yield more pleasure than do Americans.

The U-index relates to a relatively short period of time. Hence, there are a number of things the U-index does not measure—it appears to miss more general factors likely to impact a citizen’s overall well-being. Examples, by country, include the fact that young people have been rioting in the streets of Paris (the U.K. *Daily Telegraph* headline read “Test for Sarkozy as Paris riots continue,” November 27, 2007); the French soccer team has won the World Cup and the English team has been knocked out of Euro 2008; the United States is at war in Iraq and Afghanistan; and there has been a ter-

rorist attack, a hurricane, and even forest fires in Malibu and floods in New Orleans. These may well be missed by the U-index while likely being picked up in happiness or life satisfaction measures, which relate to a more general feeling of happiness. It remains unclear whether an increase in unemployment, inflation, or inequality; a decline in growth; a drop in the stock market; or a rise in the possibility of recession the following year would raise the U-index. Does the U-index predict the outcomes of elections, or migration flows, or anything at all for that matter? As I will outline in more detail, it certainly seems that these factors impact our measures of well-being.

In what follows I provide a somewhat selective review of evidence on well-being using cross-country data, and I try to provide a framework for reconciling the findings from this work with those from the U-index. I present the main findings from responses on both happiness and life satisfaction, as well as on unhappiness, hypertension, stress, depression, anxiety, and pain from a considerable number of cross-country data sources. I also explore the results when happiness questions are based on what happened over the preceding week and find slightly weaker results. I then move on to look at how macro variables, such as the national unemployment rate, inflation, and output, impact life satisfaction. I find evidence that a 1 percentage point increase in unemployment lowers happiness more than an equivalent increase in inflation and that the highest level of inflation experienced as an adult lowers happiness further. Also, I show that life satisfaction levels in Eastern European countries predict the flow of workers to the United Kingdom and Ireland. Finally, I examine individual's expectations and show that happy people are particularly optimistic about the future, both for themselves and the economy. Subjective well-being data are clearly correlated with observable phenomena (Oswald 1997).

## 7.1 Happiness and Life Satisfaction

Data on happiness and life satisfaction in particular are now available for many countries and for a large number of time periods. As with the U-index, it is possible to average these already-existing data across individuals and countries to form a National Happiness Index (NHI) to generate a measure of national well-being, which would be a simple and cheap alternative to K2S3's proposed NTA. A crucial question is whether or not K2S3's proposed U-index is an improvement over an NHI. As I lay out in detail, there are many similarities between the two indices in terms of their determinants. The main differences relate to country rankings.

Before presenting data on happiness and life satisfaction in seminars to the many skeptical economists who do not believe you can, or even should, *measure* well-being—although there are less of that ilk these days—I explain that the data have been validated by researchers in other disciplines. The answers to happiness and life satisfaction questions are well correlated

with a number of important factors (for references, see Di Tella and MacCulloch [2007]).

1. Objective characteristics such as unemployment.
2. Assessments of the person's happiness by friends and family members.
3. Assessments of the person's happiness by his or her spouse.
4. Heart rate and blood pressure measures of response to stress.
5. The risk of coronary heart disease.
6. Duration of authentic or so-called Duchenne smiles. A Duchenne smile occurs when both the zygomatic major and orbicularis oris facial muscles fire, and human beings identify these as genuine smiles (see Ekman, Friesen, and O'Sullivan [1988]; Ekman, Davidson, and Friesen [1990]).
7. Skin-resistance measures of response to stress.
8. Electroencephalogram measures of prefrontal brain activity.

Happiness and life satisfaction data are easy to obtain at the macro level, as the data are downloadable from the World Database of Happiness for over one hundred countries. Most surveys now use a common format for the questions. In general, economists have focused on modeling two fairly simple questions: one on life satisfaction and one on happiness. These are typically asked as follows.

Q1. Three-step happiness—example from the U.S. General Social Survey (GSS): *“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?”*

Q2. Four-step life satisfaction—example from the European Eurobarometer Surveys: *“On the whole, are you very satisfied, fairly satisfied, not very satisfied, or not at all satisfied with the life you lead?”*

The microdata on happiness are easily obtained from most data archives, including the Interuniversity Consortium for Political and Social Research (ICPSR) for the GSS, and the Data Archive at the University of Essex and ZACAT, a social science data portal, in Germany (for the Eurobarometers, International Social Survey Programme [ISSP], European Social Survey [ESS], British Household Panel Survey [BHPS], German Socio-Economic Panel [GSOEP], European Quality of Life Survey [EQLS], etc.). Life satisfaction data are also now available annually from the Latinobarometers, while happiness data is available annually in the Asianbarometers (Blanchflower and Oswald 2008b). Several of the data series extend back at least to the early 1970s. Many of the data sets cover several countries.

Economists like to run regressions, so by now the standard econometric approach taken by economists is to use microdata on happiness or life satisfaction to estimate an ordered logit or an Ordinary Least Squares (OLS) regression, with the coding such that the higher the number, the more satisfied an individual is (e.g., Blanchflower and Oswald 2004a). Generally, it makes little or no difference if you use an OLS or an ordered logit. The

results are similar—but not identical—for happiness and life satisfaction. The main, *ceteris paribus*, findings from happiness and life satisfaction equations across countries and time are as follows.

*Well-being is higher among:*

Women

Married people

The highly educated

Those actively involved in religion

The healthy

Those with high income

The young and the old—U-shaped in age

The self-employed

Those with low blood pressure

The sexually active, and especially those who have sex at least once a week

Those with one sex partner

Those without children

*Well-being is lower among:*

Newly divorced and separated people

Adults in their mid to late forties

The unemployed

Immigrants and minorities

Those in poor health

Commuters

People with high blood pressure

The less educated

The poor

The sexually inactive

Those with children

There have been a number of recent surveys of the happiness literature, including Clark, Fritjers, and Shields (2007); Frey and Stutzer (2002a, 2002b); and Di Tella and MacCulloch (2006), which provide discussions of the relevant issues. Recent findings from the statistical happiness research include the following.

1. For a person, money does buy a reasonable amount of happiness, but it is useful to keep this in perspective. Very loosely, for the typical individual, a doubling of salary makes a lot less difference than do life events like marriage or unemployment.

2. For a nation, things are different. Whole countries, at least in the West where almost all the research has been done, do not seem to get much happier as they get richer.

3. Happiness is U-shaped in age. Women report higher well-being than men. Two of the biggest negatives in life are unemployment and divorce.

Education is associated with high reported levels of happiness even after controlling for income.

4. Happy people are less likely to commit suicide (Koivumaa-Honkanen et al. 2001).

5. The structure of a happiness equation has the same general form in each industrialized country (and possibly in developing nations, though only a small amount of evidence has so far been collected). In other words, the broad statistical patterns look the same in France, Britain, and the United States. As Di Tella and MacCulloch note, “‘well-being equations,’ (where happiness and life satisfaction scores are correlated with the demographic characteristics of the respondents) are broadly ‘similar’ across countries, an unlikely outcome if the data contained just noise” (2007, 9).

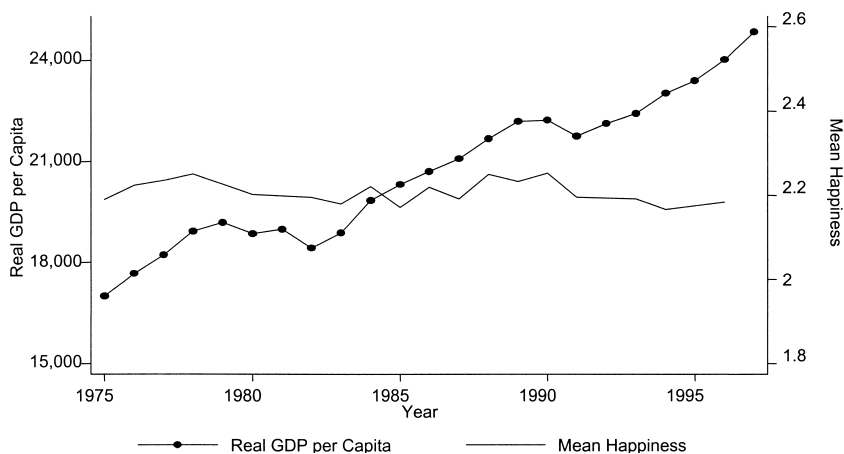
6. There is some evidence that the same is true in panels of people (that is, in longitudinal data). Particularly useful evidence comes from looking at windfalls like lottery wins.

7. There is adaptation. Good and bad life events wear off, at least partially, as people get used to them.

8. Relative things matter a great deal. First, in experiments, people care about how they are treated compared to those who are like them, and in the laboratory will even pay to hurt others to restore what they see as fairness. Second, in large statistical studies, reported well-being depends on a person’s wage relative to an average or comparison wage, as found in Blanchflower and Oswald (2004a); Ferrer-i-Carbonell (2005); Di Tella, MacCulloch, and Haisken-DeNew (2005); and Luttmer (2005). Third, wage inequality depresses reported happiness in a region or nation (controlling for many variables), but the effect is not large (Alesina, Di Tella, and MacCulloch 2004). Some of these patterns are visible in raw data alone. Strong correlations with income, marriage, and unemployment are noticeable.

For the United States there seems to be relatively little evidence that despite rising affluence, happiness or life satisfaction have trended up much over time (Blanchflower and Oswald 2004a). For example, in the 2006 GSS, 13.1 percent of respondents said they were not too happy, 56.1 percent said they were pretty happy, and 30.8 percent said they were very happy. In 1972, the first year happiness data are available, the numbers were 16.5 percent, 53.2 percent, and 30.3 percent, respectively. As can be seen from figure 7.1, average happiness levels for the United States are flat, while real gross domestic product (GDP) per capita has risen. It is also apparent from table 1.18 of K2S3 that their U-index based on time in various activities each year is also flat over time, as seen in table 7.1. The picture is more mixed among European countries. For example, in figure 7.2, panels A and B, there is some sign of a strong long-run upward trend in Italy, and to a lesser extent in Denmark and France, while the data are relatively flat in the Netherlands, Germany, the United Kingdom, and Ireland. In contrast,





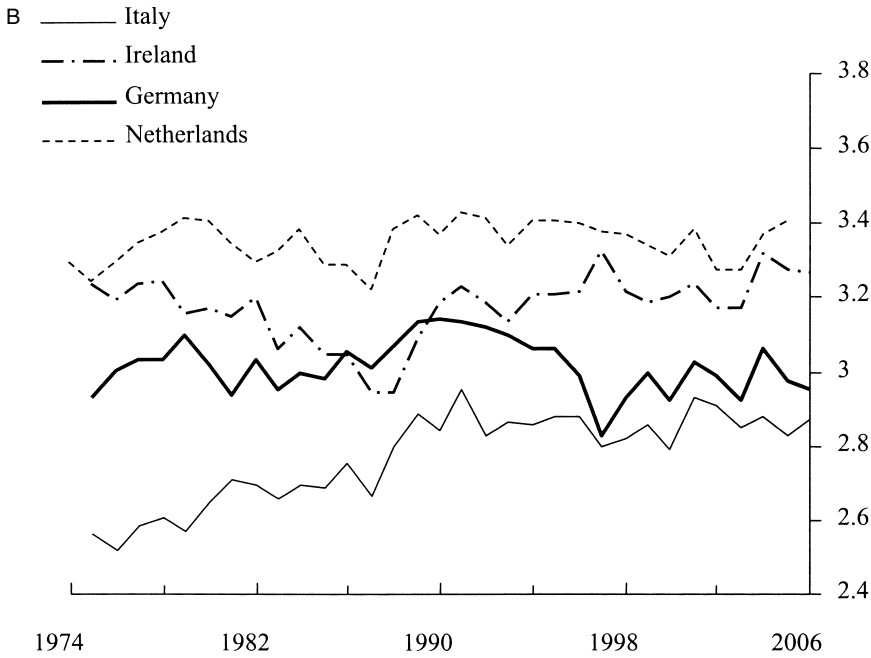
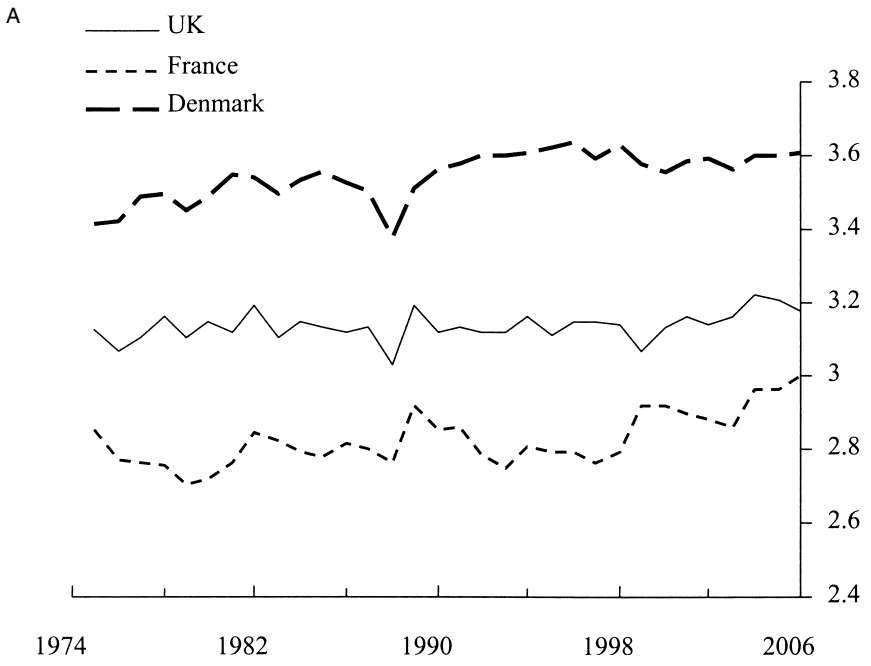
**Fig. 7.1** Average happiness and real GDP per capita for repeated cross-sections of Americans

**Table 7.1** Happiness averages: General Social Surveys, U.S.

	1965–1966 (%)	1975–1976 (%)	1985 (%)	1992–1994 (%)	2003 (%)	2005 (%)
All	20.1	19.5	19.5	20.0	19.3	19.6
Men	20.9	20.4	20.1	20.2	19.6	19.9
Women	19.4	18.7	19.0	19.8	19.2	19.4

Belgium and Portugal have significant downward trends (results not reported). Note that happiness levels are generally high in Denmark and low in Italy and France. In addition, Frey and Stutzer (2002b) have shown that the time trend in life satisfaction in Japan was flat between 1958 and 1991, the period when GDP per capita rose by a factor of six.

There is evidence, however, of *upward* trends in Eastern European countries, Turkey, and South American countries over the recent past. Table 7.2 reports the distribution of life satisfaction scores over the recent past for countries from Western and Eastern Europe and from Latin America. Among the seventeen Western European countries, since the turn of the century, five have seen satisfaction broadly flat (Denmark, Greece, Ireland, Spain, and the United Kingdom); five have seen increases (Belgium, Finland, France, Luxembourg, and Sweden); and seven have seen declines (Austria, Germany, Italy, Japan, the Netherlands, Portugal, and the United States). In contrast, with the exception of Hungary, all of the Eastern European countries and Turkey have all seen increases, as is the case for all the Latin



**Fig. 7.2** Mean life satisfaction scores, 1975 to 2006: *A*, United Kingdom, France, and Denmark; *B*, Italy, Ireland, Germany, and the Netherlands.

**Table 7.2**                      **4-step life satisfaction: Europe, the United States, Japan, and Latin America**

	2001	2002	2003	2004	2005	2006
	<i>Western countries</i>					
Austria	3.18	3.13	3.08	3.05	3.04	3.08
Belgium	3.06	2.96	3.04	3.18	3.16	3.19
Denmark	3.60	3.61	3.57	3.59	3.62	3.61
Finland	3.11	3.14	3.15	3.29	3.26	3.23
France	2.94	2.88	2.85	2.95	2.96	3.00
Germany	2.94	2.86	2.75	2.96	2.93	2.87
Greece	2.66	2.66	2.66	2.73	2.66	2.67
Ireland	3.26	3.18	3.15	3.32	3.29	3.28
Italy	2.93	2.95	2.86	2.86	2.83	2.85
Japan	2.71	2.61	2.59	2.74	2.58	n.a.
Luxembourg	3.31	3.30	3.25	3.44	3.42	3.39
Netherlands	3.42	3.31	3.28	3.33	3.41	3.36
Portugal	2.71	2.63	2.49	2.49	2.48	2.44
Spain	3.07	3.02	3.01	3.13	3.03	3.08
Sweden	3.35	3.32	3.28	3.40	3.42	3.39
U.K.	3.21	3.18	3.17	3.23	3.20	3.19
U.S.	3.35	3.33	3.37	3.42	n.a.	n.a.
	<i>East Europe + Turkey</i>					
Bulgaria	2.08	2.04	2.05	2.06	2.04	1.99
Czech Republic	2.84	2.84	2.73	2.82	2.93	2.92
Estonia	2.44	2.52	2.48	2.74	2.72	2.74
Hungary	2.54	2.63	2.53	2.44	2.53	2.50
Latvia	2.54	2.47	2.54	2.52	2.62	2.62
Lithuania	2.29	2.46	2.52	2.55	2.56	2.62
Poland	2.65	2.71	2.67	2.81	2.77	2.80
Romania	2.12	2.20	2.10	2.32	2.35	2.33
Slovakia	2.48	2.54	2.47	2.59	2.64	2.70
Slovenia	3.04	3.03	3.04	3.17	3.10	3.09
Turkey	2.26	2.43	2.71	2.87	2.90	2.84
	1997	2000	2001	2003	2004	2005
	<i>Latin America</i>					
Argentina	2.14	2.21	2.82	2.91	2.92	2.94
Bolivia	1.97	1.89	2.54	2.77	2.42	2.57
Brazil	2.34	2.61	2.71	2.71	2.67	2.73
Colombia	2.50	2.40	3.06	3.16	3.14	3.17
Costa Rica	2.82	2.65	3.34	3.46	3.29	3.34
Chile	2.32	2.84	2.82	2.92	2.80	2.85
Ecuador	2.06	1.86	2.74	3.03	2.48	2.68
El Salvador	2.49	2.34	2.90	3.34	2.88	2.90
Guatemala	2.40	2.64	3.01	3.15	3.03	3.13
Honduras	2.41	2.62	3.28	3.21	3.17	2.98
Mexico	2.61	2.71	2.95	3.13	2.96	3.06
Nicaragua	2.67	2.16	2.96	3.18	2.77	2.94
Panama	2.38	2.78	2.64	3.17	3.13	3.21

**Table 7.2** (continued)

	1997	2000	2001	2003	2004	2005
Paraguay	2.16	2.14	2.93	3.26	2.84	2.95
Peru	1.70	1.72	2.48	2.74	2.49	2.50
Uruguay	2.40	2.36	2.91	2.88	2.73	2.90
Venezuela	2.45	2.82	3.26	3.36	3.26	3.45

*Source:* Blanchflower and Shadforth (2007), plus Eurobarometers, Latinobarometers, and the World Database of Happiness.

American countries from 1997.<sup>1</sup> There is also some consistent evidence that the well-being of the young (less than thirty years old) has risen over time in both the United States and Europe (Blanchflower and Oswald 2000). The rise is mostly among the unmarried. We found that this upward trend is not explained by changing education or work, falling discrimination, or the rise of youth-oriented consumer goods.

There is some evidence of convergence over time in the happiness of men and women in the United States, as women have become less happy (Blanchflower and Oswald 2004a). Stevenson and Wolfers (2007) find that the relative decline in women's well-being holds for both working and stay-at-home moms, for those married and divorced, for the old and the young, and across the education distribution. The relative decline in well-being holds across various data sets, regardless of whether one asks about happiness or life satisfaction. Stevenson and Wolfers find that the exception to this is that African American women have become happier over this period, as have African American men, and there has been little consistent change in the gender happiness gap among African Americans over this period. As with U.S. women, Stevenson and Wolfers find that the well-being of European women has declined relative to men. However, while U.S. women also experienced an absolute decline in well-being, the subjective well-being of European men and women has risen over time.

There is also intriguing new evidence that *high frequency* happiness data yields information about preferences. Kimball et al. (2006), for example, showed that happiness dipped significantly in the first week of September 2005, after the seriousness of the damage caused by Hurricane Katrina started to become apparent. The dip in happiness lasted two or three weeks and was especially apparent in the South Central region, closest to the devastated area.

1. Easterlin and Zimmermann (2008) suggest that the observed increases in happiness in East Germany have arisen following a noticeable drop in life satisfaction at the time of unification (Blanchflower 2001), so the rise is largely a recovery to pretransition levels. In private communication, Dick Easterlin has further suggested that based on his recent work, the collapse and recovery of life satisfaction is *typically* the case for the European transition countries.

## 7.2 The U-Index

The first column of table 7.3 is taken from K2S3 and reports their U-index, which should be thought of as the inverse of a subjective well-being or happiness index. The higher the U-index, the more unhappy the person is. There is little difference by gender, and blacks are especially unhappy, as are the poor and the least educated. Unhappiness declines with age and is particularly low for the married and high for the widowed. How do these findings compare with those found using happiness and life satisfaction data? Column (2) presents the proportion of people in the United States from the GSS of 2000 to 2006 who say they are very happy (on a one to three scale), while column (3) presents the proportion of Europeans from the 2000 to 2006 Eurobarometers who say they are very satisfied (on a one to four scale). The final column reports the proportion of Latin Americans from the 2005 and 2006 Latinobarometers who say they are very satisfied (on a one to four scale).<sup>2</sup> Here a larger proportion means happier people, which is the inverse of the U-index. Interestingly, the results are very similar in all four columns. Happiness is higher for the more educated, for married people, for those with higher incomes, and for whites.

Happiness does rise with age in the United States, but once controls are included, happiness is U-shaped in age (Blanchflower and Oswald 2008b). It is U-shaped in age in both the European and Latin American countries, even in the raw data and even when controls are included (Blanchflower and Oswald 2007b).<sup>3</sup> This result is confirmed by K2S3 in their table 1.19, where unhappiness seems to follow an inverted U-shape.<sup>4</sup> We explore this

2. The countries covered in these Eurobarometers are Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Turkey, and the United Kingdom. The Latinobarometer covers Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, and Venezuela.

3. As Clark (2007) notes, this finding is repeated in happiness equations in Blanchflower and Oswald (2004a); Clark (2005); Clark and Oswald (1994); Di Tella, MacCulloch, and Oswald (2001); Frey and Stutzer (2002a); Frijters, Haisken-DeNew, and Shields (2004); Gerdtham and Johannesson (2001); Graham (2005); Helliwell (2003); Kingdon and Knight (2007); Lelkes (2007); Oswald (1997); Powdthavee (2005); Propper et al. (2005); Sanfey and Teksoz (2007); Senik (2004); Shields and Wheatley Price (2005); Theodossiou (1998); Uppal (2006); Van Praag and Ferrer-i-Carbonell (2004); and Winkelmann and Winkelmann (1998).

4. Blanchflower and Oswald (2008b) find that a robust U-shape in age in happiness and life satisfaction is found in seventy-two countries—Albania, Argentina, Australia, Azerbaijan, Belarus, Belgium, Bosnia, Brunei, Bulgaria, Cambodia, Canada, Chile, China, Colombia, Costa Rica, Croatia, Czech Republic, Denmark, Dominican Republic, Ecuador, El Salvador, Estonia, Finland, France, Germany, Greece, Honduras, Hungary, Iceland, Iraq, Ireland, Israel, Italy, Japan, Kyrgyzstan, Laos, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Mexico, Myanmar, the Netherlands, Nicaragua, Nigeria, Norway, Paraguay, Peru, Philippines, Poland, Portugal, Puerto Rico, Romania, Russia, Serbia, Singapore, Slovakia, South Africa, South Korea, Spain, Sweden, Switzerland, Tanzania, Turkey, Ukraine, the United Kingdom, the United States, Uruguay, Uzbekistan, and Zimbabwe.

**Table 7.3 U-index, happiness, and life satisfaction for various demographic groups**

	U-index (%)	GSS (%)	EB (%)	LB (%)
<b>Sex</b>				
Men	17.6	30.9	27.0	30.5
Women	19.6	31.3	26.8	30.1
<b>Race/ethnicity</b>				
White	17.5	32.7		
Black	23.8	26.6		
Hispanic	21.9	24.8		
<b>Household income</b>				
<\$30,000	22.5	31.8		
\$30,000–\$50,000	18.6	23.6		
\$50,000–\$100,000 (\$110k)	18.6	38.2		
>\$100,000	15.7	46.8		
<b>Education</b>				
<High school/<16 years	20.5	28.9	19.3	28.0
High school/16–19 years	21.3	31.2	25.1	31.6
Some college/20+ years	19.6	31.7	34.8	32.4
College/still studying	15.6	37.2	32.5	
Masters	16.6	36.6		
Doctorate	11.3	36.4		
<b>Men</b>				
15–24	18.8	23.4	28.0	34.1
25–44	17.1	29.2	25.7	30.8
45–64	18.7	33.0	25.9	27.6
65+	15.6	39.8	30.5	28.0
Married	17.4	39.0	29.3	33.6
Divorced/separated	24.3	17.5	18.6	27.1
Widowed	20.2	22.1	21.6	
Never married	16.9	20.3	23.3	29.1
<b>Women</b>				
15–24	18.9	29.5	28.9	33.7
25–44	20.5	32.0	28.1	30.5
45–64	20.9	33.5	25.4	26.6
65+	16.1	33.6	24.6	28.7
Married	17.4	41.6	29.4	32.9
Divorced/separated	24.5	20.3	18.7	29.0
Widowed	22.3	25.0	20.7	
Never married	23.2	24.1	24.9	29.8

*Source:* GSS pooled 2000, 2002, 2004, 2006—percent “very happy.” Eurobarometers for EU15 from 2000 to 2006—% “very satisfied” (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and United Kingdom). Krueger et al. (2007)—table 5.1 using Princeton Affect and Time Survey data. Latinobarometer 2005—% “very satisfied” (Argentina, Bolivia, Brazil, Colombia, Costa Rica, Chile, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, and Venezuela). Education categories for the LB are “<9 years schooling,” “10–12 years schooling,” and “>12 years schooling.”

*Note:* U-index is proportion of time that rating of “sad,” “stressed,” or “pain” exceeds “happy.”

EB = Eurobarometer, LB = Latinobarometer.

U-shape in age in more detail next. The patterns across individuals are essentially the same then, for subjective well-being (SWB) and NTA in the United States, Latin America, and Europe. It turns out that the happiness derived from sex in both SWB studies and in U-index studies is especially high. Blanchflower and Oswald (2004b) found that sexual activity enters strongly positively into happiness equations.<sup>5</sup> Indeed, in Kahneman and Krueger (2006) and Kahneman et al. (2004b), “intimate relations” has the lowest rating (i.e., gives the most happiness), while “commuting” has the highest. Though somewhat surprisingly, in K2S3, “walking” gave more happiness than “making love” among U.S. women, although the reverse was the case among French women (table 1.22)!

In section 1.8 of their chapter, K2S3 do some international comparisons of SWB in two representative cities—one in France and the other in the United States—and ask whether the standard measure of life satisfaction and the NTA yield the same conclusion concerning relative well-being. Specifically, they designed a survey to compare overall life satisfaction, time use, and recalled affective experience during episodes of the day for random samples of women in Rennes, France, and Columbus, Ohio. The authors argued that these cities were selected because they represented “middle America” and “middle France.” Krueger et al. also presented results using time allocation derived from national samples in the United States and France to extend their analysis beyond these two cities. The city sample consisted of 810 women in Columbus, Ohio, and 820 women in Rennes, France. Respondents were invited to participate based on random-digit dialing in the spring of 2005 and were paid approximately \$75 for their participation. The age range spanned from eighteen years old to sixty-eight years old, and all participants spoke their country’s dominant language at home. The Columbus sample was older (median age of forty-four years old versus thirty-nine years old), more likely to be employed (75 percent versus 67 percent), and better educated (average of 15.2 years of school versus fourteen years) than the Rennes sample, but the Rennes sample was more likely to currently be enrolled in school (16 percent versus 10 percent). The life satisfaction question was taken from the World Values Survey (WVS).

The distribution of reported life satisfaction in Columbus, Ohio, and Rennes, France, for women found by K2S3 is presented in the first two columns of part A of table 7.4 using the 4-step life satisfaction scale. Life satisfaction is based on the question, “Taking all things together, how satisfied are you with your life as a whole these days—not at all satisfied, not

5. Blanchflower and Oswald (2004b) found that higher income does not buy more sex or more sexual partners. Married people have more sex than those who are single, divorced, widowed, or separated. The happiness-maximizing number of sexual partners in the previous year is calculated to be one. Highly educated females tend to have fewer sexual partners. Homosexuality has no statistically significant effect on happiness.

**Table 7.4** Life satisfaction and country characteristics: France, Denmark, the United Kingdom, and the United States

	K2S3, 2006 Women		Eurobarometer, 2000–2006 Women		
	U.S.	France	France	Denmark	U.K.
<i>A. 4-step life satisfaction</i>					
Not at all satisfied	1.6	1.1	4.5	0.6	2.2
Not very satisfied	21.4	16.1	15.1	2.7	8.4
Satisfied	51.0	70.0	64.5	31.7	56.6
Very satisfied	26.1	12.9	15.9	65.0	32.9
Score	3.00	2.94	2.92	3.62	3.21
<i>N</i>	810	816	7,074	6,700	9,457
<i>B. 10-step life satisfaction for women: WVS</i>					
1981–1984	6.75	8.27	7.55	7.73	7.73
1989–1993	6.82	8.07	7.65	7.65	7.65
1999–2004	6.97	8.23	7.68	7.68	7.65
<i>C. 4-step life satisfaction for men and women combined: World Database of Happiness</i>					
2001	2.90	3.59	3.17	3.35	3.35
2002	2.89	3.59	3.14	3.33	3.33
2003	2.86	3.56	3.16	3.41	3.41
2004	2.96	3.60	3.22	3.42	3.42
<i>D. Macrodatab</i>					
GDP/capita (PPP U.S.S., 2004)	\$29,300	\$31,914	\$30,821	\$39,676	\$39,676
Gini coefficient	32.7	24.7	36.0	40.8	40.8
Unemployment rate	8.6%	3.3%	5.4%	4.7%	4.7%
Long-term unemployment	44.8%	20.7%	27.5%	10.7%	10.7%
Youth unemployment	23.9%	7.6%	13.9%	10.5%	10.5%

Source: <http://hdrstats.undp.org/indicators/>.

Notes: Score is obtained by calculating a weighted average of responses, where 1 = “not at all satisfied,” 2 = “not very satisfied,” 3 = “satisfied,” and 4 = “very satisfied.” “Youth unemployment” and “long-term unemployment” are both for males. “Youth unemployment” is for ages 15 to 24. “PPP” means “purchasing power parity.”

very satisfied, fairly satisfied, or very satisfied?” Krueger et al. found that American women reported higher levels of life satisfaction than the French, regardless of whether the proportion who said they were “very satisfied” or the overall score was used. Yet they also found that on average, the French spent their days in a more positive mood. Moreover, the national time-use data they used also indicated that the French spend relatively more time engaged in activities that tend to yield more pleasure than do Americans. Their results, they argue, “suggest that considerable caution is required in comparing standard life satisfaction data across populations with different cultures.” In particular, the Americans seem to be more emphatic when



**Table 7.5** Life satisfaction averages: 2000–2006 Eurobarometers

	Not at all satisfied (%)	Not very satisfied (%)	Fairly satisfied (%)	Very satisfied (%)	<i>N</i>
France	4	15	65	16	13,554
Denmark	1	3	33	63	13,718

reporting their well-being. The U-index, K2S3 suggests, “apparently overcomes this inclination.”

Kahneman et al. (2004a, 430) have argued that differences in the SWB ratings of Denmark and France) in the Eurobarometers, for example, are implausibly large, and they “raise additional doubts about the validity of global reports of subjective well-being, which may be susceptible to cultural differences in the norms that govern self descriptions.” For example, in the Eurobarometers from 2000 to 2006, the average distributions for life satisfaction for these two countries are as seen in table 7.5. Such differences are consistently repeated in multiple data sets, regardless of whether happiness or life satisfaction is used. It is clearly problematic to compare one country’s happiness answers to those of another country. Nations have different languages and cultures, and in principle, that may cause biases—perhaps large ones—in happiness surveys. At this point in research on subjective well-being, the size of any bias is not known, and there is no accepted way to correct the data, although the literature has made some progress in exploring this issue (for instance, by looking inside a nation like Switzerland at subgroups with different languages). In the long run, research into ways to difference out country fixed effects will no doubt be done, and the work of K2S3 in this regard is obviously important. For example, the strong well-being performance in some happiness surveys of countries such as Mexico and Brazil in the 2002 ISSP (Blanchflower and Oswald 2005) may or may not ultimately be viewed as completely accurate. In Blanchflower and Oswald (2005), one check was done by comparing happiness in the English-speaking nations of Great Britain, Ireland, New Zealand, Northern Ireland, and the United States. The main attraction is that this automatically avoids translation problems. Moreover, this smaller group of nations has the advantage that they are likely to be more similar in culture and philosophical outlook, and that in turn may reduce other forms of bias in people’s answers. However, it does appear that there is considerable stability in cross-country rankings of life satisfaction in English-speaking countries (Blanchflower and Oswald 2005, 2006; Leigh and Wolfers 2006).

### 7.3 Econometric Evidence on Life Satisfaction and Happiness

As I will show in more detail next, there is also a great deal of stability in the rankings of European countries across a number of surveys, includ-

ing the Eurobarometers (1973 to 2006), the EQLS (2003), and the European Social Survey (2002). Further, it seems that there is evidence from the WVS and the ISSP (2002) supporting a happiness ranking where the United States is ranked above France, as implied in K2S3's life satisfaction data, rather than below it, as implied by their U-index. In fact, I am unable to find *any* data file where the ranking reverses, as occurs with the U-index. The evidence is essentially the same, both when we look at happiness, life satisfaction, health, or family life, and conversely, when we look at a variety of measures of *unhappiness* including high blood pressure, stress, lack of sleep, pain, and being "down and depressed."

Where feasible I present data comparing the United States and France, but there are only a few data files that include both countries, so we make use of data from a number of European data files that allow a direct comparison with Denmark—which will be included in K2S3's analysis shortly—plus the United Kingdom, which is of particular interest to this author. In almost all of what follows, the United Kingdom ranks above France: Denmark is mostly at the top of the happiness rankings in Europe, especially when life satisfaction is used. If we refer to figure 7.2, panels A and B, which are based on Eurobarometer data, Denmark ranks above the United Kingdom, which itself ranks above France, in every year of data we have available. Indeed, based simply on life satisfaction averages, France usually ranks below the large majority of the EU-15 (the European Union comprised of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom). For example, in the raw data from the latest Eurobarometer available, number 65.2 for March through May 2006, France ranked fourteenth out of thirty countries.<sup>6</sup> Controlling for a variety of characteristics over a long run of thirty years, France ranked seventeenth out of thirty.<sup>7</sup>

Columns (3) through (5) of part A of table 7.4 report results using the most recent subset of the data from the Eurobarometers for 2000 to 2006, which shows that France ranks third behind Denmark and the United

6. Average life satisfaction scores were Denmark (3.61), Luxembourg (3.39), Sweden (3.39), the Netherlands (3.36), Ireland (3.28), Finland (3.23), Belgium (3.19), the United Kingdom (3.19), Cyprus (3.12), Slovenia (3.10), Austria (3.08), Spain (3.08), Turkish Cyprus (3.02), France (3.00), Malta (2.98), West Germany (2.95), Czech Republic (2.89), Italy (2.86), Turkey (2.85), Poland (2.79), Croatia (2.78), East Germany (2.72), Estonia (2.72), Greece (2.67), Slovakia (2.66), Lithuania (2.58), Latvia (2.56), Hungary (2.47), Portugal (2.44), Romania (2.31), and Bulgaria (1.97).

7. When an ordered logit is run using these Eurobarometer data from 1973 to 2006—pooled across all member countries, plus candidate countries Croatia, Norway, and Turkey, with a standard set of controls as in table 8, column (5)—the rankings are as follows, with rank in parentheses: Denmark (1), the Netherlands (2), Norway (3), Sweden (4), Luxembourg (5), Ireland (6), the United Kingdom (7), Finland (8), Belgium (9), Austria (10), Cyprus (11), Slovenia (12), Malta (13), Spain (14), Germany (15), Turkey (16), France (17), Czech Republic (18), Italy (19), Croatia (20), Poland (21), Portugal (22), Estonia (23), Greece (24), Slovakia (25), Latvia (26), Lithuania (27), Hungary (28), Romania (29), and Bulgaria (30).

Kingdom. Part B of table 7.4 presents data on women using the WVS on a 10-point life satisfaction scale and replicates that ranking. Part C of the table uses data for men and women combined from the *World Database of Happiness*, which includes all four countries. Once again France ranks at the bottom, with Denmark second, the United Kingdom third, and the United States at the top.

In the final part of table 7.4 I present some macroeconomic data on GDP per capita, the Gini coefficient, and the most recent unemployment rate (Office of National Statistics 2007). In comparison with France, the United States has (a) a lower unemployment rate, (b) a higher GDP per capita, and (c) a higher Gini coefficient. France has especially high rates of long-term unemployment and youth unemployment. Denmark has an especially low unemployment rate and low Gini coefficient. Despite the well-known difficulty of making suicide rates comparable across countries, it appears that the rates in France for both men and women are well above those for the United States. This is illustrated in table 7.6. This ranking is more consistent with SWB data rankings than it is with rankings based on NTA.

**Table 7.6** Suicide rates (per 100,000)

	United States											
	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000	2002
Total	7.6	10.2	10.6	11.1	11.5	12.7	11.8	12.3	12.4	11.9	10.4	11.0
Male	17.7	15.9	16.4	16.7	16.7	18.9	18.6	19.9	20.4	19.8	17.1	17.9
Female	2.5	4.5	4.9	6.1	6.5	6.8	5.4	5.1	4.8	4.4	4.0	4.2
	France											
	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000	2003
Total	15.2	15.9	15.8	15.0	15.4	15.8	19.4	22.5	20.0	20.6	18.4	18.0
Male	23.7	24.6	23.9	23.0	22.8	22.9	28.0	33.1	29.6	30.4	27.9	27.5
Female	7.2	7.8	8.2	7.5	8.4	9.0	11.1	12.7	11.1	10.8	9.5	9.1
	Denmark											
	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000	2001
Total	23.3	23.3	20.3	19.3	21.5	24.1	31.6	27.9	23.9	17.7	13.6	13.6
Male	31.7	32.0	27.2	24.0	27.4	29.9	41.1	35.1	32.2	24.2	20.2	19.2
Female	15.0	14.8	13.6	14.7	15.7	18.4	22.3	20.6	16.3	11.2	7.2	8.1
	United Kingdom											
	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	1999	2004
Total	9.5	10.7	10.7	10.4	7.9	7.5	8.8	9.0	8.1	7.4	7.5	7.0
Male	12.7	13.6	13.3	12.2	9.4	9.0	11.0	12.4	12.6	11.7	11.8	10.8
Female	6.5	8.0	8.2	8.7	6.5	6.0	6.7	5.8	3.8	3.2	3.3	3.3

Source: [http://www.who.int/mental\\_health/prevention/suicide/country\\_reports/en/index.html](http://www.who.int/mental_health/prevention/suicide/country_reports/en/index.html).

Happiness from a further source, the ISSP, which also contains data from the two countries, is supportive of the fact that happiness in the United States is *higher* than it is in France. Data on the two countries are available in the 1998, 2001, and 2002 sweeps. In the first two sweeps, happiness data is available on a 4-point scale in response to the question, “How happy are you with your life in general—not at all happy, not very happy, fairly happy, or very happy?” Responses are found in table 7.7. The overall score for the French increased between 1998 and 2001. In the 2002 ISSP, responses were provided on a 7-point scale, and the U.S. score was once again considerably higher than the French for both men and women. As can be seen in table 7.8, the average score across respondents in the United States was higher for both men and women; however, the proportion who were unhappy—completely, very, or fairly—was higher. For men in the United States, 4.3 percent in this category were unhappy, compared with 3.1 percent in France,

**Table 7.7** Happiness: 1998 and 2000 ISSP

	Not at all (%)	Not very (%)	Fairly (%)	Very (%)	Score (%)	<i>N</i>
2001 U.S.	1	7	51	41	3.3	1,129
1998 U.S.	2	9	52	37	3.2	1,272
2001 France	1	9	62	27	3.2	1,330
1998 France	3	20	64	13	2.9	1,082

**Table 7.8** Happiness: 2002 ISSP

	Female	Male	All
<i>United States</i>			
Completely unhappy	0.2	0.0	0.1
Very unhappy	1.5	1.2	1.4
Fairly unhappy	2.5	3.1	2.8
Neither	5.4	6.8	6.0
Fairly happy	31.9	36.3	33.7
Very happy	45.7	41.6	44.0
Completely happy	13.0	11.1	12.2
Score	5.56	5.47	5.52
<i>N</i>	672	488	1,160
<i>France</i>			
Completely unhappy	0.1	0.2	0.1
Very unhappy	0.3	0.5	0.3
Fairly unhappy	3.2	2.4	3.0
Neither	13.4	10.9	12.6
Fairly happy	48.8	49.1	48.9
Very happy	23.6	25.0	24.1
Completely happy	10.7	12.0	11.1
Score	5.24	5.31	5.26
<i>N</i>	1,216	617	1,833

while for women, the numbers were 4.2 percent and 3.6 percent, respectively. We now turn to the econometric evidence where we are able to hold constant a number of factors including labor market and marital status, age, gender, and schooling. The rankings remain essentially unchanged.

### 7.3.1 Econometric Evidence on the Microdeterminants of Happiness

Rank orderings of the United States and France are consistent, whether we examine happiness, life satisfaction, or other variables relating to the family, no matter what data file or year we examine. Tables 7.9 and 7.10 explore differences in happiness between the United States and France using the ISSP 1998, 2001, and 2002 data previously described.<sup>8</sup> In all three years of data, the United States ranks above France, although there is some variation in the rankings across other countries. For example, the United Kingdom is above the United States in 1998 and 2001, but below it in 2002; it is also above Denmark in all three years, while Denmark is below France in 2001. In most other data files we examine, Denmark ranks at the top in Europe, especially on life satisfaction. Columns (3) and (4) provide estimates of ordered logits estimating how satisfied an individual is with their family life. The idea here is to ensure the rankings are not driven by different interpretations of the word “happy,” although they are still potentially impacted by the reticence of the French to be emphatic when reporting their well-being. Rankings are similar to those based on happiness, with Americans more satisfied than the French. It does seem, however, that people in the United States value time with their families very highly. Interestingly, when individuals in the ISSP are asked whether they wished they could spend more time with their families, more than half of respondents reported they would like to spend “much more time,” compared with a third in France and the United Kingdom and a fifth in Denmark (table 7.11).

It is appropriate to explore further the ranking by country using the SWB measures from other data files to see if the rankings are consistent. This is what is done in tables 7.12 through 7.14, and it turns out they are. Table 7.12 uses data from eighty-two countries from the four sweeps of the WVS of 1981 to 2004 on both life satisfaction and happiness. Ordered logits are estimated in columns (1) and (2) with the dependent variable—life satisfaction—and responses are scored on a scale of one to ten, where one is least satisfied and ten is most satisfied. The sample size is just over one-quarter million observations—only three country dummies are included, with the remaining country dummies all excluded for simplicity. The first column only includes nineteen year dummies and country dummies for France, Denmark, the United Kingdom, and the United States, with all other countries

8. The exact question asked is Q.17: “If you were to consider your life in general, how happy or unhappy would you say you are, on the whole?”—1 = completely happy, 2 = very happy, 3 = fairly happy, 4 = neither happy nor unhappy, 5 = fairly unhappy, 6 = very unhappy, and 7 = completely unhappy.

Table 7.9

## Happiness equations: 1998 and 2001 ISSP

	1998		2001	
	(1)	(2)	(3)	(4)
Denmark	.6415 (7.32)	.6554 (7.39)	.2451 (2.86)	.2664 (3.05)
France	-.2635 (3.00)	-.3977 (4.49)	.2699 (3.22)	.3043 (3.59)
U.K.	.8500 (10.55)	.8920 (10.97)	.5855 (7.64)	.7097 (9.16)
Australia	.6791 (8.06)	.6196 (7.17)	.2599 (3.12)	.2942 (3.41)
Austria	.3595 (4.02)	.3139 (3.48)	.3252 (3.63)	.4093 (4.52)
Brazil			1.2895 (16.34)	1.4270 (17.10)
Bulgaria	-1.4468 (16.31)	-1.4724 (16.39)		
Canada	.2404 (2.63)	.0987 (1.06)	.5587 (6.42)	.5751 (6.45)
Chile	-.5378 (6.32)	-.6176 (7.20)	.4707 (5.64)	.5407 (6.39)
Cyprus	-.2714 (2.95)	-.4533 (4.88)	-.9342 (10.26)	-1.0880 (11.83)
Czech Republic	-.3740 (4.41)	-.4048 (4.73)	-.5579 (6.47)	-.5132 (5.87)
East Germany	-.6886 (7.70)	-.5614 (6.25)	-.3648 (3.18)	-.2484 (2.16)
Finland			-.3058 (3.65)	-.3262 (3.79)
Hungary	-1.5248 (17.34)	-1.4973 (16.84)	-.7982 (9.71)	-.6713 (8.06)
Ireland	1.2023 (13.53)	1.2171 (13.51)		.0850 (1.02)
Israel	-.1655 (1.88)	-.3189 (3.59)	-.3637 (4.10)	-.4534 (5.06)
Italy	-.3475 (3.88)	-.4527 (5.03)	-.6034 (6.64)	-.8020 (8.56)
Japan	.0343 (0.41)	-.1062 (1.26)	.1487 (1.76)	.0985 (1.15)
Latvia	-1.4895 (17.63)	-1.5736 (18.41)	-1.4145 (15.85)	-1.3995 (15.50)
Netherlands	.7338 (9.48)	.7252 (9.30)		
New Zealand	.7760 (8.70)	.7544 (8.31)	.7155 (8.27)	.7782 (8.80)
Norway	.2935 (3.58)	.2269 (2.73)	.0872 (1.06)	.0850 (1.02)
Philippines	.2444 (2.79)	-.0038 (0.04)	.1119 (1.28)	.0772 (0.87)
Poland	-.0188 (0.21)	-.0332 (0.38)	-.5691 (6.61)	-.5061 (5.83)
Portugal	-.9207 (10.49)	-1.0417 (11.82)		
Russia	-1.3633 (16.72)	-1.4252 (17.16)	-2.5134 (32.28)	-2.5377 (32.23)
Slovakia	-.9608 (11.40)	-1.1135 (13.04)		
Slovenia	-.7625 (8.47)	-.9077 (9.99)	-.5625 (6.31)	-.6460 (7.17)
South Africa			-.1925 (2.46)	-.0077 (0.10)
Spain	.1531 (2.03)	.0883 (1.17)	-.2714 (3.20)	-.2837 (3.31)
Sweden	.2767 (3.18)	.1541 (1.75)		
Switzerland	.5572 (6.49)	.5453 (6.28)	.7205 (8.12)	.7698 (8.52)
U.S.	.8065 (9.49)	.8325 (9.72)	.7800 (8.98)	.9193 (10.45)
Age	-.0738 (17.72)			-.0630 (15.17)
Age <sup>2</sup>	.0006 (14.76)			.0006 (13.29)
Male	-.0960 (4.23)			-.0180 (0.80)
Personal controls	No	Yes	No	Yes
Cut1	-3.6133	-5.4182	-3.5164	-4.9288
Cut2	-1.5153	-3.2445	-1.7275	-3.0885
Cut3	1.4123	-.2039	1.1509	-.1180
<i>N</i>	37,875	37,521	35,950	35,219
Pseudo <i>R</i> <sup>2</sup>	.0607	.0857	.0765	.0964

Source: 1998 and 2001 ISSP.

Notes: Personal controls are marital status and labor market status dummies. Excluded country: West Germany. "If you were to consider your life in general, how happy would you say you are, on the whole—not at all happy, not very happy, fairly happy, or very happy?"

**Table 7.10**

**Happiness and role of the family: 2002 ISSP**

	Happiness		Family	
	(1)	(2)	(3)	(4)
Denmark		-.1159 (1.53)		.3825 (4.95)
France		-.3039 (4.40)		-.4605 (6.41)
U.K.		.3613 (5.65)		.3082 (4.65)
U.S.	.6701 (8.30)	.4169 (5.45)	.7448 (9.36)	.3612 (4.56)
Age	-.1084 (7.26)	-.0705 (19.55)	-.1032 (7.06)	-.0675 (18.53)
Age <sup>2</sup>	.0011 (7.29)	.0006 (17.50)	.0010 (6.91)	.0006 (17.03)
Male	-.0261 (0.35)	.0507 (2.68)	-.0758 (1.02)	.1118 (5.87)
No formal education	.5095 (1.36)	.0208 (0.49)	-.1011 (0.28)	.0432 (1.05)
Above lowest formal	.2813 (2.02)	.1833 (4.32)	-.0020 (0.01)	.1848 (4.43)
Higher secondary	.5644 (3.97)	.2459 (5.81)	.0738 (0.21)	.2191 (5.28)
Above secondary	.5243 (3.75)	.2957 (6.52)	.0035 (0.01)	.2207 (4.93)
University degree	.8726 (6.44)	.4026 (8.92)	.1145 (0.33)	.2392 (5.37)
Married	.9005 (9.00)	.7009 (26.23)	1.1943 (11.93)	.8491 (31.05)
Widowed	.0561 (0.30)	-.2500 (5.54)	.4089 (2.24)	-.1107 (2.41)
Divorced	-.0866 (0.63)	-.2372 (5.46)	.0597 (0.44)	-.3134 (6.96)
Separated	-.4838 (2.16)	-.3636 (5.53)	-.3306 (1.53)	-.5151 (7.85)
Public sector	.0291 (0.29)	.0392 (1.41)	-.0114 (0.12)	.0050 (0.18)
Self-employed	.0980 (0.65)	.1061 (3.11)	.1601 (1.08)	.0911 (2.69)
Unpaid family worker	-.7075 (0.91)	.0398 (0.33)	.2213 (0.25)	-.0415 (0.35)
Unemployed	-.2388 (1.24)	-.5482 (12.92)	-.2223 (1.17)	-.3923 (9.24)
Student	.0559 (0.28)	.1459 (3.13)	.0872 (0.42)	.1028 (2.16)
Retired	-.0991 (0.67)	-.0496 (1.34)	-.0267 (0.18)	-.0625 (1.68)
Housewife	-.0016 (0.01)	.0363 (1.01)	-.0246 (0.18)	.0038 (0.11)
Disabled	-.5181 (1.04)	-.4661 (6.60)	-.5115 (1.11)	-.3052 (4.29)
Other labor market	-.3538 (1.35)	-.2712 (4.43)	-.5177 (1.94)	-.2909 (4.77)
Austria		.4277 (6.34)		.5102 (7.24)
Brazil		.4371 (6.13)		-.3380 (4.64)
Bulgaria		-1.6116 (20.47)		-1.3513 (16.66)
Chile		.4715 (6.41)		.5708 (7.70)
Cyprus		-.0927 (1.16)		-.1089 (1.38)
Czech Republic		-.7562 (10.08)		-.8577 (11.23)
East Germany		-.6619 (6.41)		-.1039 (0.98)
Estonia		-.2654 (4.06)		-.2251 (3.37)
Finland		-.3428 (4.44)		-.3863 (4.86)
Flanders		-.3712 (4.98)		-.2767 (3.62)
Hungary		-.5945 (7.41)		-.2962 (3.59)
Ireland		-.0298 (0.41)		.4107 (5.34)
Israel		-.2329 (3.00)		.1679 (2.13)
Japan		.2953 (3.70)		-.2731 (3.40)
Latvia		-1.1807 (14.87)		-1.1642 (14.13)
Mexico		.5591 (7.34)		.8134 (10.61)
Netherlands		-.2270 (3.06)		-.1761 (2.30)
New Zealand		.2682 (3.30)		.1114 (1.34)
Norway		-.1811 (2.48)		-.0272 (0.37)
Philippines		.1092 (1.37)		.0601 (0.74)
Poland		-.7878 (10.48)		-.3929 (5.11)
Portugal		-.3820 (4.82)		-.2205 (2.75)

**Table 7.10** (continued)

	Happiness		Family	
	(1)	(2)	(3)	(4)
Russia		-1.0997 (15.45)		-1.0436 (14.00)
Slovakia		-.9487 (12.21)		-.8533 (10.61)
Slovenia		-.4791 (6.15)		-.1456 (1.81)
Sweden		-.2411 (3.06)		.0495 (0.60)
Switzerland		.3338 (4.28)		.2935 (3.68)
Taiwan		-.3847 (5.59)		-.4845 (6.95)
West Germany		-.4315 (5.36)		-.0499 (0.60)
Cut1	-8.1600	-7.5073	-6.3764	-6.4968
Cut2	-6.0305	-5.9530	-5.2860	-5.4063
Cut3	-4.5138	-4.5258	-3.9864	-4.1993
Cut4	-3.0443	-2.9599	-3.0898	-3.0322
Cut5	-.7444	-.8420	-1.3159	-1.1549
Cut6	1.1677	1.1391	.2919	.7428
Pseudo $R^2$	.0460	.0456	.0444	.0442
$N$	2,885	44,468	2,859	43,657

*Notes:* Excluded categories are: “lowest formal qualification,” “private sector employee,” and Australia.  $T$ -statistics are in parentheses. Columns (1) and (3) are U.S. and France only. Columns (1) are (2) are responses to the question, “If you were to consider your life in general, how happy or unhappy would you say you are, on the whole?” (Respondents answered on a 7-point scale.) Column (2) refers to the following question: “All things considered, how satisfied are you with your family life?” (Respondents answered on a 7-point scale.) Scale is “completely unhappy,” “very unhappy,” “fairly unhappy,” “neither,” “fairly happy,” “very happy,” and “completely happy.”

set as the omitted category for simplicity. Column (2) adds controls for age, gender, marital status, and labor market status. Happiness is higher among the married (Zimmermann and Easterlin 2006) and the educated and is especially low among the unemployed (Blanchflower and Oswald 2004a, 2004b). In both columns the country ranking remains as follows: France, the United Kingdom, the United States, and Denmark. In columns (3) and (4) the dependent variable is a 4-step happiness variable and the rankings are a little different: France, the United States, the United Kingdom, and again Denmark at the top. These results are consistent with the findings of Veenhoven (2000), who examined the first three waves of the WVS and found that among the three possible ways of ranking countries—based on responses of individuals on how happy they are, how satisfied they are, and how they would rate their lives on a scale from the worst to the best possible life—the ranking stays roughly the same.

Table 7.13 uses data from another source, the 2003 EQLS ( $n = 26,000$ ), which obviously excludes the United States and follows a similar form, but this time separate results are reported on a 10-step scale for life satisfaction and happiness. Data are also available on the individual’s assessment of their overall health on a 5-point scale: poor, fair, good, very good, and excellent.



**Table 7.11**                      **Wanting to spend time with the family—ranked by percentage in 2005**

	1997 (%)	2005 (%)
United States	41.9	55.3
Dominican Republic		55.3
Mexico		43.5
Philippines	50.8	38.7
Canada	23.3	37.8
South Africa		36.7
France	34.3	33.7
Israel	35.6	33.5
New Zealand	23.9	28.6
Australia		28.5
Ireland		28.1
United Kingdom	31.6	27.7
East Germany	29.8	25.7
Sweden	27.9	25.7
Norway	25.5	24.8
Slovenia	26.3	23.3
West Germany	24.5	21.4
Denmark	21.0	21.2
Portugal	34.1	19.8
Russia	23.9	19.3
Hungary	19.1	18.7
Switzerland	22.8	17.1
Bulgaria	14.7	16.7
Czech Republic	25.2	15.1
Spain	7.8	15.0
Finland		14.4
South Korea		13.1
Japan	7.5	9.1
Taiwan		8.9
Cyprus	25.2	7.2
Bangladesh	5.1	
Italy	15.7	
Latvia	15.6	
Netherlands	14.6	
Poland	23.4	

*Source:* 1997 ISSP ( $n = 32,783$ ) and 2005 ( $n = 43,440$ ).

*Notes:* Question asked is, “Suppose you could change the way you spend your time, spending more time on some things and less time on others. Which of the things on the following list would you like to spend more time on, which would you like to spend less time on, and which would you like to spend the same amount of time on as now?” (1 = Much more time, 2 = A bit more time, 3 = Same time as now, 4 = A bit less time, and 5 = Much less time.) Tabulated are the proportions saying “much more time” with their family.

Table 7.12

**Life satisfaction and happiness: 1981–2004 World Values Survey  
(ordered logits)**

	Life satisfaction		Happiness	
Denmark	.9958 (31.91)	1.0033 (31.47)	.8450 (24.83)	.8625 (24.78)
France	−.1073 (3.88)	−.1470 (5.11)	.4227 (13.64)	.4426 (13.74)
U.K.	.5004 (22.79)	.2823 (11.91)	.8036 (30.05)	.6773 (23.67)
U.S.	.5197 (23.77)	.3480 (14.59)	.6959 (28.04)	.5800 (21.41)
Age		−.0377 (22.09)		−.0491 (26.11)
Age <sup>2</sup>		.00046 (24.75)		.00050 (24.63)
Male		−.0765 (8.45)		−.0848 (8.38)
Married		.1907 (14.98)		.4063 (28.44)
Living together		.2133 (10.00)		.3131 (13.04)
Divorced		−.3442 (14.18)		−.3737 (13.82)
Separated		−.4235 (12.29)		−.4364 (11.36)
Widowed		−.4123 (18.33)		−.4927 (19.98)
Part-time employee		−.0252 (1.56)		−.0064 (0.36)
Self-employed		.0361 (2.32)		.0612 (3.50)
Retired		−.2202 (12.43)		−.2276 (11.73)
Home worker		.0607 (4.21)		.1494 (9.35)
Student		−.0158 (0.84)		.0824 (3.87)
Unemployed		−.6850 (40.79)		−.4884 (26.36)
Other		−.2326 (6.80)		−.0245 (0.64)
Cut1	−3.4057	−4.0057	−3.6190	−4.3648
Cut2	−2.8445	−3.4499	−1.4905	−2.2030
Cut3	−2.2542	−2.8627	1.0105	.4280
Cut4	−1.8110	−2.4062		
Cut5	−1.0434	−1.6032		
Cut6	−.5878	−1.1143		
Cut7	−.0103	−.4836		
Cut8	.8544	.4453		
Cut9	1.5985	1.2323		
Year dummies	19	19	19	19
Schooling dummies	0	10	0	10
<i>N</i>	263,097	188,529	257,881	185,629
Pseudo <i>R</i> <sup>2</sup>	0.0112	.0191	.0131	.0336

*Notes:* Excluded category is “full-time employees.” Excluded countries are: Albania, Algeria, Argentina, Armenia, Australia, Austria, Azerbaijan, Bangladesh, Belarus, Belgium, Bosnia and Herzegovina, Brazil, Bulgaria, Canada, Chile, China, Colombia, Croatia, Czech Republic, Dominican Republic, Egypt, El Salvador, Estonia, Finland, Georgia, Germany, Greece, Hungary, Iceland, India, Indonesia, Iran, Iraq, Ireland, Israel, Italy, Japan, Jordan, Korea, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Mexico, Moldova, Morocco, the Netherlands, New Zealand, Nigeria, Norway, Pakistan, Peru, Philippines, Poland, Portugal, Puerto Rico, Romania, Russia, Saudi Arabia, Serbia and Montenegro, Singapore, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, Taiwan, Tanzania, Turkey, Uganda, Ukraine, Uruguay, Venezuela, Vietnam, and Zimbabwe.

**Table 7.13** Happiness: 2003 European Quality of Life Survey (ordered logits)

	Life satisfaction			Happiness		
Austria	.4090 (5.10)	4271 (5.27)	4289 (4.49)	.1428 (1.79)	.1567 (1.93)	.2364 (2.47)
Belgium	.0382 (0.49)	.0601 (0.76)	.1178 (1.21)	-.1505 (1.94)	-.1305 (1.64)	.0248 (0.26)
Bulgaria	-2.5368 (31.15)	-2.4404 (29.46)	-1.5446 (14.49)	-1.9696 (23.99)	-1.7896 (21.30)	-1.0179 (9.45)
Cyprus	-.0981 (1.04)	-.5691 (5.95)	-.3993 (3.47)	-.0203 (0.22)	-.5992 (6.26)	-.5023 (4.35)
Czech Republic	-.8607 (10.67)	-.8486 (10.29)	-.4109 (3.99)	-.6880 (8.65)	-.5519 (6.77)	-.0797 (0.78)
Denmark	1.1301 (14.11)	.9682 (11.68)	.9946 (10.42)	.4876 (6.17)	.3591 (4.35)	.4889 (5.15)
Estonia	-1.4143 (15.42)	-1.1176 (11.94)	-.5002 (4.52)	-1.0424 (11.19)	-.5971 (6.27)	-.0060 (0.05)
Finland	.7337 (9.31)	.8776 (10.95)	.9307 (10.07)	.2892 (3.73)	.5505 (6.87)	.6638 (7.17)
France	-.5155 (6.67)	-.5407 (6.87)	-.5271 (5.60)	-.5903 (7.70)	-.6114 (7.77)	-.5381 (5.72)
Germany	-.0595 (0.75)	.0175 (0.22)	.1688 (1.77)	-.1787 (2.28)	-.0340 (0.43)	.1886 (1.98)
Greece	-.5031 (6.23)	-.7647 (9.29)	-.4913 (4.61)	-.2915 (3.64)	-.5331 (6.53)	-.1970 (1.86)
Hungary	-1.3205 (16.37)	-1.1253 (13.75)	-.6237 (6.28)	-.7612 (9.36)	-.4981 (6.02)	-.0120 (0.12)
Ireland	.3055 (3.83)	.1194 (1.48)	-.0726 (0.66)	.3099 (3.82)	.0534 (0.65)	-.0187 (0.17)
Italy	-.2241 (2.89)	-.3280 (4.15)	-.2784 (2.82)	-.3707 (4.79)	-.5112 (6.42)	-.3979 (3.99)
Latvia	-1.6794 (21.04)	-1.2665 (15.48)	-.5631 (5.52)	-1.4945 (18.57)	-.9902 (11.95)	-.3624 (3.52)
Lithuania	-1.8015 (22.55)	-1.4053 (17.23)	-.6031 (5.91)	-1.4176 (17.51)	-.9009 (10.83)	-.1988 (1.92)
Luxembourg	.3766 (4.04)	.3448 (3.61)	.2902 (2.38)	.1996 (2.19)	.1745 (1.84)	.2715 (2.24)
Malta	-.0742 (0.80)	-.1755 (1.84)	.0016 (0.01)	.0692 (0.75)	.0152 (0.16)	.1816 (1.49)
Netherlands	.0326 (0.43)	.1135 (1.46)	.1602 (1.70)	-.2649 (3.46)	-.2190 (2.76)	-.1452 (1.52)
Poland	-1.1107 (13.66)	-.7742 (9.34)	-.2635 (2.61)	-.9345 (11.47)	-.5367 (6.40)	-.0732 (0.72)
Portugal	-1.3621 (17.13)	-.9364 (11.45)	-.5650 (5.66)	-1.1363 (14.13)	-.6304 (7.62)	-.2909 (2.88)
Romania	-1.0805 (13.45)	-.8107 (9.93)	.1680 (1.59)	-.6932 (8.76)	-.3469 (4.29)	.4908 (4.66)
Slovakia	-1.5512 (19.34)	-1.5434 (18.76)	-1.1304 (11.09)	-1.3157 (16.74)	-1.2635 (15.61)	-.8267 (8.23)
Slovenia	-.3313 (3.61)	-.2557 (2.75)	.0524 (0.48)	-.4307 (4.72)	-.3449 (3.70)	-.0521 (0.48)
Spain	.0092 (0.12)	.0423 (0.52)	.2027 (2.02)	-.0578 (0.72)	-.0038 (0.05)	.1765 (1.74)
Sweden	.4545 (5.70)	.3178 (3.90)	.3886 (4.14)	.1275 (1.61)	.0330 (0.41)	.1446 (1.54)
Turkey	-1.5390 (18.43)	-1.4167 (16.39)	-.7061 (6.83)	-1.2119 (14.74)	-1.1451 (13.31)	-.5424 (5.24)
Age		-.0372 (8.56)	-.0435 (8.79)		-.0301 (6.89)	-.0352 (7.09)
Age <sup>2</sup>		.0004 (11.16)	.0005 (11.11)		.0003 (7.70)	.00038 (7.72)
Male		-.1795 (7.43)	-.1942 (7.11)		-.1817 (7.44)	-.1801 (6.55)

16–19 years schooling	.1903 (5.72)	.1360 (3.60)	.1829 (5.44)	.1370 (3.59)
20+ years schooling	.3223 (8.75)	.1855 (4.41)	.2517 (6.75)	.1473 (3.47)
Still studying	.2112 (2.21)	.0567 (0.52)	.3352 (3.51)	.1643 (1.50)
No schooling	–.2564 (2.88)	–.2819 (2.80)	–.2349 (2.62)	–.2533 (2.51)
Self-employed	.1516 (1.43)	.1700 (1.39)	.0218 (0.20)	–.0419 (0.33)
Manager	.3012 (2.91)	.3177 (2.69)	.1377 (1.29)	.0787 (0.65)
Other white collar	.0928 (0.91)	.1125 (0.96)	–.0582 (0.55)	–.1233 (1.03)
Manual worker	–.0248 (0.25)	.0583 (0.52)	–.1044 (1.02)	–.1115 (0.95)
Home worker	.0303 (0.29)	.1658 (1.39)	–.0013 (0.01)	.0685 (0.56)
Unemployed	–.7898 (7.40)	–.5403 (4.46)	–.6951 (6.35)	–.5801 (4.66)
Retired	.1176 (1.15)	.2819 (2.43)	.0995 (0.95)	.1657 (1.39)
Student	.3706 (2.80)	.4919 (3.22)	.1355 (1.01)	.1877 (1.22)
Married/living together	.4165 (11.5)	.3121 (7.56)	.6819 (18.57)	.6410 (15.36)
Separated/divorced	–.2513 (5.05)	–.1561 (2.79)	–.2846 (5.66)	–.1613 (2.86)
Widowed	–.1051 (2.00)	–.0621 (1.06)	–.1905 (3.59)	–.1374 (2.32)
Excellent health	2.3432 (41.06)	2.2364 (34.51)	2.8968 (49.23)	2.7734 (41.60)
Very good health	1.9204 (38.47)	1.8470 (33.09)	2.2610 (44.35)	2.1651 (38.07)
Good health	1.4378 (32.19)	1.3678 (27.81)	1.6980 (37.22)	1.6213 (32.31)
Fair health	.8783 (20.27)	.8278 (17.52)	1.0135 (22.98)	.9574 (19.93)
Log household income (Euros)		.3854 (19.33)		.2980 (14.93)
Cut1	–4.2796	–.6592	–3.7997	–1.7221
Cut2	–3.7286	–.0796	–3.1498	–1.0977
Cut3	–3.1262	.5638	–2.4316	–.3606
Cut4	–2.6458	1.0899	–1.8134	.2562
Cut5	–1.5797	2.2845	–.6567	1.4275
Cut6	–1.0325	2.8925	–.0142	2.0587
Cut7	–.2024	3.8177	.9508	3.0205
Cut8	1.0723	5.2106	.6150	4.4443
Cut9	1.9941	6.1853	3.3891	5.4696
N	25,991	20,047	25,283	19,818
Pseudo R <sup>2</sup>	.0535	.0973	.0825	.0867
Age minimum	47	39	50	46

Notes: Excluded categories: “single,” “other labor market activity,” “≤ 15 years of schooling,” “poor health,” and the U.K.

Four separate controls for health status are included in column (2) for life satisfaction and in column (5) for happiness, along with a standard set of controls. Household income in Euros is also available in the data file, which is added in natural logarithms, in columns (3) and (6). This is the first time in a cross-country data file on happiness that income has been available in one currency (Euros). In all cases the rankings for the three main countries of interest are France, then the United Kingdom, and finally highest-ranked Denmark. Eastern European countries have low levels of happiness (Blanchflower 2001; Sanfey and Teksoz 2007); life satisfaction and happiness is U-shaped in age, minimizing in the mid-forties for life satisfaction and in the fifties for happiness. Adding controls for income lowers the age minimum. Happiness rises with education and income, regardless of whether health is controlled for. Married people and those living together, as well as those in good health, are particularly happy. The unemployed are especially unhappy (Blanchflower and Oswald [2004a]; Carroll [2007] for Australia; Hinks and Gruen [2007] and Powdthavee [2007] for South Africa).

Money buys happiness. Interestingly, and perhaps surprisingly from an economist's point of view, the coefficients of the other variables in the well-being equations of table 7.13 hardly alter when income is controlled for. The amount of happiness bought by extra income is not as large as some would expect. To put this differently, the noneconomic variables in happiness equations enter with large coefficients, relative to those of income. Following Blanchflower and Oswald (2004a), table 7.13, or its OLS equivalent (see table 7A.1), can be used to do a form of happiness calculus. The relative size of any two coefficients provides information about how one variable would have to change to maintain constant well-being in the face of an alteration in the other variable. To compensate for a major life event, such as becoming a widow or a ending a marriage, it would be necessary to provide an individual with additional income. Viewing widowhood as an exogenous event, and so a kind of natural experiment, this number may be thought of as the value of marriage. A different interpretation of this type of correlation is that happy people are more likely to stay married. It is clear that this hypothesis cannot easily be dismissed if only cross-section data are available. However, panel data on well-being suggest that similarly large effects are found when looking longitudinally at changes (thus differencing out person-specific fixed effects). If higher income goes with more happiness and characteristics such as unemployment and being black go with less happiness, it is reasonable to wonder whether a monetary value could be put on some of the other things that are associated with disutility. Further calculation using the life satisfaction data in table 7A.1 suggests that compared with being a manual worker, to compensate for unemployment would take a rise in net income of approximately €3,900 per month, which is very large, given the mean in the data of €1,392. Compared to being single, to compensate for being married or cohabiting would take

**Table 7.14** Happiness, life satisfaction: 2002 European Social Survey (ordered logits)

	Happiness		Life satisfaction	
France	-.0016 (0.03)	.0588 (1.24)	-.5082 (10.71)	-.4803 (10.03)
Denmark	.8828 (19.15)	.7462 (16.01)	1.1833 (25.38)	1.0605 (22.55)
U.K.	.2033 (5.01)	.1386 (3.39)	-.0617 (1.55)	-.1435 (3.57)
Married	.5126 (19.35)	.4891 (18.42)	.2702 (10.25)	.2339 (8.86)
Separated	-.4287 (5.73)	-.4585 (6.10)	-.4754 (6.39)	-.5149 (6.86)
Divorced	-.1309 (3.10)	-.1249 (2.96)	-.2130 (5.06)	-.2062 (4.89)
Widowed	-.4401 (10.00)	-.4067 (9.26)	-.4055 (9.26)	-.3704 (8.48)
Age	-.0789 (24.00)	-.0634 (19.24)	-.0725 (22.14)	-.0564 (17.17)
Age <sup>2</sup>	.0007 (23.77)	.0007 (21.98)	.0007 (23.77)	.0007 (21.95)
Male	-.1421 (7.85)	-.1807 (9.95)	-.1550 (8.59)	-.1967 (10.86)
Schooling	.0403 (17.03)	.0224 (9.41)	.0486 (20.62)	.0302 (12.68)
Self-employed	-.0461 (1.45)	-.0811 (2.54)	-.0575 (1.81)	-.0879 (2.76)
Not employed	-.2922 (13.25)	-.1454 (6.53)	-.3163 (14.36)	-.1678 (7.55)
Good health		-.5999 (26.65)		-.5906 (26.25)
Fair health		-1.2547 (45.77)		-1.2830 (46.88)
Bad health		-2.1052 (47.99)		-2.1141 (48.80)
Very bad health		-2.9244 (34.24)		-3.0003 (36.15)
Cut1	-6.3055	-6.8664	-5.0623	-5.6024
Cut2	-5.6224	-6.1758	-4.5712	-5.0994
Cut3	-4.9425	-5.4806	-4.0161	-4.5278
Cut4	-4.2389	-4.7518	-3.3945	-3.8793
Cut5	-3.7357	-4.2258	-2.9508	-3.4121
Cut6	-2.7478	-3.1797	-2.1598	-2.5686
Cut7	-2.2507	-2.6484	-1.7411	-2.1194
Cut8	-1.4475	-1.7908	-1.0251	-1.3520
Cut9	-.2258	-.5009	.1222	-.1381
Cut10	.9345	.6989	1.1579	.9339
N	40,903	40,879	40,852	40,825
Pseudo R <sup>2</sup>	.0149	.0382	.0138	.0369
Age minimum	56	45	52	40

Notes: Excluded categories are “very good health,” “single,” and “employee,” plus: Austria, Belgium, Czech Republic, Finland, Germany, Greece, Hungary, Ireland, Israel, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Slovenia, Spain, Sweden, and Switzerland.

€1,770.<sup>9</sup> Blanchflower and Oswald (2004a) also found large effects for the United States using the GSS data. These effects seem large and inconsistent with the claims of Kahneman et al. (2004a) that the size of the effects of circumstances on well-being are “surprisingly small.”

Table 7.14 examines data from the 2002 ESS across twenty E.U. countries, plus Israel and Switzerland. Data are provided in columns (1) through

9. This is done simply by dividing the coefficient of unemployment by the coefficient of household income (i.e.,  $0.6847/0.0001715 = 3,903$  Euros). The size of these effects is even higher using the happiness data (i.e., 6,420 Euros for unemployment).

(3) on happiness and life satisfaction. The rankings are very similar to those reported in table 7.13—France, then the United Kingdom, then Denmark at the top. The patterns in the data are similar to those identified previously—happiness and life satisfaction is higher for the most educated, the married, the employed, and the healthy. Happiness and life satisfaction are U-shaped in age. Table 7.15 uses data from a single Eurobarometer, number 57.2, on life-satisfaction (5-step), also with and without health status dummies. There is a U-shape in age in every case. Once again, in all six cases, the rankings are France, then the United Kingdom, then highest-ranked Denmark.

Identical rankings to this are found in table 7.16, which uses over three-quarter million observations from a long time series of Eurobarometers on life satisfaction (4-step). The rank ordering is France, the United Kingdom, and Denmark for the period 1975 to 2006, as well as for *all* subperiods. The rankings were also the same when thirty separate equations were individually run with the same controls in every year (results not reported). It is also apparent from table 7A.2 that the structure of OLS life satisfaction equations is similar across the main European countries. Interestingly, the patterns of the life satisfaction appear to be very similar to those in the happiness data of the United States.

Blanchflower and Oswald (2008b) found that psychological well-being is U-shaped through life. A difficulty with research on this issue is that there are likely to be omitted cohort effects (earlier generations may have been born in, say, particularly good or bad times). First, using data on 500,000 randomly sampled Americans and West Europeans, the paper designs a test that can control for cohort effects. Holding other factors constant, we showed that a typical individual's happiness reaches its minimum—on both sides of the Atlantic and for both males and females—during middle age. Second, evidence was provided for the existence of a similar U-shape through the life course in Eastern European, Latin American, and Asian nations. Third, a U-shape in age is found in separate well-being regression equations in seventy-two developed and developing nations. Fourth, using measures that are closer to psychiatric scores, Blanchflower and Oswald (2008b) document a comparable well-being curve across the life cycle in two other data sets: (a) in the GHQ-N6 (General Health Questionnaire [six negative questions]) mental health levels among a sample of 16,000 Europeans, and (b) in reported depression and anxiety levels among one million U.K. citizens.<sup>10</sup> Evidence of a U-shape in age is found in *all* life satisfaction and happiness equations reported in this paper.<sup>11</sup>

Easterlin (2006) argues that happiness in the United States, as well as family satisfaction and job satisfaction in the United States, follow an *inverse*

10. Clark (2007) finds a similar result in the United Kingdom using data from the BHPS, even after controlling for cohort effects.

11. See tables 7.11 through 7.16 and tables 7.20 and 7.21.

**Table 7.15** Life satisfaction in Europe: 2002 Eurobarometer (ordered logits)

Age	-.0686 (10.97)	-.0524 (8.26)
Age <sup>2</sup>	.0006 (10.56)	.0005 (9.03)
Male	-.0956 (2.79)	-.1366 (3.94)
ALS 16–19	.2396 (5.51)	.1616 (3.67)
ALS ≥ 20	.3558 (6.95)	.2533 (4.89)
Still studying	.4607 (4.83)	.1785 (1.84)
Married	.3649 (6.24)	.3094 (5.23)
Remarried	.1566 (1.12)	.1712 (1.22)
Living as married	.0441 (0.65)	.0519 (0.76)
Lived together	-.4266 (5.12)	-.4029 (4.80)
Divorced	-.3551 (4.18)	-.3256 (3.80)
Separated	-.3424 (2.73)	-.2905 (2.30)
Widowed	-.2354 (2.75)	-.2528 (2.93)
Home worker	-.0752 (1.12)	-.2046 (3.03)
Unemployed	-.6153 (6.94)	-.7256 (8.15)
Austria	.3848 (4.33)	.3325 (3.70)
Denmark	1.3696 (15.04)	1.3512 (14.55)
East Germany	-.8624 (9.94)	-.7610 (8.70)
Finland	.4217 (4.79)	.5945 (6.67)
France	-.7296 (8.29)	-.6743 (7.60)
Greece	-1.6273 (18.30)	-1.6692 (18.48)
Ireland	.4194 (4.68)	.3555 (3.92)
Italy	-.3468 (3.93)	-.2360 (2.64)
Luxembourg	.8863 (8.56)	1.0032 (9.57)
Netherlands	.7914 (8.97)	.9653 (10.79)
Portugal	-1.6154 (18.32)	-1.2698 (14.17)
Spain	-.2256 (2.52)	-.1340 (1.48)
Sweden	.8549 (9.65)	.9918 (11.03)
U.K.	.4863 (5.85)	.5822 (6.93)
West Germany	-.2427 (2.75)	-.1162 (1.31)
Good health		-.6605 (16.25)
Fair health		-1.2178 (24.90)
Bad health		-1.8047 (25.42)
Very bad health		-2.4710 (19.85)
Cut1	-5.7366	-6.2917
Cut2	-3.9623	-4.4689
Cut3	-2.7567	-3.2146
Cut4	.1500	-.1654
N	16,032	15,992
Pseudo R <sup>2</sup>	.0911	.1197
Age minimum	57	52

*Source:* Eurobarometer number 57.2: Health Issues, Cross-Border Purchases, and National Identities, April to June 2002.

*Notes:* Excluded categories are “ALS < 16,” “retired,” “excellent health,” “single,” and Belgium. Equations also include thirteen occupation dummies.



**Table 7.16** Life satisfaction in Europe: 1975–2006 Eurobarometers (ordered logits)

	1975–1989	1990–1999	2000–2006	1975–2006	1975–2006
France	–1.5161 (88.25)	–1.4750 (68.29)	–1.3120 (52.90)	–1.4516 (23.07)	–1.4453 (123.72)
Denmark	.5820 (33.06)	.6031 (26.85)	.7707 (30.27)	.6346 (52.57)	.6311 (52.64)
U.K.	–.4656 (28.88)	–.5582 (27.77)	–.3871 (16.72)	–.4738 (42.96)	–.4685 (42.73)
Age	–.0389 (24.25)	–.0389 (20.22)	–.0365 (17.97)	–.0379 (36.35)	–.0439 (51.02)
Age <sup>2</sup>	.00047 (27.08)	.00043 (21.14)	.00043 (19.86)	.00044 (39.84)	.00047 (51.96)
Male	–.1754 (18.19)	–.0995 (9.31)	–.0843 (7.04)	–.1275 (20.83)	–.0942 (18.76)
Married	.3341 (25.83)	.3063 (20.17)	.5527 (31.33)	.3630 (42.50)	.3511 (49.32)
Living together	.0490 (1.93)	.1442 (6.18)	.2338 (10.27)	.1268 (9.42)	.1562 (14.23)
Divorced	–.6085 (21.31)	–.4494 (16.53)	–.3219 (11.68)	–.4759 (30.20)	–.4055 (31.47)
Separated	–.7687 (18.55)	–.5679 (12.91)	–.4587 (10.78)	–.6017 (24.65)	–.5303 (25.42)
Widowed	–.3319 (16.10)	–.2200 (8.97)	–.1292 (4.59)	–.2566 (18.71)	–.2314 (20.58)
ALS 16–19	.2485 (24.71)	.1778 (13.86)	.1819 (11.16)	.2137 (30.26)	.2234 (37.68)
ALS ≥ 20	.4407 (33.33)	.3836 (25.62)	.4729 (25.82)	.4385 (51.61)	.4622 (66.14)
Still studying	.4254 (20.90)	.4591 (18.34)	.6357 (21.44)	.4998 (36.08)	.4997 (44.35)
Self-employed	.0801 (5.40)	.0167 (0.88)	.0628 (2.81)	.0514 (4.97)	.0358 (4.33)
Home worker	–.0332 (2.52)	–.0594 (3.50)	–.1582 (7.87)	–.0510 (5.60)	–.0412 (5.34)
Retired	–.0235 (1.37)	–.0950 (5.01)	–.1389 (6.75)	–.0863 (8.02)	–.1115 (12.76)
Unemployed	–1.0206 (54.66)	–1.0112 (49.64)	–1.1590 (46.81)	–1.0593 (88.25)	–.9557 (95.69)
Belgium	–.5811 (34.07)	–.7433 (34.84)	–.8530 (34.71)	–.6852 (58.64)	–.6809 (58.52)
Germany	–.8913 (52.16)	–1.2599 (66.97)	–1.3673 (62.25)	–1.1622 (07.17)	–1.1457 (106.75)
Ireland	–.4684 (26.80)	–.3616 (16.67)	–.3109 (12.60)	–.3968 (33.38)	–.3974 (33.62)
Italy	–1.7333 (99.51)	–1.3532 (62.52)	–1.4872 (58.95)	–1.3650 (31.22)	–1.5468 (131.58)
Luxembourg	–.2219 (8.95)	–.1188 (4.43)	–.1432 (5.02)	–.1594 (10.48)	–.1523 (10.04)
Austria					–.7195 (41.96)
Bulgaria					–3.4622 (108.59)
Croatia					–1.6853 (49.75)

Cyprus					-7811 (22.28)
Czech Republic					-1.4738 (46.91)
Estonia					-1.9726 (61.17)
Finland					-6119 (36.28)
Greece					-1.9742 (156.20)
Hungary					-2.3950 (74.57)
Latvia					-2.2816 (71.80)
Lithuania					-2.3225 (71.07)
Malta					-8704 (18.67)
Norway					-0103 (0.40)
Poland					-1.7470 (52.54)
Portugal					-1.8885 (142.58)
Romania					-2.8584 (87.56)
Slovakia					-2.2004 (70.75)
Slovenia					-8661 (26.28)
Spain					-1.0737 (81.08)
Sweden					-0893 (5.27)
Turkey					-1.2908 (34.25)
Year dummies	14	7	6	29	29
Cut1	-4.6814	-4.8268	-5.0042	-4.7075	-4.8679
Cut2	-3.0561	-2.9365	-3.1052	-2.9500	-3.0738
Cut3	-2110	-2103	.0150	-.0900	-.2416
<i>N</i>	234,939	164,693	130,077	529,709	768,993
Pseudo <i>R</i> <sup>2</sup>	.0731	.0656	.0908	.0749	.0845
Age minimum	41	45	42	43	47

*Source:* Eurobarometers, 1975 to 2006. Excluded categories are “single,” “employee,” “ALS < 16,” and the Netherlands. No data for 1996.

**Table 7.17** Happiness ordered logit equations: 1972–2006 GSS

Age	+ .0152 (5.18)	–.0276 (8.92)
Age <sup>2</sup>	–.00011 (3.76)	.00031 (10.21)
Time (1972 = 0)	–.0032 (3.52)	.0044 (4.79)
Married		.9872 (49.23)
Cut1	–1.6061	–1.9501
Cut2	1.1330	.9123
<i>N</i>	46,153	46,149
Pseudo <i>R</i> <sup>2</sup>	.0011	.0299

U-shape in age.<sup>12</sup> His evidence was based on data from the General Social Surveys from 1973 to 1994. It is true that in the raw data, or in specifications that do not include income or marital status as controls, there is an *inverse* U-shape in the data of these three variables—but only in the United States.<sup>13</sup> However, once marital status alone is included, the U-shape flips and the sign of the time trend reverses, as can be seen in the two ordered logits with *t*-statistics in parentheses in table 7.17, estimated on the GSS data from 1972 to 2006.<sup>14</sup> Easterlin (2006) only includes controls for gender, education, and year of birth and its square, and I replicate his results with these variables using the longer time run of data from 1973 to 2006. I include controls for gender, schooling, race, region, birth decade, marital status, and labor market status in table 7.18.<sup>15</sup> In each case there is a U-shape in age after the inclusion of controls.<sup>16</sup>

I estimated fourteen separate OLS equations for the largest European countries using the 1972 to 2006 Eurobarometers; in each case the dependent variable was life satisfaction, scored from one to four, with only age and its square as controls. We report signs of the variables if significant at 1 percent on a two-tailed test. If insignificant, a zero is entered. In every country except Austria there is a significant U-shape in age. The coefficients, all of which were highly significant, can be found in table 7.19. When controls are included in table 7A.1—for education, gender, marital status, labor market status, and time—all of these countries had significant U-shapes in age. Table 7.20 uses 5-step happiness data for thirteen Asian countries for 2003

12. However, Easterlin (2006) did find a U-shape in health and satisfaction with their financial situation. Analogously, Mroczek and Spiro (2005) found that subjective well-being follows an inverted U-shape, peaking at around retirement age.

13. If an ordered logit is run with each of these five variables, along with only age and its square, there is an inverse U-shape for happiness, family satisfaction, and job satisfaction (workers only). There is a U-shape for the family's financial situation, while for the health variable, only the age square term is significant and negative.

14. Note in the data that the proportion married falls from 71.9 percent in 1972 to 48.1 percent in 2006.

15. I use a slightly different health variable than the one used by Easterlin (2006). I used “health,” whereas Easterlin used “Sathealth,” which was only available for a subset of years.

16. Health satisfaction declines with age in the raw data, which is consistent with the findings of Deaton (2008), who also found that health satisfaction declined with age.

**Table 7.18** Happiness in the U.S. (ordered logits)

	Happiness 1973–2006	Financial situation 1973–2006	Family situation 1973–1994	Health 1972–2006
Age	-.0168 (4.11)	-.0209 (5.32)	-.0171 (2.55)	-.0615 (14.51)
Age <sup>2</sup>	.0002 (5.31)	.0004 (9.82)	.0002 (2.45)	.0004 (9.86)
Married	.7629 (26.65)	.1593 (5.87)	1.4303 (35.82)	.2514 (8.88)
Widowed	-.3187 (7.05)	-.2519 (5.87)	.4710 (7.89)	-.0094 (0.96)
Divorced	-.2303 (6.08)	-.5496 (15.13)	.1492 (2.78)	-.0629 (1.64)
Separated	-.4843 (8.56)	-.6057 (11.27)	-.1039 (1.42)	-.2047 (3.57)
Male	-.1769 (8.42)	.0107 (0.54)	-.3776 (13.06)	-.0520 (2.39)
Years schooling	.0570 (17.33)	.0787 (24.99)	.0271 (6.33)	.1420 (40.53)
Black	-.4233 (14.74)	-.5367 (19.62)	-.1456 (3.97)	-.3020 (10.45)
Other race	-.1588 (3.23)	-.1035 (2.24)	.0174 (0.20)	.3007 (6.11)
Part-time	-.1178 (3.61)	-.2360 (7.52)	-.1053 (2.39)	-.1988 (5.82)
Temp. worker	-.2791 (4.28)	-.1396 (2.22)	-.0703 (0.82)	-.4426 (6.44)
Unemployed	-.7613 (13.37)	-1.2248 (21.38)	-.0498 (0.71)	-.4486 (7.73)
Retired	-.0222 (0.55)	-.1763 (4.60)	-.0705 (1.33)	-.6291 (14.85)
Student	.1004 (1.75)	-.0141 (0.26)	.0233 (0.31)	-.2497 (4.19)
Home worker	-.1206 (3.99)	-.1416 (4.90)	-.1765 (4.60)	-.5754 (18.03)
Other	-.6738 (9.12)	-.8077 (11.36)	-.2245 (2.15)	-1.9501 (24.90)
Self-employed	.1363 (3.89)	.1390 (4.10)	.0257 (0.54)	.2398 (6.46)
Cut1	-1.4343	-.1456	-3.5776	-3.5952
Cut2	1.4994	1.9331	-2.7383	-1.6977
Cut3			-2.1230	.5157
Cut4			-1.2882	
Cut5			-.5270	
Cut6			1.0421	
<i>N</i>	46,034	46,168	23,911	38,256
Pseudo <i>R</i> <sup>2</sup>	.0451	.0507	.0403	.752
Age minimum	42	26	43	77

Source: 2006 GSS. All equations also include nine birth cohort decadal dummies and eight region dummies.

Notes: HAPPY: “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?” (Coded 3, 2, 1, respectively.) SATFIN: “We are interested in how people are getting along financially these days. So far as you and your family are concerned, would you say that you are pretty well satisfied with your present financial situation, more or less satisfied, or not satisfied at all?” (Coded 3, 2, 1, respectively.) SATFAM: “For each area of life I am going to name, tell me the number that shows how much satisfaction you get from that area. Your family life: (1) A very great deal, (2) A great deal, (3) Quite a bit, (4) A fair amount, (5) Some, (6) A little, (7) None.” (Reverse coded here.) HEALTH: “Would you say in general your health is excellent, good, fair, or poor?”

and 2004, drawn from the Asianbarometers.<sup>17</sup> The variables work in the same way as for other countries, and there are U-shapes in age with minima of forty-six from column (3) for the two years pooled. However, there is no

17. The 5-step happiness scale is “very unhappy,” “not too unhappy,” “neither,” “pretty happy,” and “very happy.” The raw means by country were: Brunei (4.45), Cambodia (3.34), China (3.73), Indonesia (3.71), Japan (3.70), Korea (3.37), Laos (3.66), Malaysia (3.93), Myanmar (3.71), Philippines (3.82), Singapore (3.99), Thailand (3.88), and Vietnam (3.87).

**Table 7.19** OLS life satisfaction equations: 1972–2006 Eurobarometers

	Age	Age <sup>2</sup>	Minimum	N
Austria	-.0035	0	n.a.	19,309
Belgium	-.00692	.000055	63	61,840
Denmark	-.00331	.000028	60	61,023
Finland	-.01312	.000117	56	19,646
France	-.01943	.000208	47	63,253
Germany	-.00512	.000056	46	92,815
Greece	-.01741	.000127	68	49,863
Ireland	-.00766	.000105	36	59,983
Italy	-.00745	.000054	69	63,587
Netherlands	-.00918	.000084	55	61,699
Portugal	-.01572	.000096	82	41,286
Spain	-.01510	.000140	54	41,201
Sweden	-.00768	.000073	53	19,602
U.K.	-.00619	.000077	40	81,992

U-shape in the raw data, as was found in the United States. Analogously, simply adding marital status variables generates a significant U-shape. Well-being is U-shaped in age, whether measured by life satisfaction, happiness, or the U-index, once controls are included—even in the raw data in many countries. Cambodians and South Koreans are the least satisfied, while those from Brunei and Singapore are the most satisfied.

Table 7.21 uses data on 5-step life satisfaction for nine Asian and nine European countries from the Asia-Europe Survey (ASES) of 2001. Happiness is U-shaped in age and rises with education. The unemployed are especially unhappy in Europe but are also unhappy in Asia. In both Asia and Europe, native English speakers are especially happy—those with no understanding of English at all are less happy. The Swedish are especially happy and the Portuguese especially unhappy. There is a similar pattern to the Asian country dummies to those reported in table 7.20: Koreans are especially unhappy, and Malaysians and Singaporeans are notably happy.

#### 7.4 Econometric Evidence on Hypertension, Unhappiness, and Pain

The question then is whether the pattern of results we have seen using happiness and life satisfaction are repeated when we make use of self-reported data on unhappiness, including high blood pressure, strain, inability to sleep, tiredness, stress, and pain. It turns out that the results mostly go through. A modern literature has claimed that countries like Denmark, Ireland, and the Netherlands are particularly happy, while nations such as Germany, Italy, and Portugal are less happy. Yet it is arguably implausible that words such as “happiness” or “satisfaction” can be communicated unambiguously and in exactly the same way across countries, so it is not easy to know

**Table 7.20**                      **Happiness equations: Asia, 2003–2004**

	2003 (1)	2004 (2)	2003–1004 (3)
Age	-.0609 (3.64)	-.0530 (3.51)	-.0545 (4.89)
Age <sup>2</sup>	.0006 (2.94)	.0006 (3.38)	.0005 (4.25)
Male	.1131 (2.34)	.0055 (0.12)	.0556 (1.96)
2004			.0974 (2.06)
Married	.5337 (8.21)	.3379 (5.56)	.4297 (9.72)
Divorced/separated	-.7679 (5.31)	-.4338 (3.11)	-.5873 (5.88)
Widowed	-.3372 (2.13)	-.3545 (2.46)	-.3298 (3.13)
Elementary school	-.2265 (1.53)	.1359 (1.14)	-.0271 (0.29)
High school	-.1977 (1.35)	.2888 (2.35)	.0487 (0.52)
Vocational school	.1407 (0.89)	.2014 (1.25)	.2784 (2.56)
Professional school	-.0057 (0.04)	.4041 (2.92)	.1959 (1.92)
University	-.0763 (0.50)	.4324 (3.22)	.1735 (1.74)
Business owner, mining	-.2329 (1.03)	.0195 (0.08)	-.0839 (0.57)
Business owner, retail	-.0436 (0.22)	.1060 (0.76)	.0880 (0.84)
Vendor/street trader	-.3903 (2.14)	-.0467 (0.38)	-.2284 (2.51)
Business owner > 30 workers	.0765 (0.27)	.1698 (0.52)	.2185 (1.08)
Self-employed professional	-.1191 (0.52)	-.0972 (0.47)	-.0453 (0.32)
Senior manager	.1003 (0.42)	.3179 (1.38)	.2387 (1.56)
Employed professional	-.3691 (1.90)	.1311 (1.03)	-.0526 (0.52)
Clerical worker	-.1217 (0.68)	.0468 (0.44)	-.0016 (0.02)
Sales worker	-.1244 (0.66)	-.0897 (0.82)	-.0678 (0.75)
Manual worker	-.4373 (2.54)	-.1523 (1.62)	-.2525 (3.18)
Driver	-.3220 (1.52)	-.1068 (0.73)	-.2073 (1.81)
Other worker	-.2107 (1.10)	.0259 (0.26)	-.0708 (0.81)
Homemaker	-.1748 (0.99)	.0829 (0.86)	.0332 (0.42)
Student	-.0042 (0.02)	-.0244 (0.18)	.0371 (0.36)
Retired	-.3681 (1.73)	.3568 (1.83)	-.0487 (0.38)
Unemployed	-.3312 (1.77)	-.3040 (2.53)	-.2613 (2.77)
Brunei	2.0931 (20.87)		1.8634 (22.63)
Cambodia	-1.1444 (11.56)		-1.2613 (16.21)
China		.1355 (1.75)	.1703 (2.27)
Indonesia	.7814 (7.88)		.4968 (6.32)
Korea	-.4566 (6.02)	-.5237 (5.49)	-.5538 (9.67)
Laos	.1558 (1.58)		-.0544 (0.69)
Malaysia	.4374 (5.53)	1.1094 (11.45)	.7029 (11.90)
Myanmar	.2563 (3.18)	.0389 (0.38)	.1005 (1.65)
Philippines	.8101 (8.06)		.6123 (7.39)
Singapore	.9663 (9.88)		.7894 (9.86)
Thailand	.1916 (2.35)	.8087 (8.00)	.4205 (6.89)
Vietnam	.3507 (4.34)	.8255 (8.04)	.5075 (8.22)
Cut1	-5.2402	-4.9904	-5.0458
Cut2	-3.2705	-2.7417	-2.9530
Cut3	-1.7456	-.9109	-1.2860
Cut4	.4602	1.4327	.9750
<i>N</i>	8,063	9,656	17,719
Pseudo <i>R</i> <sup>2</sup>	.0187	.0754	.0459

*Source:* Asianbarometers, 2003 to 2004.

*Notes:* Excluded categories are Japan, “single,” “self-employed in agriculture,” and “no formal education.”

**Table 7.21** 5-step life satisfaction: Asia and Europe (ordered logits)

	All	Asia	Europe
Age	-.0389 (6.05)	-.0202 (2.19)	-.0582 (6.45)
Age <sup>2</sup>	.0004 (6.59)	.0003 (2.97)	.0006 (6.39)
Male	.0050 (0.14)	-.0602 (1.35)	.0446 (1.04)
Years of education	.0144 (3.96)	.0107 (1.71)	.0173 (3.90)
Part-time 15–34 hrs.	-.1321 (2.54)	-.0856 (1.20)	-.1748 (2.28)
Part-time < 15 hrs.	-.3989 (4.23)	-.3739 (3.07)	-.4217 (2.82)
Unemployed	-.8698 (12.25)	-.6509 (6.23)	-1.0340 (10.60)
Retired	.0185 (0.31)	.1725 (1.85)	-.0375 (0.45)
Student	.0665 (1.03)	.0246 (0.26)	.1135 (1.28)
Disabled	-.8076 (6.27)	-.2873 (1.17)	-.9950 (6.50)
Home worker	.0225 (0.47)	.1144 (1.80)	-.1279 (1.75)
China	-.6128 (5.80)	.0222 (0.24)	
Indonesia	-.9945 (9.50)	-.3335 (3.77)	
Japan	-1.0882 (10.58)	-.4530 (4.98)	
Malaysia	.5612 (5.60)	1.2387 (13.80)	
Philippines	-.6495 (6.09)		
Singapore	.4854 (5.32)	1.1575 (12.46)	
South Korea	-1.1532 (11.14)	-.4814 (5.43)	
Taiwan	-.8515 (8.25)	-.2023 (2.29)	
Thailand	.0830 (0.79)	.7481 (8.35)	
France	-.1068 (1.02)		-.0552 (0.46)
Germany	.2187 (2.13)		.2779 (2.33)
Greece	-.6369 (6.27)		-.5683 (4.90)
Ireland	-.0280 (0.34)		-.0226 (0.27)
Italy	-.1751 (1.67)		-.0999 (0.82)
Portugal	-.8867 (8.76)		-.8485 (7.24)
Spain	.1017 (0.97)		.1885 (1.56)
Sweden	.7458 (7.53)		.7707 (6.96)
Living with spouse	.2354 (6.00)	.0429 (0.78)	.4417 (7.72)
Living with children	.0440 (1.28)	.0685 (1.36)	.0325 (0.67)
Living alone	-.2406 (4.38)	-.1437 (1.44)	-.1417 (2.02)
No English	-.2741 (4.38)	-.2748 (5.18)	-.3007 (5.54)
English native speaker	.1855 (2.79)	.1615 (1.66)	.2377 (2.59)
Cut1	-4.0738	-3.1443	-4.3091
Cut2	-2.5235	-1.5143	-2.8690
Cut3	-.7316	.1917	-.9634
Cut4	1.2928	2.3497	.9668
<i>N</i>	18,148	9,126	9,022
Pseudo <i>R</i> <sup>2</sup>	.0470	.0501	.0402

*Source:* Asia-Europe Survey (ASES): A multinational comparative study in eighteen countries, 2001 (ICPSR study number 22324).

*Notes:* Excluded categories are the: United Kingdom in columns (1) and (3) and the Philippines in column (2), and “full-time worker.” *T*-statistics in parentheses.

whether such cross-national well-being patterns are believable. Evidence on blood pressure across nations suggests that such happiness findings are credible. This is illustrated in table 7.22, which uses data from two individual Eurobarometers—number 56.1 for 2001 in columns (1) through (5), and the more recent number 64.4 for December 2005 to January 2006. Column (1) of table 7.22 reports an ordered logit estimating whether an individual has high blood pressure from Blanchflower and Oswald (2008a), who showed that self-reported *high blood pressure* across individuals and countries is negatively correlated with self-reported happiness. Denmark ranks lowest on blood pressure and France ranks highest. More recently, Mojon-Azzi and Sousa-Poza (2007) show that even with more objective measures of hypertension, a negative relationship between high blood pressure problems and life satisfaction can be observed. They examined life satisfaction (scored in the normal way from one to four) and self-reported blood pressure, including whether the respondent took blood pressure medication, for a sample of people age fifty and older from the Survey on Health, Ageing and Retirement in Europe. Their main results can be found in table 7.23. Note that the correlation with life satisfaction was higher with taking medication (correlation =  $-0.79$ ) than with self-reported high blood pressure (correlation =  $-0.66$ ). Happy countries seem to have fewer blood pressure problems. This has two implications. First, it suggests that there may be a case to take seriously the subjective happiness measurements made across the world: they follow a pattern like the (inverse of) high blood pressure estimates. Second, in constructing new kinds of economic and social policies in the future, where well-being rather than real income is likely to be a prime concern, there are grounds for economists to study people's blood pressure. The results on blood pressure validate the differences in happiness across nations, in part because people can report high blood pressure in a more objective way than they report levels of happiness.

The second column of table 7.22, which is taken from Blanchflower and Oswald (2008a, column [4], table 5), estimates an OLS where the dependent variable is a measure of psychological distress constructed (in the spirit of the well-known GHQ score) by amalgamating answers to the following questions.

*Have you recently:*

1. Lost much sleep over worry?
2. Felt constantly under strain?
3. Felt you could not overcome your difficulties?
4. Been feeling unhappy and depressed?
5. Been losing confidence in yourself?
6. Been thinking of yourself as a worthless person?

To the answers to each of these six, we assigned the integers 0, 1, 2, 3—depending on whether each was answered “not at all,” “no more than usual,”



**Table 7.22** Unhappiness equations: 2001–2006 (ordered logits)

	Blood pressure OLOGIT (1)	GHQ-N6 OLS (2)	Unhappy OLOGIT (3)	Strain OLOGIT (4)	Lost sleep OLOGIT (5)	Down and depressed OLOGIT (6)	Pain OLOGIT (7)
France	-.1628 (1.60)	.6379 (4.12)	.2477 (2.85)	.2797 (3.19)	.2477 (2.85)	-.1010 (1.17)	-.0942 (0.99)
Denmark	-.5664 (5.18)	-.6924 (4.38)	-.3992 (4.43)	-.2454 (2.69)	-.3992 (4.43)	-.2508 (2.87)	-.2196 (2.37)
U.K.	-.5073 (5.13)	-.0158 (0.11)	.1519 (1.86)	-.0539 (0.64)	.1519 (1.86)	-.2050 (2.51)	-.2730 (3.10)
Austria	.1772 (1.80)	-.0985 (0.63)	.0516 (0.60)	-.0816 (0.92)	.0516 (0.60)	-.2598 (2.99)	.2702 (3.04)
East Germany	.6290 (6.70)	.8156 (5.21)	.2159 (2.52)	.5190 (5.99)	.2159 (2.52)	-.2564 (2.99)	.1323 (1.47)
Finland	.1967 (1.99)	.5969 (3.81)	.2817 (3.22)	.3776 (4.27)	.2817 (3.22)	.0235 (0.28)	.3676 (4.17)
Greece	-.1284 (1.26)	.6818 (4.33)	.7509 (8.61)	.6417 (7.21)	.7509 (8.61)	.6611 (7.88)	-.0768 (0.82)
Ireland	-.2044 (1.96)	-.0254 (0.16)	.0787 (0.90)	-.0859 (0.96)	.0787 (0.90)	-.0239 (0.28)	-.4457 (4.59)
Italy	.1764 (1.76)	2.2381 (14.26)	1.1709 (13.58)	1.0001 (11.35)	1.1709 (13.58)	.9197 (11.08)	.2801 (3.12)
Luxembourg	-.2635 (2.14)	-.1069 (0.57)	-.0350 (0.33)	-.1633 (1.53)	-.0350 (0.33)	-.2997 (2.74)	-.1870 (1.61)
Netherlands	-.4413 (4.19)	-.2764 (1.77)	.1471 (1.70)	-.1331 (1.49)	.1471 (1.70)	-.3231 (3.81)	-.1954 (2.16)
Portugal	.6478 (6.60)	.4654 (2.87)	.3101 (3.50)	.1795 (1.98)	.3101 (3.50)	.3919 (4.47)	.2049 (2.21)
Spain	-.0715 (0.70)	.0852 (0.55)	.4111 (4.77)	-.1156 (1.29)	.4111 (4.77)	.1460 (1.68)	-.2219 (2.33)
Sweden	-.7688 (6.98)	-.1259 (0.81)	-.0285 (0.32)	.1365 (1.54)	-.0285 (0.32)	-.2545 (2.92)	.4133 (4.53)
West Germany	.3636 (3.77)	.0516 (0.33)	-.3562 (4.00)	.1174 (1.34)	-.3562 (4.00)	-.3861 (3.63)	.1269 (1.17)
Bulgaria						.1444 (1.68)	.3881 (4.27)
Croatia						.5969 (7.09)	.4603 (5.06)
Cyprus						.3463 (3.33)	.0174 (0.15)
Czech Republic						-.0178 (0.21)	.5497 (6.40)
Estonia						.0173 (0.20)	.3809 (4.30)
Hungary						-.2502 (2.85)	.3138 (3.54)
Latvia						.6850 (8.29)	.5832 (6.68)
Lithuania						1.0796 (12.96)	.5414 (6.11)
Malta						.5618 (5.47)	.1774 (1.64)
Poland						.7116 (8.42)	.8483 (9.64)
Romania						.4892 (5.69)	.5797 (6.46)

Slovakia	.0675 (9.18)	.0958 (8.73)	.0580 (9.42)	.0551 (8.66)	.0580 (9.42)	.0426 (9.62)	.2033 (2.43)	.8426 (9.76)
Slovenia	-.00035 (4.89)	-.0010 (9.22)	-.0006 (9.17)	-.0006 (9.75)	-.0005 (9.17)	.0426 (9.62)	.2586 (3.11)	.5024 (5.67)
Turkey	.0222 (0.55)	-.4727 (7.73)	-.3122 (9.20)	-.1338 (3.91)	-.3122 (9.20)	-.00037 (8.28)	1.2514 (14.21)	2.272 (2.31)
Turkish Cyprus	-.0173 (3.53)	-.0211 (2.77)	-.0022 (0.53)	-.0044 (1.03)	-.0022 (0.53)	-.0241 (7.82)	.9654 (9.13)	.2866 (2.50)
Age	2.6653	1.4913	.6249	.8070	.6249	.1346	.0432 (9.22)	.0432 (9.22)
Age <sup>2</sup>	4.2449	2.5083	2.6542	2.5083	1.0063	1.5043	-.00014 (2.96)	-.00014 (2.96)
Male	5.8586	4.1751	4.4382	4.1751	2.6996	3.1742	-.3302 (12.44)	-.3302 (12.44)
Age left schooling	4.4722			-.0044 (1.03)	-.0022 (0.53)	4.9244	-.0388 (11.88)	-.0388 (11.88)
Constant/cut 1	.0847	.1349	.0487	.0449	.0487	.0439	1.0880	1.0880
Cut 2	15.396	15.379	15.658	15.633	15.658	28.185	2.1977	2.1977
Cut 3		48	48	46	58	58	3.1486	3.1486
Cut 4							4.63040	4.63040
Pseudo/adjusted R <sup>2</sup>								
N	96	48	48	46	58	58		
Age maximum								160

*Source:* Columns (1) through (5): Eurobarometer number 56.1; Social Exclusion and Modernization of Pension Systems, September to October 2001 (ICPSR study number 3475), and Blanchflower and Oswald (2008a). Column (6): Eurobarometer number 64.4; Mental Well-Being, Telecommunications, Harmful Internet Content, and Farm Animal Welfare, December 2005 to January 2006 (ICPSR study number 4667).

*Notes:* The dependent variable in column (1) is a measure of reported problems of high blood pressure. The question that forms the dependent variable is, “Would you say that you have not at all, no more than usual, rather more than usual, much more than usual . . . had problems of high blood pressure?” (1 = not at all, 2 = no more than usual, 3 = rather more than usual, and 4 = much more than usual.) The dependent variable in column (2) is a psychological distress score measured on a scale from zero to eighteen. A GHQ-N6 score amalgamates answers to six questions. Have you recently: lost much sleep over worry? Felt constantly under strain? Felt you could not overcome your difficulties? Been feeling unhappy and depressed? Been losing confidence in yourself? Been thinking of yourself as a worthless person? Its mean in the sample is 3.6 (standard deviation = 3.7). The question that forms the dependent variable (in columns [3] through [5]) is, “Would you say that you have not at all, no more than usual, rather more than usual, much more than usual. . . .”: (a) column (3) = been feeling unhappy and depressed; (b) column (4) = been feeling constantly under strain; (c) column (5) = lost much sleep over worry. Personal controls included in columns (1) through (5) are ten dummy variables relating to the individual’s experiences before the age of 18, sixteen labor-force status dummies, and eight marital-status dummies. Belgium is the excluded nation. The dependent variable in column (6) models the following question: “These questions are about how you feel and how things have been with you during the past four weeks. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the past four weeks have you felt downhearted and depressed?” (All the time, most of the time, sometimes, rarely, or never.) In column (7) the question is, “During the past four weeks, how much, if at all, has pain interfered with your activities?” (Extremely, quite a lot, moderately, a little, or not at all.) In empirical estimation we reversed the ordering. Personal controls included in columns (6) and (7) are sixteen labor-force status dummies and eight marital-status dummies. Belgium is the excluded nation. *T*-statistics are in parentheses. OLOGITs = ordered logits.

**Table 7.23** Hypertension measures: Mojon-Azzi and Sousa-Poza (2007)

	Satisfaction score	High blood pressure (%)	Taking blood pressure medication (%)
Austria	3.25	30.9	31.3
Belgium	3.33	30.5	26.1
Denmark	3.65	28.6	26.4
France	3.02	27.9	30.8
Germany	3.19	35.4	34.9
Greece	3.23	33.0	32.6
Israel	3.04	41.4	41.8
Italy	3.00	36.1	35.9
Netherlands	3.56	24.8	24.2
Spain	3.30	34.3	32.4
Sweden	3.33	28.8	27.9
Switzerland	3.43	25.6	27.9

“rather more than usual,” or “much more than usual.” The numerical answers were summed, and we term the result a GHQ-N6 measure, where *N* stands for “negative.” The mental distress score denoted in the GHQ-N6 must therefore lie between zero and eighteen for a person. Across Europe, the mean of the variable is 3.6 (standard deviation 3.7). These six are the six negative questions from the fuller GHQ-12 measure of psychological distress. The data set does not provide data on the other six positive questions. Thus our focus is upon negative affect. The rank ordering is the same once again—France as the most depressed, then the United Kingdom, and then Denmark as the least depressed. Column (3) then estimates an ordered logit with the dependent variable of whether an individual reports that they feel “unhappy or depressed.” Column (4) models whether they “had been feeling constantly under strain,” and column (5) refers to whether they had “lost much sleep over worry.” The rankings once again, in all cases, showed France as the most depressed and Denmark as the least depressed. Column (6) of table 7.22 uses a different question from another Eurobarometer, number 64.4 for 2005 and 2006, in which the respondent was asked whether, during the preceding four weeks, they had felt “downhearted and depressed.” Rankings were the same—France, then the United Kingdom, and then Denmark.

Atlas and Skinner (2007) examined the prevalence of pain in the U.S. population using the 2004 Health and Retirement Study (HRS) for approximately 18,000 people aged fifty and older. Among fifty to fifty-nine-year-olds, rates of pain ranged from 19 percent for male college graduates to 55 percent among female respondents who did not finish high school. A variety of covariates in the HRS such as occupation, industry, and marital status attenuated, but did not erase, these gradients. Atlas and Skinner found differences across educational groups, with rates of people aged fifty

**Table 7.24** Pain: 2006 Eurobarometer no. 64.4

	Men	Women
ALS < = 15 years	17	24
ALS 16–19 years	9	12
ALS > = 20 years	7	9

to fifty-nine troubled by pain ranging from 20 percent for men with a college education to 55 percent of women who did not finish high school. Data from the Eurobarometer, number 64.4 for 2006, allows us to examine this issue across thirty-one European countries ( $n = 28,000$ ). Respondents were asked, “During the past four weeks, how much, if at all, has pain interfered with your activities? Extremely, quite a lot, moderately, a little, or not at all?” The weighted percentage for the EU29 average reporting “quite a bit” or “extremely” by gender can be found in table 7.24. The data here are consistent with those reported by Atlas and Skinner for the United States—pain declines with education. I find that pain *rises* with age in Europe for all levels of education, whereas Skinner and Atlas found some evidence of the same for the more educated but found the reverse, surprisingly, for the least educated: pain fell with age from age fifty and older. Column (7) of table 7.22 estimates an ordered logit and confirms that, *ceteris paribus*, pain declines with level of education, rises with age, and is lower for men. Countries with the highest amount of pain are all from Eastern Europe (Poland, Slovakia, Latvia, Romania, Czech Republic, Lithuania, Slovenia, Croatia, Bulgaria, and Estonia) and all have low rankings on happiness and life satisfaction equations (tables 7.13 and 7.16).<sup>18</sup> Countries with the least pain, in order, are Ireland and the United Kingdom. The French report higher levels of pain than either the British or the Danish. Alongside the evidence on hypertension, the evidence from the incidence of pain does seem to further validate the findings from the SWB data rather than the U-index. It is difficult to believe that data on pain and blood pressure are as susceptible to the K2S3 criticisms that the French are less emphatic when reporting their well-being.<sup>19</sup>

There seems to be very clear evidence, then, that the patterns in both

18. I ran a happiness equation (how much of the time have you felt happy over the past four weeks—never, rarely, sometimes, most of the time, or all the time?) with the same data set. The rankings of these countries out of thirty-one was Poland (17), Slovakia (20), Latvia (30), Romania (24), Czech Republic (14), Lithuania (27), Slovenia (13), Croatia (23), Bulgaria (31), and Estonia (29). The overall correlation between the country coefficients from the pain and happiness equations was  $-0.61$ .

19. In ongoing work, Andrew Oswald and I have also found that pulse rates are also highly correlated with (un)happiness scores. Indeed, the structure of a pulse equation is very similar to that of a GHQ score in terms of its determinants. This work is being conducted using data from the English National Health Surveys of 1998 to 2007.

happiness and unhappiness equations are remarkably stable across data sets, countries, and question formats. They also appear to be broadly consistent in other attitudinal questions relating to the state of the economy, the government, and even law and order. The evidence does seem to suggest dramatic stability in the cross-country rankings. Table 7.25 examines happiness and life satisfaction data as well as data on unhappiness from a recently available sweep of the ESS of 2006 and 2007. The broad structure of both the happiness and life satisfaction equations are as before—U-shaped in age and higher for women, the more educated, the married, the healthy, and the employed. We also estimate an equation relating to the respondent's standard of living. The structure of the unhappiness equations—here relating to depression, loneliness, and anxiety—have the inverse structure. The country rankings can be seen in table 7.26—in all cases, Denmark was highest (lowest) and France was lowest (highest) for happiness and unhappiness, respectively. I explored responses to a number of other attitudinal variables relating to the respondent's well-being over the preceding week, whereas the other questions, as Krueger and Schkade (2007, 5) suggest, "elicit a global evaluation of one's life."<sup>20</sup> Ordered logits were again estimated with the same controls as in table 7.25: once again they had a similar structure, as shown before. For example, in all cases, happiness was U-shaped in age and unhappiness followed an inverted U-shape. In four of the five "happiness" questions, Denmark ranked higher than France, while in four of the six "unhappiness" questions, Denmark ranked lower than France. Countries in table 7.27 are ranked by coefficient size, from positive to negative. The rankings of countries when the questions relate to relatively short time periods, such as a week, are somewhat different from those obtained when questions covering the respondent's life more globally are examined. This seems more consistent with findings of the U-index that relate to even shorter time periods.

## 7.5 The Macroeconomics of Well-Being

I have increasingly become interested in the well-being data in the role of a macro policymaker. In the raw data, happiness (and life satisfaction) is negatively correlated with unemployment (figure 7.3) and inflation (figure 7.4). It also appears that happiness is positively correlated with GDP growth (figure 7.5—taken from Leigh and Wolfers [2006]). When a nation is poor, it appears that extra riches raise happiness. However, income growth in richer countries is not correlated with growth in happiness. This is the Easterlin hypothesis (Easterlin 1974) and is illustrated in figure 7.6, which uses data

20. The question asked was as follows: "Using this card, please tell me how much of the time during the past week. (a) None or almost none of the time, (b) Some of the time. (c) Most of the time. (d) All or almost all of the time?"

**Table 7.25** Happiness and unhappiness equations: 2006–2007 European Social Survey (ordered logits)

	Life satisfaction (1)	Happiness (2)	Standard of living (3)	Depressed (4)	Lonely (5)	Anxious (6)
Age	-.0653 (17.43)	-.0757 (19.98)	-.0681 (18.05)	.0144 (3.33)	.0127 (2.88)	.0168 (3.93)
Age <sup>2</sup>	.0006 (17.77)	.0007 (18.86)	.0007 (19.79)	-.0001 (4.40)	-.0001 (2.91)	-.0002 (5.98)
Male	-.0900 (4.51)	-.1396 (6.94)	.0133 (0.67)	-.3881 (16.32)	-.1367 (5.49)	-.3476 (14.87)
Bulgaria	-.18246 (26.25)	-.18829 (26.66)	-.27447 (38.91)	.2715 (3.39)	.5862 (7.00)	.1460 (1.95)
Denmark	1.2081 (18.03)	.8112 (12.22)	.9930 (14.62)	-.8543 (9.84)	-.7340 (7.68)	-.21782 (25.00)
Estonia	-.5613 (8.41)	-.5132 (7.66)	-.12267 (18.23)	.1649 (2.16)	.1317 (1.59)	-.3774 (5.18)
Finland	.7498 (12.06)	.5886 (9.46)	.1653 (2.63)	-.11273 (13.82)	-.5382 (6.34)	-.14849 (20.38)
France	-.6308 (10.07)	-.2637 (4.28)	-.6065 (9.78)	-.1376 (1.88)	.2460 (3.16)	-.3743 (5.48)
Germany	-.3417 (5.80)	-.3654 (6.22)	-.4580 (7.70)	-.0690 (1.00)	-.1783 (2.35)	-.23118 (31.74)
Great Britain	-.0972 (1.61)	.0187 (0.31)	-.0795 (1.30)	-.2742 (3.78)	-.0736 (0.95)	-.8920 (13.19)
Hungary	-.11962 (17.76)	-.7658 (11.09)	-.12413 (18.31)	1.1965 (15.90)	.3155 (3.84)	-.0889 (1.21)
Norway	.3543 (5.57)	.3362 (5.27)	.2900 (4.52)	-.7612 (9.36)	-.4393 (5.08)	-.22072 (26.72)
Poland	-.3125 (4.72)	-.4102 (6.22)	-.10352 (15.76)	.3509 (4.68)	.0381 (0.46)	-.8912 (12.15)
Portugal	-.11116 (17.94)	-.7288 (11.76)	-.9754 (15.79)	.1535 (2.15)	.5163 (6.79)	-.3686 (5.38)
Romania	-.4946 (7.40)	-.6367 (9.52)	-.9658 (14.52)	-.7713 (9.95)	.2046 (2.56)	-.3411 (4.74)
Russia	-.13802 (22.47)	-.12003 (19.42)	-.23763 (37.78)	.3083 (4.36)	.7754 (10.44)	.1851 (2.77)
Slovakia	-.9316 (14.15)	-.9521 (14.41)	-.10570 (15.98)	.3217 (4.23)	.7914 (9.94)	-.5862 (8.05)
Slovenia	-.0498 (0.74)	-.0513 (0.76)	-.5968 (8.86)	-.4390 (5.51)	.0248 (0.30)	-.13731 (17.94)
Spain	.3175 (5.02)	.2956 (4.65)	-.1610 (2.54)	-.2762 (3.69)	-.1086 (1.34)	-.16832 (22.57)
Sweden	.5252 (8.35)	.3757 (5.99)	.3889 (6.10)	-.6693 (8.52)	-.2806 (3.39)	-.11832 (16.49)
Switzerland	.6907 (10.77)	.5006 (7.87)	.4709 (7.28)	-.0641 (0.85)	-.3779 (4.42)	-.2113 (3.01)
Primary	.2376 (3.89)	.3142 (5.06)	.2698 (4.39)	-.2885 (4.27)	-.2050 (2.99)	-.1396 (2.03)
Lower secondary	.3300 (5.37)	.3879 (6.21)	.4361 (7.06)	-.4830 (7.04)	-.4047 (5.81)	-.2502 (3.60)

(continued)

**Table 7.25** (continued)

	Life satisfaction (1)	Happiness (2)	Standard of living (3)	Depressed (4)	Lonely (5)	Anxious (6)
Upper secondary	.4452 (7.20)	.4967 (7.91)	.5728 (9.21)	-.6224 (8.97)	-.5085 (7.21)	-.3773 (5.38)
Nontertiary	.5597 (8.16)	.5880 (8.47)	.6731 (9.77)	-.6502 (8.38)	-.4655 (5.88)	-.3994 (5.13)
1st stage tertiary	.5781 (9.13)	.5610 (8.73)	.8667 (13.59)	-.6736 (9.42)	-.5457 (7.46)	-.3842 (5.33)
2nd stage tertiary	.7583 (8.33)	.8046 (8.73)	1.1244 (12.36)	-.8300 (7.67)	-.8173 (7.02)	-.3794 (3.64)
Married	.4380 (14.44)	.6749 (22.00)	.4855 (15.92)	-.2097 (5.79)	-.9238 (24.54)	-.0283 (0.79)
Civil partner	.1576 (2.32)	.2969 (4.34)	.1816 (2.68)	-.1814 (2.22)	-.4824 (5.70)	.0722 (0.92)
Separated	-.4863 (5.42)	-.3335 (3.75)	-.5256 (5.96)	.4741 (4.88)	.5793 (6.02)	.5072 (5.23)
Separated (civil)	-.4096 (1.75)	-.5080 (2.04)	-.5818 (2.46)	.0237 (0.09)	.0299 (0.11)	-.3953 (1.37)
Divorced	-.0341 (0.78)	.0680 (1.54)	-.1768 (4.01)	.0591 (1.15)	.1415 (2.78)	.1090 (2.14)
Widowed	-.1442 (3.09)	-.2350 (4.98)	-.1357 (2.90)	.2502 (4.68)	.6951 (12.91)	.3614 (6.78)
Dissolved (civil)	-.3086 (2.31)	-.2289 (1.66)	-.6762 (4.90)	.4097 (2.60)	.4304 (2.86)	.6273 (4.02)
Student	.1985 (4.45)	.1130 (2.53)	.2913 (6.40)	-.0716 (1.33)	-.1473 (2.72)	.0039 (0.08)
Unemployed	-.9607 (16.42)	-.6475 (11.10)	1.0584 (18.32)	.5804 (9.17)	.4485 (6.96)	.4314 (6.70)
Unemployed (not looking)	-.7776 (9.97)	-.5443 (6.88)	-.8716 (11.03)	.4712 (5.41)	.5392 (6.19)	.4546 (5.20)
Disabled	-.5285 (8.08)	-.4053 (5.96)	-.5751 (8.56)	.8379 (11.64)	.5534 (7.53)	.6312 (8.67)
Retired	.0896 (2.44)	.0587 (1.59)	-.1088 (2.97)	.0927 (2.19)	.0915 (2.05)	.1516 (3.60)
Military service	-.2866 (0.96)	-.5011 (1.53)	-.6952 (2.16)	.5182 (1.39)	.1838 (0.45)	.8609 (2.29)
Home worker	-.0085 (0.22)	.0031 (0.08)	-.0797 (2.09)	.1112 (2.57)	.2229 (4.80)	.0792 (1.83)
Other If	-.0747 (0.76)	.0461 (0.47)	-.0302 (0.31)	.4364 (4.07)	.3025 (2.76)	.2826 (2.63)
Bad health	.4034 (5.36)	.4580 (5.92)	.3564 (4.74)	-.5158 (6.54)	-.2409 (3.09)	-.2997 (3.75)
Fair health	.8716 (12.01)	.9745 (13.05)	.8008 (11.06)	-.10676 (14.02)	-.6548 (8.72)	-.7573 (9.85)
Good health	1.4213 (19.28)	1.5147 (20.00)	1.2440 (16.95)	-.1.6578 (21.35)	-.9363 (12.25)	-.1.2391 (15.85)
Very good health	1.9183 (24.98)	2.0326 (25.82)	1.6860 (22.05)	-.2.1002 (25.47)	-.1.2024 (14.76)	-.1.5664 (19.04)

Cut1	-4.2391	-5.2394	-4.4362	-1.7911	-.6224	-2.1631
Cut2	-3.6320	-4.5336	-3.8224	.5269	1.2865	.2997
Cut3	-3.0043	-3.7943	-3.1211	2.0986	2.5759	1.9788
Cut4	-2.3563	-3.0901	-2.4627			
Cut5	-1.8710	-2.5543	-1.9433			
Cut6	-.9569	-1.4430	-1.0441			
Cut7	-.4357	-.8456	-.4025			
Cut8	.4154	.1110	-.5434			
Cut9	1.7241	1.4642	1.9403			
Cut10	2.8699	2.6767	3.1896			
Pseudo $R^2$	.0767	.0711	.0885	.0961	.0941	.1160
$N$	34,786	34,638	34,780	34,592	34,674	34,643
Age min./max.	49	53	46	39	50	33

Source: European Social Survey, 2006 to 2007.

Notes: Excluded categories: Belgium, "single," "very bad health," "paid work," and "no formal education." (a) All things considered, how satisfied are you with your life as a whole nowadays? (b) And how satisfied are you with your present standard of living? Please answer using this card, where zero means "extremely dissatisfied" and ten means "extremely satisfied." Taking all things together, how happy would you say you are? (Extremely unhappy = 0 to extremely happy = 10.) Using this card, please tell me how much of the time during the past week (a) you felt depressed; (b) you felt lonely; and (c) you felt anxious. (None or almost none of the time, some of the time, most of the time, or all or almost all of the time.)

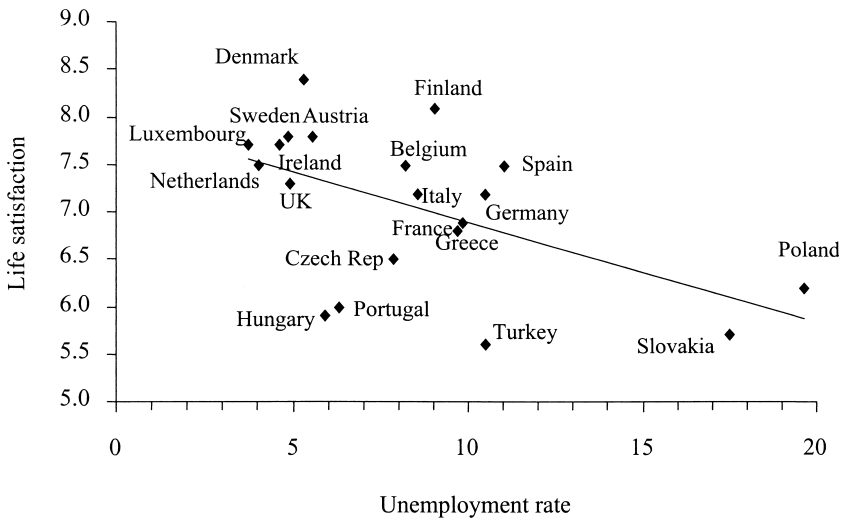


**Table 7.26 Well-being rankings: 2006–2007 European Social Surveys**

	Denmark	France	Great Britain
1) Life satisfaction	1	14	9
2) Happiness	1	10	7
3) Standard of living	1	11	7
4) Depressed	18	11	12
5) Lonely	19	6	12
6) Anxious	17	8	12

**Table 7.27 Happiness and unhappiness rankings: 2006–2007 European Social Surveys**

	Denmark	France	Great Britain
<b>Happiness ranks</b>			
You were happy?	10	4	5
You enjoyed life?	4	2	5
You had a lot of energy?	11	7	17
You felt calm and peaceful?	1	16	18
You felt really rested when you woke up in the morning?	12	15	19
<b>Unhappiness ranks</b>			
You felt that everything you did was an effort?	7	13	10
Your sleep was restless?	9	7	2
You felt sad?	17	13	12
You could not get going?	11	19	6
You felt tired?	8	6	3
You felt bored?	17	13	5



**Fig. 7.3 Life satisfaction and the unemployment rate (2003)**

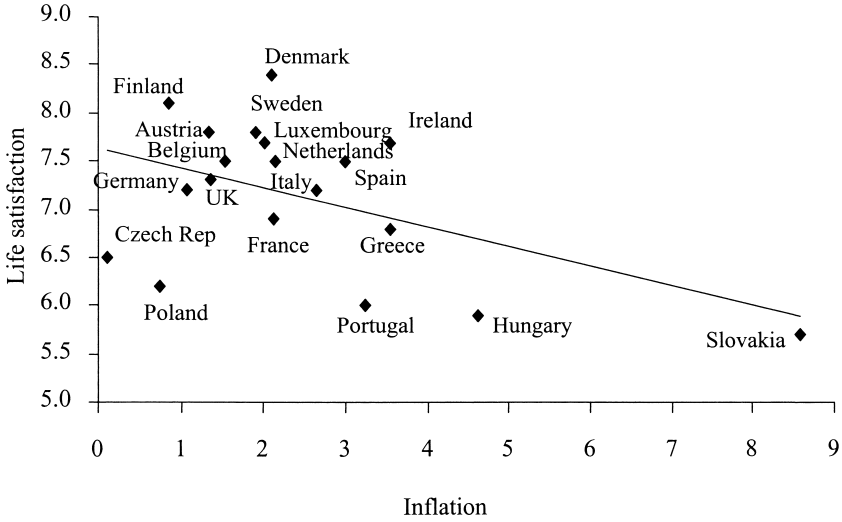


Fig. 7.4 Life satisfaction and inflation (2003 HICP)

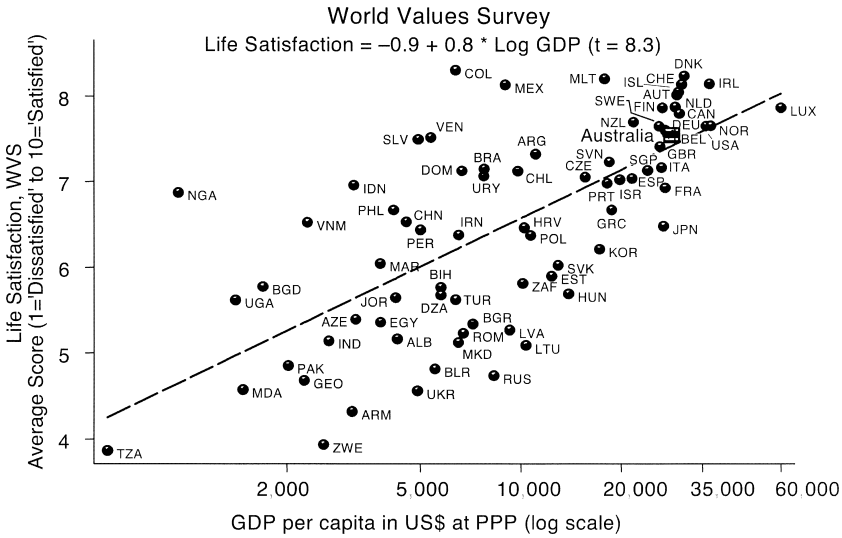


Fig. 7.5 Life satisfaction and GDP per capita

from the 1995 through 2000 WVS; the slope of the function for Western countries is approximately horizontal.

There is a small body of literature that uses SWB data across countries and through time to estimate a “misery index.” Di Tella, McCulloch, and Oswald (2001, 2003) and Di Tella and MacCulloch (2007) use life satisfaction data to show that people are happier when both inflation and unemploy-

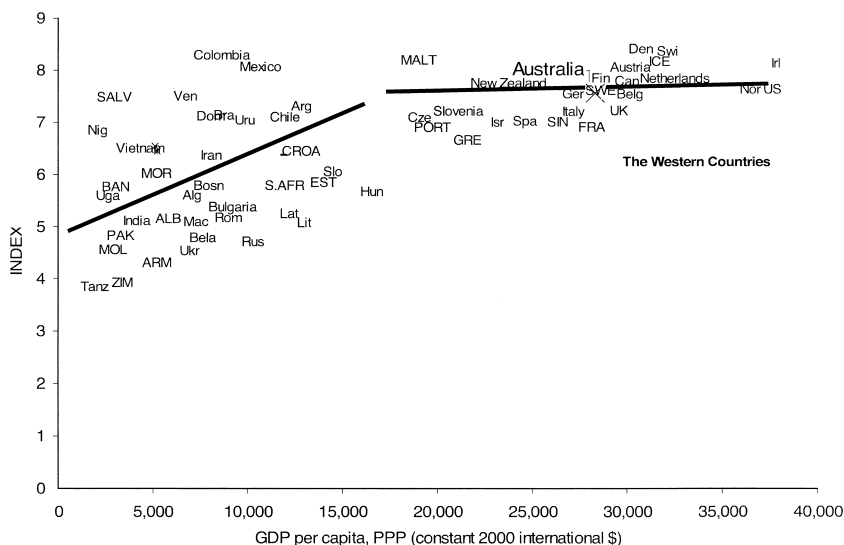


Fig. 7.6 1995 to 2000 World Values Survey result

ment are low. They all find that unemployment depresses well-being more than does inflation. Di Tella and MacCulloch (2007) suggest that left-wing individuals care more about unemployment relative to inflation than do right-wingers. Wolfers (2003) has also shown that greater macro volatility undermines well-being.

Table 7.28 uses aggregate life satisfaction data from the country\*year cell of the World Database of Happiness, with the dependent variable as the score on a 4-step scale. Results are reported without a lagged dependent variable in columns (1) and (3) and with one added in columns (2) and (4), but this has little effect on the results. In columns (3) and (4), GDP per capita is added in U.S. dollars but is always insignificant once controls for unemployment and inflation are included. The rank ordering of countries once again is lowest-ranked France, then the United Kingdom, followed by the United States, and then highest-ranked Denmark. Both unemployment and inflation lower happiness. A 1 percentage point increase in unemployment has a larger impact than a 1 percentage point increase in inflation in all four columns. If GDP per capita is included without controls for inflation or unemployment but with country and year dummies, it enters positively and significantly. If an additional term is included, where GDP is interacted with a poor country dummy, the results were as seen in table 7.29, with *t*-statistics in parentheses.<sup>21</sup> Both terms are significant and positive, but the slope for

21. "Poor" is defined here as having 2004 GDP per capita of less than \$20,000, which includes the Czech Republic (\$6,263), Hungary (\$5,626), Italy (\$19,506), Mexico (\$6,006), Poland (\$5,032), Portugal (\$11,090), Slovakia (\$4,483), and Spain (\$15,403)—GDP per capita in U.S. dollars in parentheses.

**Table 7.28** Macrolife satisfaction: 1973–2006 (ordered logits)

	(1)	(2)	(3)	(4)
Life satisfaction <sub><i>t-1</i></sub>		.5713 (13.83)		.5689 (13.64)
Inflation <sub><i>t</i></sub>	-.0056 (3.87)	-.0029 (2.32)	-.0061 (4.11)	-.0031 (2.37)
Unemployment <sub><i>t</i></sub>	-.0126 (6.26)	-.0046 (2.77)	-.0119 (5.69)	-.0046 (2.63)
GDP <sub><i>t</i></sub>			.000002 (1.46)	.00001 (0.51)
Austria	-.0819 (3.20)	-.0458 (2.24)	-.0783 (3.04)	-.0452 (2.19)
Belgium	-.0266 (1.46)	-.0181 (1.26)	-.0250 (1.36)	-.0178 (1.22)
Czech Republic	-.3133 (9.38)	-.1284 (4.18)	-.2737 (5.59)	-.1175 (2.81)
Denmark	.3816 (20.73)	.1710 (7.94)	.3707 (18.67)	.1688 (7.64)
Finland	.0484 (1.86)	.0248 (1.21)	.0493 (1.90)	.0252 (1.22)
France	-.2940 (16.01)	-.1253 (6.64)	-.2920 (15.85)	-.1253 (6.61)
Germany	-.1334 (7.17)	-.0563 (3.65)	-.1333 (7.16)	-.0566 (3.66)
Greece	-.4725 (21.48)	-.1937 (7.31)	-.4474 (16.05)	-.1876 (6.41)
Hungary	-.6310 (18.77)	-.2768 (7.30)	-.5785 (11.73)	-.2640 (5.73)
Ireland	.0764 (3.88)	.0329 (2.10)	.0847 (4.11)	.0360 (2.17)
Italy	-.3445 (18.72)	-.1375 (6.77)	-.3346 (17.06)	-.1354 (6.50)
Japan	-.5266 (23.77)	-.2317 (8.27)	-.5519 (19.79)	-.2403 (7.45)
Luxembourg	.0779 (3.55)	.0475 (2.71)	.0497 (1.71)	.0395 (1.71)
Mexico	-.2705 (6.53)	-.2517 (4.32)	-.2167 (3.89)	-.2371 (3.63)
Netherlands	.1835 (9.50)	.0792 (4.68)	.1844 (9.53)	.0799 (4.60)
Poland	-.2952 (6.80)	-.1135 (2.97)	-.2511 (4.76)	-.1014 (2.27)
Portugal	-.5259 (24.67)	-.2211 (8.11)	-.4917 (15.47)	-.2130 (6.64)
Slovakia	-.4588 (10.64)	-.1769 (4.34)	-.4112 (7.63)	-.1641 (3.45)
Spain	-.1276 (5.30)	-.0528 (2.69)	-.1075 (3.89)	-.0472 (2.10)
Sweden	.1590 (6.03)	.0736 (3.36)	.1544 (5.81)	.0726 (3.29)
U.S.	.1674 (5.64)	.1137 (4.02)	.1465 (4.46)	.1081 (3.56)
Constant	3.1310	1.4209	3.2277	1.4230
Adjusted $R^2$	.9375	.9631	.9376	.9630
$N$	457	423	455	421

Source: World Database of Happiness and OECD, 1973 to 2006.

Notes: The U.K. is excluded category.  $T$ -statistics in parentheses. Equations also include thirty-one year dummies. GDP is per capita in U.S. dollars. Data on GDP unavailable in 2006 for Czech Republic and Ireland.

the richer countries is less steep than found for the poorer countries—there is diminishing marginal utility of income. This is the Easterlin effect, and it does suggest that rising GDP per capita raises happiness less for developed than for developing countries, which is consistent with the findings of Deaton (2008), who argues that “it is *not true* that there is some critical level of GDP per capita above which income has no further effect on happiness” (2008, 16–17). It is also consistent with the findings of Helliwell (2003), who uses data from the first three sweeps of the WVS and finds that in a life satisfaction equation across countries, “national average income also has diminishing returns, since the logarithm of average per capita income takes a positive coefficient, while the square takes a negative coefficient” (345). This result is different from the findings of Easterlin (1974, 1995) that happiness does not increase for long time spans, despite large increases

Table 7.29 Life satisfaction equations: 1972–2006 Eurobarometers

	Without a lagged dependent variable	With a lagged dependent variable
GDP <sub><i>t</i></sub>	.000016 (11.84)	.00000247 (2.12)
GDP poor country <sub><i>t</i></sub>	.0000287 (6.46)	.00000746 (2.14)

in income. Consistent with this result is the fact that happiness levels for a number of E.U. countries have increased over time. Indeed, in the pooled microdata files of the Eurobarometers from 1973 to 2006, if we simply regress life satisfaction in an OLS on a time trend only, there is a significant upward trend in life satisfaction for ten countries—Denmark, the United Kingdom, France, Finland, Ireland, Luxembourg, the Netherlands, Spain, Sweden, and Italy. There is a negative trend for Portugal, Germany, and Belgium and no significant trend for Austria and Greece.<sup>22</sup>

Table 7.30 uses microdata on over 700,000 individuals from fifteen countries for which I have long-time series-of-inflation data dating back to the 1950s (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, and the United Kingdom), drawn from the Eurobarometers from 1973 to 2006 and reported in Blanchflower (2007). As in table 7.28, which uses macrodata, controls are included for the unemployment rates and the inflation rate, but here, standard errors are clustered at the country\*year cell. Once again both macrovariables enter negatively, and the ranking is Denmark, then the United Kingdom, and finally lowest-ranked France. Column (2) adds the variable reflecting the *average* annual inflation experience of each individual in our sample, given their age, their country, and the year the life satisfaction survey was conducted; this term is insignificant. Column (3) substitutes the average annual experience term for the *highest* annual inflation rate experienced by each individual over their adult life. This term is negatively signed and significant, and its inclusion has essentially no effect on either the coefficients of inflation or unemployment. An individual who has experienced high inflation in the past has lower happiness today, even holding constant today's inflation and unemployment rates. Unemployment appears to be more costly than inflation in terms of its impact on well-being. In Blanchflower (2007), I used these data to estimate a misery-index, which measures the relative effect of a 1 percentage point increase in unemployment compared with a 1 percentage point increase in inflation. The estimates imply individuals weight the loss from unemployment 1.6 times more than

22. Data are available for 1973 to 2006 for Belgium, France, Denmark, Germany, Ireland, Italy, Luxembourg, Netherlands, and the United Kingdom; for 1981 to 2006 for Greece; for 1985 to 2006 for Portugal and Spain; and from 1995 to 2006 for Austria, Finland, and Sweden.

**Table 7.30**      **Microlife satisfaction: Europe, 1973–2006 (ordered logits)**

	(1)	(2)	(3)	Age < 40 (4)	Age ≥ 40 (5)
Inflation <sub>t</sub>	-.0094 (5.16)	-.0095 (5.18)	-.0096 (5.25)	-.0102 (4.83)	-.0128 (5.89)
Unemployment rate <sub>t</sub>	-.0114 (5.82)	-.0115 (5.88)	-.0119 (6.05)	-.0109 (5.71)	-.0081 (4.20)
Average inflation experience			-.0010 (1.02)		
Highest inflation experience			-.0001 (3.44)	-.0002 (2.62)	-.00003 (2.85)
Age	-.0133 (16.42)	-.0133 (16.38)	-.0134 (16.74)	-.0067 (1.87)	-.0048 (3.83)
Age <sup>2</sup>	.0001 (18.68)	.0001 (18.58)	.0001 (19.11)	-.0000 (0.01)	.00007 (7.41)
Male	-.0327 (10.48)	-.0328 (10.43)	-.0329 (10.51)	-.0424 (11.94)	-.0230 (5.69)
16–19 yrs. schooling	.0873 (17.72)	.0873 (17.73)	.0871 (17.80)	.0723 (10.70)	.0931 (18.85)
20+ yrs. schooling	.1664 (26.12)	.1665 (26.13)	.1664 (26.23)	.1530 (21.10)	.1666 (21.92)
Still studying	.1178 (7.88)	.1174 (7.84)	.1174 (7.82)	.1127 (9.02)	-.0080 (0.11)
Married	.1186 (19.86)	.1185 (19.84)	.1189 (19.92)	.1325 (20.30)	.1275 (17.81)
Living as married	.0481 (7.38)	.0483 (7.38)	.0496 (7.61)	.0569 (8.20)	.0406 (3.65)
Divorced	-.1621 (20.04)	-.1623 (20.05)	-.1622 (20.05)	-.1693 (15.76)	-.1415 (14.86)
Separated	-.2065 (19.13)	-.2065 (19.12)	-.2061 (19.12)	-.2085 (13.83)	-.1839 (12.83)
Widowed	-.0866 (13.17)	-.0864 (13.09)	-.0852 (12.95)	-.0938 (3.35)	-.0723 (9.77)
Self-employed	.0057 (1.22)	.0057 (1.20)	.0056 (1.19)	.0295 (4.69)	-.0097 (1.71)
Home worker	-.0243 (4.80)	-.0244 (4.80)	-.0244 (4.81)	-.0293 (4.50)	-.0205 (3.43)
Student	.0710 (4.90)	.0713 (4.92)	.0715 (4.93)	.0589 (4.94)	.0487 (0.73)
Retired	-.0395 (6.88)	-.0394 (6.84)	-.0395 (6.89)	-.1463 (6.23)	-.0348 (5.96)
Unemployed	-.3657 (29.77)	-.3658 (29.74)	-.3660 (29.71)	-.3574 (30.25)	-.3909 (24.68)
Austria	-.0956 (4.17)	-.0969 (3.45)	-.0904 (3.96)	-.0720 (2.65)	-.1142 (4.90)
Belgium	-.0807 (0.23)	-.0955 (4.17)	-.0807 (4.39)	-.0432 (2.11)	-.1164 (5.99)
Denmark	.3220 (21.96)	.3212 (21.82)	.3206 (21.78)	.3515 (21.58)	.2969 (19.72)
Finland	-.0001 (0.00)	.0014 (0.07)	.0032 (0.16)	.0397 (1.60)	-.0283 (1.49)
France	-.3271 (23.35)	-.3254 (23.29)	-.3254 (22.99)	-.3044 (17.94)	-.3440 (25.36)

**Table 7.30** (continued)

	(1)	(2)	(3)	Age < 40 (4)	Age ≥ 40 (5)
Germany	-.2286 (19.35)	-.2297 (19.18)	-.2229 (18.85)	-.2255 (17.82)	-.2289 (17.34)
Greece	-.4596 (20.71)	-.4512 (18.89)	-.4485 (20.32)	-.3443 (15.86)	-.5500 (20.14)
Ireland	.0524 (3.50)	.0540 (3.61)	.0549 (3.68)	.0471 (2.83)	.0651 (4.01)
Italy	-.3434 (17.47)	-.3374 (15.85)	-.3306 (16.34)	-.2789 (12.53)	-.3850 (20.09)
Netherlands	.1199 (10.55)	.1179 (10.12)	.1181 (10.33)	.1549 (11.70)	.0869 (7.23)
Norway	.1072 (3.47)	.1064 (3.44)	.1057 (3.42)	.1423 (4.65)	.0757 (2.30)
Portugal	-.4979 (21.41)	-.4939 (21.13)	-.4973 (21.47)	-.3746 (15.68)	-.6047 (25.23)
Spain	-.1240 (7.41)	-.1206 (7.10)	-.1200 (7.14)	-.0794 (3.98)	-.1632 (9.79)
Sweden	.1057 (8.12)	.1054 (8.07)	.1054 (8.04)	.1386 (7.04)	.0821 (6.27)
Constant	3.5198	3.5262	3.5264	3.4315	3.2963
N	703,172	703,172	703,172	332,202	370,970
R <sup>2</sup>	.1549	.1549	.1550	.1481	.1639

Source: Eurobarometers, 1973 to 2006, and Blanchflower (2007).

Notes: Excluded categories are the U.K., "employee," "no children," "left school before age 15," and "single." All equations include twenty year dummies. Standard errors are clustered by country and year. "Average inflation experience" refers to the average annual inflation rate experienced by an individual over their life to the survey date. "Highest inflation experienced" refers to the highest annual inflation rate experienced by an individual over their life to the survey date.

the loss in well-being from inflation.<sup>23</sup> Columns (4) and (5) of the table provide separate estimates for those younger than forty years old and for those age forty and older. Interestingly, for the younger group, the misery-index is close to 1.4, whereas for the older group, it is approximately 2.1, while the size of the loss of happiness for the unemployed is similar.<sup>24</sup> Interestingly, the highest inflation term, which is negative and significant in both cases, is much larger in size in the former case, although its mean is much lower (20.2 and 116.2, respectively).

In table 7.31 I explore the impact of the macroeconomy on individual happiness and life satisfaction using self-reported views on unemployment, inflation, and inequality from three recent Eurobarometers from 2006 and 2007. The results are very similar to those based on using the macrodata; we also have evidence that inequality lowers happiness. In the first column the results from estimating a series of ordered logits are reported, with 4-step happiness as the dependent variable. In addition to the standard controls of labor market and marital status, schooling, gender, age, and country dummies, plus a number of additional controls not available in other data files were used. First, if the respondent is a member of a minority group, as well as if they are not part of the majority but do not associate themselves with a particular group, they enter significantly and negative with the effect three times larger. Second, controls are included to distinguish whether they owned their house outright or with a mortgage, both which enter significantly positive. Third, I include a control identifying whether the respondent belonged to a religious organization, which is also significant and positive. Fourth, following Di Tella and MacCulloch (2005) and Alesina, Di Tella, and MacCulloch (2004), I include controls for an individual's political views on a scale from one (left wing) to ten (right wing) and show that right-wingers are happiest. Finally, I include three variables based on an individual's response to a question asking what topics "worry you the most?" I include responses relating to unemployment, inequality, and the cost of living (inflation); multiple responses are possible. Unemployment and inflation lowers happiness, as does inequality, following Alesina, Di Tella, and MacCulloch (2004) and Blanchflower and Oswald (2004a). Column (2) uses data from Eurobarometer number 66.1,

23. The misery-index is calculated in Blanchflower (2007) as the coefficient of the unemployment rate plus the loss for the unemployed themselves, divided by the coefficient on the inflation rate. The loss to the individual from being unemployed can be calculated from the coefficient of being "unemployed" in a life-satisfaction microregression like the one reported in column (1) of table 7.18: estimated with OLS to keep the units consistent, we get  $-0.3657$ . The entire well-being cost of a 1 percentage point increase in the unemployment rate is therefore given by the sum of two components. Combining the two, we have  $0.0114 + 0.0036 = 0.0147$  as society's overall well-being cost for a 1 percentage point rise in the unemployment rate divided by 0.0094. The implication is that the well-being cost of a 1 percentage point increase in the unemployment rate equals the loss brought about by an extra 1.56 percentage points of inflation.

24. Calculated as  $(0.0102 + 0.0036)/0.0109 = 1.27$  and  $(0.0128 + 0.0039)/0.0081 = 2.06$ , respectively.



Table 7.31

**Happiness, life satisfaction, and views on the macroeconomy, 2006–2007  
(ordered logits)**

	Happiness	Life satisfaction	
Inequality (current)	–.1976 (5.77)		
Unemployment (current)	–.0787 (2.71)	–.0745 (2.79)	
Inflation (current)	–.2313 (8.40)	–.1468 (4.83)	
Inflation (equal)			–.0409 (0.97)
Inflation (higher)			–.0671 (1.83)
Unemployment (equal)			–.1895 (4.80)
Unemployment (higher)			–.2402 (6.56)
Age	–.0973 (19.20)	–.0785 (16.84)	–.0871 (14.48)
Age <sup>2</sup>	.0008 (16.43)	.0007 (15.99)	.0008 (13.65)
Male	–.1655 (6.00)	–.1187 (4.60)	–.0566 (1.83)
ALS < 16	–.0958 (0.66)	.3097 (2.84)	–.3417 (0.82)
ALS 16–19	.1883 (1.30)	.6316 (5.72)	–.2154 (0.52)
ALS ≥ 20	.3747 (2.55)	.8830 (7.87)	.0368 (0.09)
Unemployed	–.7356 (10.43)	–.6970 (11.01)	–.8683 (10.77)
Retired	–.1756 (3.11)	.0142 (0.27)	–.1487 (2.19)
Married	.8203 (16.61)	.3283 (7.18)	.3544 (6.48)
Remarried	.6441 (6.42)	.2989 (3.16)	.3703 (3.28)
Living as married	.4075 (6.88)	.1736 (3.10)	.1033 (1.55)
Previously lived together	–.2089 (2.69)	–.2262 (3.21)	–.4206 (5.10)
Divorced	–.1563 (2.35)	–.2834 (4.50)	–.4249 (5.64)
Separated	–.5704 (5.15)	–.3983 (3.71)	–.4337 (3.49)
Widowed	–.4460 (6.80)	–.2379 (3.89)	–.3670 (4.85)
Austria	–.9599 (10.46)	.0404 (0.55)	–.0304 (0.35)
Bulgaria	–3.1762 (33.98)	–2.2106 (30.93)	–2.2350 (23.42)
Cyprus	–1.0438 (9.06)	.3658 (3.74)	.3694 (2.77)
Czech Republic	–1.2175 (13.65)	–.3675 (5.08)	–.3712 (4.40)
Denmark	.4515 (4.90)	1.9123 (23.45)	1.7403 (18.61)
East Germany	–1.2621 (11.05)	–.5185 (5.31)	–.4315 (3.97)
Estonia	–1.6008 (17.00)	–.6161 (8.28)	–.7205 (7.96)
Finland	–.4786 (5.31)	.7295 (9.88)	.4965 (5.88)
France	–.2727 (3.00)	–.0309 (0.42)	–.2405 (2.65)
Greece	–1.2132 (12.85)	–.6965 (9.42)	–1.0286 (12.59)
Hungary	–1.6718 (17.61)	–1.5970 (22.32)	–1.5296 (17.90)
Ireland	.2515 (2.73)	.8377 (11.11)	.7815 (8.75)
Italy	–1.1559 (12.49)	–.3288 (4.48)	–.6513 (7.02)
Latvia	–1.7255 (18.56)	–.9410 (12.72)	–1.1391 (13.10)
Lithuania	–1.8129 (19.28)	–1.0639 (14.30)	–1.0678 (11.90)
Luxembourg	–.0565 (0.51)	1.1205 (11.56)	1.2979 (10.77)
Malta	–.5982 (5.19)	.2136 (2.13)	.3762 (2.96)
Netherlands	.0978 (1.07)	1.2924 (16.78)	1.1640 (13.24)
Poland	–1.0093 (10.85)	–.5752 (7.84)	–.5261 (5.64)
Portugal	–.9639 (10.32)	–1.0027 (13.87)	–1.0446 (10.94)
Romania	–2.4141 (25.56)	–1.7300 (24.31)	–1.5874 (15.49)
Slovakia	–1.8201 (19.67)	–.8210 (11.21)	–.8749 (10.59)
Slovenia	–.6665 (7.25)	–.2936 (4.04)	.1955 (2.26)
Spain	–.6784 (7.34)	.4474 (6.07)	.0516 (0.51)
Sweden	–.1260 (1.38)	1.2562 (16.46)	1.1273 (12.91)
U.K.	.1592 (1.84)	.7696 (11.20)	.8118 (9.32)

**Table 7.31** (continued)

	Happiness	Life satisfaction	
West Germany	-.8584 (9.22)	.2374 (3.21)	.3455 (3.99)
Member religious org.	.2927 (5.20)	.0455 (1.17)	
Minority group	-.2695 (5.78)		
No group	-.1113 (3.52)		
Own house (outright)	.2112 (6.11)	.3899 (12.65)	.2414 (6.23)
Own house (mortgage)	.1099 (2.85)	.3356 (9.33)	.3188 (7.36)
Left wing (1–2)	.0478 (0.75)	.0123 (0.21)	.1210 (1.67)
Left (3–4)	.0028 (0.05)	.1584 (3.17)	.2116 (3.36)
Center (5–6)	.0843 (1.74)	.2392 (5.35)	.2259 (3.88)
Right (7–8)	.1413 (2.60)	.3746 (7.49)	.3792 (5.98)
Right wing (9–10)	.3454 (5.20)	.4856 (8.31)	.5561 (7.58)
Cut1	-7.1023	-4.1532	-5.6338
Cut2	-4.8577	-2.2430	-3.6509
Cut3	-1.4631	.8395	-.4712
<i>N</i>	26,526	29,017	20,472
Pseudo <i>R</i> <sup>2</sup>	.1319	.1294	.1297

*Source:* Column (1) = Eurobarometer number 66.3: European Social Reality, November to December 2006 (ICPSR study number 4528). Column (2) = Eurobarometer number 66.1: European Values and Societal Issues, Mobile Phone Use, and Farm Animal Welfare, September to October 2006 (ICPSR study number 21281). Column (3) = Eurobarometer number 67.2: European Union Enlargement, Personal Data Privacy, National Economy and Scientific Research, April to May 2007 (ICPSR study number 21160).

*Notes:* Excluded categories: Belgium; “responsible for ordinary shopping and housework,” “unmarried, having previously lived with a partner,” “no formal education,” “refused to answer left/right scale,” and “majority group.” All equations also include fifteen occupation dummies. *T*-statistics in parentheses. Survey questions: Q1. On the whole, are you very satisfied, fairly satisfied, not very satisfied, or not at all satisfied with the life you lead? Q2. Do you think that in (OUR COUNTRY), the inflation rate in 2006 was higher, lower, or equal to the one in 2005? Q3. Do you think that in (OUR COUNTRY), the unemployment rate in 2006 was higher, lower, or equal to the one in 2005? Q4. Taking all things together, would you say you are very happy, quite happy, not very happy, or not at all happy? Q5. Which topics worry you the most?: (a) unemployment, (b) the cost of living (inflation), (c) the gap between the rich and the poor (inequality). Q6. In political matters people talk of “the left” and “the right.” How would you place your views on this scale? (1 [left] to 10 [right].)

which uses a 4-step life satisfaction dependent variable and confirms that both unemployment and inflation lowers pay—information on inequality is available in that survey.<sup>25</sup>

Column (3) also uses 4-step data on life satisfaction from a 2007 Eurobarometer, number 67.2, with slightly different attitudinal questions. Once again, the unemployed have lower life satisfaction; happiness is U-shaped in age and higher for the married and for those who own their own house. It is especially high in Denmark and low in Bulgaria. The main difference in

25. Similar results are also found using Eurobarometer number 64.1, which does not contain details of home ownership.

column (3) is that now, the macro controls relate to whether the respondent believes that inflation is lower than, equal to, or higher than it was a year earlier. Once again, happiness is lower when the respondent reports that inflation or unemployment is higher. Unemployment, inflation, and inequality all appear to lower happiness and life satisfaction.

## 7.6 Predictions and Expectations

I recall John Abowd saying to me at a very early seminar given at the National Bureau of Economic Research that the crucial test for happiness data is whether or not it has any predictive power. Little work has so far been done on this question, but in some recent work I found that life satisfaction levels in Eastern European countries is a good *predictor* of migration flows to the United Kingdom. On May 1, 2004, the so-called A8 accession countries (the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia) joined the European Union.<sup>26</sup> Citizens from the A8 nations obtained free movement and the right to work in the United Kingdom, Ireland, and Sweden as of May 1, 2004.<sup>27</sup> Gilpin et al. (2006) examined data for the United Kingdom drawn from the Worker Registration Scheme (WRS), which registers the A8 workers, and computed the number of WRS registrations as a percentage of the home country population, which showed it is correlated with GDP and unemployment. Gilpin et al. found that countries with the lowest GDP per head, such as Lithuania (€2,500), are more likely to be registered on the U.K. WRS than those from countries with a higher GDP, such as Slovenia (€11,400).<sup>28</sup> The propensity to migrate is even more highly correlated with life satisfaction than it is with GDP per capita (Blanchflower and Shadforth 2009).

Of interest is whether life satisfaction or happiness is correlated with people's *expectations* of the economic situation. It turns out that they are. Respondents in thirteen separate Eurobarometers for the period of 1995 to 2006 were asked the following questions.

What are your expectations for the next twelve months: will the next twelve months be better, worse, or the same when it comes to a) your life in general, b) the economic situation in (our country), c) the financial situation of your household, d) the employment situation in (our country), and e) your personal job situation?

Data are available on fifteen countries for all twelve years (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg,

26. In addition, Malta and (South) Cyprus also joined the European Union at that date. Bulgaria and Romania joined the European Union on January 1, 2007.

27. Finland, Greece, Portugal, and Spain opened their labor markets to these workers on May 1, 2006, while Italy followed in late July 2006. Five other countries (Belgium, Denmark, France, the Netherlands, and Luxembourg) alleviated restrictions in 2006 (Zaiceva 2006).

28. Expressed as Euros per inhabitant at 1995 exchange rates and prices.

the Netherlands, Portugal, Spain, Sweden, and the United Kingdom). Data for the fifteen accession and candidate countries (Republic of Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia, Bulgaria, Romania, Turkey, Croatia, and Cyprus [Turkish Cypriot Community]) are present for only 2004 to 2006. In eight separate surveys, respondents were also asked about their expectations for themselves ten years hence—"In the course of the next five years, do you expect your personal situation to improve, to stay about the same, or to get worse?" Life satisfaction is further reported in a subset of these surveys. We examine three of these responses here.

Table 7.32 reports the results of estimating ordered logits for parts b, d, and d of the question, as well as for life five years ahead. The dependent variable is coded as one if the response was "worse," two if it was "the same," and three if it was "better," so positive coefficients should be interpreted once again as suggesting that the variable raises the probability of life improving. Column (1) and (2) of table 7.32 relates to the individual's views on the economic situation, columns (3) and (4) to the employment situation, columns (5) and (6) to their life over the following twelve months, and columns (7) and (8) for life over the following five years. In each case, separate results are provided with and without three life satisfaction controls derived from the standard 4-category life satisfaction variable. Happiness enters significantly and positively in each of these equations. This is similar to findings by Guven (2007), who found by using data from the Netherlands and Germany that happiness increases savings and decreases expenditures, and that the marginal propensity to consume is lower for the happy people. Happy people, Guven also found, (a) are more risk averse in financial decisions, (b) expect to live longer, (c) are more concerned about the future than the present, (d) expect lower prices in the future, (e) are less likely to smoke, and (f) do not desire to move within a country.<sup>29</sup>

There is a common pattern in the control variables across all eight specifications. Optimism (a) rises with educational attainment, (b) is U-shaped in age, (c) is lower for the married, the widowed, and the unemployed, and (d) is higher when the level of current happiness is greater. The country ranking in relation to people's views on the economic and employment situations is once again France, then the United Kingdom, and then Denmark. The British, though, are especially optimistic that their life will improve, and the Danish are now less optimistic than the French. Happier people, it turns out,

29. Guven (2007) examined data on prices only for the Netherlands using data from the Dutch National Bank Household Survey, which is a panel of about 4,500 individuals from 1993 to 2006. Data on price expectations are of particular interest to macropolicy makers. Guven found that happier people expect lower prices than unhappy people for the next year and also in five years' time. Questions asked were (a) "Do you expect prices in general to rise, to remain the same, or to go down in the next 12 months? 1 = go down, 2 = remain the same, 3 = rise," and (b) "By what percentage do you expect prices in total to have risen after 5 years?"

**Table 7.32 Economic, employment, and life expectations in Europe: 1995–2006 Eurobarometers (ordered logits)**

	Economic situation			Employment situation			Life one year ahead			Life five years ahead		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)				
France	-.1992 (8.00)	-.1645 (5.65)	.2112 (8.41)	.2532 (8.65)	.5166 (20.17)	.6714 (22.18)	.2419 (7.76)	.3045 (8.99)				
Denmark	.2793 (11.31)	.1640 (5.68)	.6710 (26.70)	.4432 (15.09)	.4741 (18.48)	.2439 (8.01)	.5509 (17.42)	.3427 (9.88)				
U.K.	.1664 (7.23)	.0751 (2.80)	.5437 (23.41)	.4223 (15.64)	.8461 (35.52)	.7944 (28.28)	.8284 (28.01)	.7599 (23.68)				
Not very satisfied	.5787 (22.91)			.5318 (21.01)		.9013 (34.32)		.8380 (28.38)				
Fairly satisfied	1.0971 (44.84)			.9678 (39.53)		1.8423 (72.14)		1.7548 (61.65)				
Very satisfied	1.3750 (52.90)			1.2523 (48.21)		2.3265 (85.19)		2.1457 (69.87)				
Age	-.0247 (16.31)	-.0177 (10.33)	-.0260 (17.03)	-.0187 (10.89)	-.0454 (29.01)	-.0338 (18.99)	-.0717 (36.07)	-.0623 (29.09)				
Age <sup>2</sup>	.0002 (12.98)	.0001 (7.84)	.0002 (13.53)	.0001 (8.30)	.0002 (14.87)	.0001 (6.75)	.0004 (19.36)	.0002 (13.11)				
Male	.1379 (15.73)	.1347 (13.62)	.0694 (7.86)	.0791 (7.96)	-.0424 (4.68)	-.0443 (4.30)	-.0015 (0.14)	.0119 (1.01)				
ALS 16–19	.1058 (9.35)	.0659 (5.13)	.1005 (8.78)	.0713 (5.50)	.2280 (19.58)	.1650 (12.42)	.1279 (9.13)	.0714 (4.77)				
ALS 20+	.2684 (20.75)	.1946 (13.26)	.2560 (19.61)	.1970 (13.31)	.4439 (33.20)	.3216 (21.07)	.3521 (21.82)	.2552 (14.80)				
Still studying	-.1670 (2.25)	-.1396 (1.85)	-.0469 (0.63)	-.0399 (0.53)	.0261 (0.34)	.0510 (0.66)	-.1002 (1.20)	-.0596 (0.71)				
Homemaker	-.0354 (1.93)	.0066 (0.32)	-.0279 (1.51)	.0150 (0.72)	-.1102 (5.83)	-.0677 (3.14)	-.1406 (6.12)	-.1088 (4.44)				
Student	.4141 (5.51)	.3224 (4.20)	.2681 (3.53)	.2118 (2.75)	.2025 (2.62)	.0340 (0.43)	.2356 (2.75)	.0247 (0.29)				
Unemployed	-.1722 (8.46)	-.0428 (1.85)	-.1666 (8.14)	-.0600 (2.58)	-.0674 (3.15)	.1738 (7.08)	-.3499 (13.55)	-.1498 (5.39)				
Retired	-.0892 (5.14)	-.0679 (3.47)	-.0604 (3.43)	-.0479 (2.43)	-.2201 (12.24)	-.2062 (10.16)	-.2226 (10.02)	-.1828 (7.69)				
Farmer	-.2591 (7.36)	-.2083 (5.22)	-.1874 (5.37)	-.1856 (4.68)	-.4208 (11.53)	-.3427 (8.32)	-.4229 (9.59)	-.3726 (7.98)				
Fisherman	-.0987 (0.50)	-.1320 (0.60)	.2000 (1.02)	.1952 (0.90)	-.0221 (0.11)	-.0260 (0.11)	-.5545 (2.20)	-.5713 (2.13)				
Professional	.1447 (4.13)	.1020 (2.58)	.0805 (2.30)	.0583 (1.47)	.3413 (9.34)	.2896 (6.94)	.2365 (5.29)	.2137 (4.50)				
Shopkeeper	-.0329 (1.32)	-.0171 (0.60)	-.0257 (1.04)	-.0108 (0.38)	.0779 (3.02)	.0862 (2.90)	.0178 (0.56)	-.0094 (0.28)				
Business proprietor	.0375 (1.13)	.0121 (0.32)	.0143 (0.43)	-.0043 (0.12)	.3133 (9.04)	.2671 (6.78)	.2642 (6.18)	.2180 (4.77)				
Empd. professional	.1083 (3.66)	.0569 (1.75)	.1120 (3.78)	.0803 (2.47)	.2223 (7.12)	.1355 (3.92)	.2264 (5.85)	.1480 (3.64)				
General mgmt.	.1640 (4.31)	.1272 (2.92)	.1348 (3.51)	.0950 (2.17)	.2302 (5.85)	.1340 (2.95)	.3875 (7.83)	.3203 (6.07)				
Desk employee	.0631 (3.40)	.0663 (3.15)	.0472 (2.54)	.0503 (2.39)	.0721 (3.74)	.0536 (2.44)	.0458 (1.94)	.0284 (1.13)				

Traveling worker	.0258 (0.96)	.0252 (0.83)	-.0047 (0.18)	-.0063 (0.21)	.1356 (4.84)	.1436 (4.50)	.0370 (1.07)	.0235 (0.64)
Service worker	-.0422 (2.18)	-.0454 (2.07)	-.0335 (1.72)	-.0383 (1.74)	.0488 (2.42)	.0534 (2.32)	.0243 (0.98)	.0095 (0.36)
Supervisor	-.1080 (2.59)	-.0957 (1.98)	-.0244 (0.59)	.0026 (0.06)	-.0648 (1.50)	-.0641 (1.28)	.0066 (0.13)	-.0130 (0.23)
Skilled manual worker	-.0704 (3.86)	-.0574 (2.78)	-.0369 (2.02)	-.0160 (0.78)	-.0719 (3.79)	-.0351 (1.63)	-.1154 (4.98)	-.0992 (4.01)
Married	-.0438 (3.42)	-.1087 (7.41)	-.0465 (3.62)	-.1111 (7.57)	-.2285 (17.11)	-.3427 (22.26)	.0059 (0.36)	-.0794 (4.41)
Living as married	-.0218 (1.30)	-.0485 (2.56)	.0154 (0.92)	-.0127 (0.67)	.0913 (5.17)	.0524 (2.61)	.2435 (10.99)	.2207 (9.25)
Divorced	-.1214 (5.98)	-.0807 (3.53)	-.0892 (4.37)	-.0520 (2.27)	-.0604 (2.86)	.0105 (0.44)	-.0211 (0.82)	.0410 (1.48)
Separated	-.0785 (2.26)	-.0024 (0.06)	-.0433 (1.24)	.0001 (0.00)	.0380 (1.04)	.1202 (2.91)	.0253 (0.57)	.0852 (1.80)
Widowed	-.0348 (1.77)	-.0266 (1.20)	-.0451 (2.26)	-.0462 (2.06)	-.2552 (12.59)	-.2605 (11.35)	-.0426 (1.74)	-.0044 (0.17)
Belgium	-.3270 (13.12)	-.3317 (11.44)	-.1187 (4.68)	-.1595 (5.43)	.2593 (10.15)	.2989 (9.93)	.1800 (5.80)	.1593 (4.74)
Bulgaria	.2122 (5.88)	.6864 (17.75)	.6647 (18.04)	1.0273 (26.01)	-.3157 (8.37)	.5173 (12.75)	-.4646 (10.36)	.4203 (8.82)
Croatia	-.1509 (4.19)	-.0566 (1.49)	.1982 (5.45)	.2246 (5.88)	.0765 (2.02)	.3013 (7.54)	.1426 (3.22)	.4676 (10.13)
Cyprus	-.8493 (16.54)	-.9129 (17.29)	-.3879 (7.66)	-.5087 (9.77)	.2896 (5.70)	.2481 (4.72)	1.0663 (16.89)	1.3438 (20.56)
Czech Republic	.1033 (3.02)	.1450 (4.03)	.3946 (11.57)	.3714 (10.34)	-.0144 (0.40)	.0914 (2.41)	.1454 (3.49)	.0384 (0.89)
East Germany	-.5925 (22.24)	-.5337 (16.83)	-.6807 (24.45)	-.6763 (20.46)	-.2950 (11.00)	-.1412 (4.39)	-.4160 (12.80)	-.2058 (5.79)
Estonia	1.1382 (31.82)	1.2831 (34.11)	1.2997 (35.81)	1.3702 (35.92)	.6421 (17.21)	.9339 (23.53)	.8317 (18.25)	1.2139 (25.58)
Finland	.4106 (16.93)	.2582 (9.17)	.6297 (25.52)	.4264 (14.87)	.6797 (26.72)	.5604 (18.76)	.4954 (15.92)	.4136 (12.26)
Greece	-.5529 (21.75)	-.5137 (17.23)	-.3399 (13.19)	-.3586 (11.89)	.0693 (2.64)	.3453 (11.20)	.0956 (2.97)	.2697 (7.71)
Hungary	.1444 (4.07)	.3748 (10.02)	.3728 (10.49)	.5062 (13.51)	.0314 (0.84)	.4611 (11.65)	.1077 (2.49)	.6243 (13.78)
Ireland	.6633 (26.36)	.5098 (17.30)	.9641 (38.02)	.7708 (26.02)	.8581 (33.18)	.7793 (25.53)	1.0534 (32.12)	.9904 (27.92)
Italy	-.0966 (3.85)	-.0024 (0.09)	.2124 (8.36)	.2693 (9.13)	.7019 (27.05)	.7908 (25.84)	.4969 (15.59)	.6210 (17.96)
Latvia	.3341 (9.48)	.5381 (14.48)	.9425 (26.76)	1.0672 (28.71)	.4124 (11.13)	.8205 (20.80)	.4771 (10.86)	.9836 (21.31)
Lithuania	.7039 (19.56)	.9195 (24.23)	1.4142 (38.46)	1.5498 (39.97)	.3486 (9.22)	.7629 (18.98)	.3308 (7.40)	.8426 (17.98)
Luxembourg	-.0392 (1.33)	-.1869 (5.36)	-.1065 (3.50)	-.2719 (7.57)	.3717 (12.26)	.2367 (6.50)	.4776 (13.07)	.3217 (8.07)
Malta	-.2176 (4.20)	-.2520 (4.74)	.1570 (3.04)	.0601 (1.14)	.3609 (6.83)	.3433 (6.35)	.5864 (9.66)	.6571 (10.61)
Netherlands	-.1666 (6.71)	-.3647 (12.52)	.2334 (9.30)	-.0006 (0.02)	.2141 (8.43)	.0308 (1.03)	.3388 (10.93)	.2403 (7.13)
Poland	.2184 (6.00)	.3241 (8.47)	.5216 (14.56)	.5540 (14.68)	.2721 (7.16)	.5026 (12.47)	-.1493 (3.37)	.1291 (2.80)
Portugal	-.4662 (18.09)	-.4349 (14.29)	-.3092 (11.79)	-.2527 (8.23)	-.2748 (10.36)	-.0419 (1.34)	.5516 (17.01)	.8370 (23.60)
Romania	.5398 (14.11)	.8658 (21.55)	.4709 (12.23)	.6939 (17.12)	.4295 (10.78)	1.0253 (24.31)	.6149 (13.07)	1.2583 (25.48)

(continued)

**Table 7.32** (continued)

	Economic situation		Employment situation		Life one year ahead		Life five years ahead	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Slovakia	-.1874 (5.36)	-.0076 (0.21)	.4146 (11.92)	.5137 (13.99)	-.1950 (5.36)	.1520 (3.95)	.0773 (1.32)	.1372 (2.29)
Slovenia	.0386 (1.08)	-.0115 (0.31)	.0443 (1.23)	-.0643 (1.71)	.1894 (5.15)	.1585 (4.08)	-.2430 (5.85)	.1741 (4.01)
Spain	.4554 (18.19)	.3578 (12.21)	.6354 (25.07)	.4992 (16.82)	.7092 (27.37)	.7410 (24.22)	.1905 (4.46)	.2488 (5.63)
Sweden	.3511 (14.17)	.2350 (8.14)	.5797 (23.18)	.4554 (15.64)	.9136 (35.52)	.7816 (25.80)	.8418 (26.37)	.8604 (24.84)
Turkey	.8676 (21.72)	.9566 (23.01)	.8859 (22.43)	.9024 (21.91)	.6698 (15.84)	.8543 (19.30)	.7608 (23.91)	.6430 (18.59)
Turkish Cyprus	1.2484 (24.82)	1.3015 (25.14)	1.3926 (27.75)	1.3765 (26.64)	1.0391 (19.32)	1.1983 (21.32)	.2221 (4.66)	.5001 (10.12)
West Germany	-.2751 (11.14)	-.2565 (8.93)	-.1166 (4.62)	-.1199 (4.09)	-.1441 (5.72)	-.0879 (2.97)	-.3021 (9.94)	-.2264 (6.88)
Cut1	-.4833	.5491	-.1550	.7494	-.23905	-.6778	-.3.7664	-.2.0448
Cut2	1.3971	2.4703	1.5584	2.4985	.4734	2.3522	-.1.4665	.35400
<i>N</i>	225,315	179,205	224,578	178,295	232,551	184,890	155,518	139,559
Pseudo <i>R</i> <sup>2</sup>	.0535	.0489	.0440	.0537	.0711	.1059	.0958	.1225

*Notes:* Excluded categories: "middle manager," "single," and "ALS < 16." *T*-statistics in parentheses. Ordered logits. Equations also include year dummies. Source for columns (1) through (6): Eurobarometer number 65.2 (2006), number 64.2 (2005), number 63.4 (2005), number 62.0 (2004), number 61.0 (2004),<sup>a</sup> number 60.1 (2003), number 58.1 (2002), number 56.2 (2001), number 54.1 (2000), number 52.0 (1999), number 50.0 (1998), number 48.0 (1997), number 46.0 (1996),<sup>a</sup> and number 44.1 (1995).<sup>a</sup> For columns (7) and (8): Eurobarometer number 65.2 (2006), number 63.4 (2005), number 62.0 (2004), number 61.0 (2004),<sup>a</sup> number 57.1 (2002), number 55.1 (2001), number 53.0 (2000), and number 47.1 (1997).  
<sup>a</sup> = does not include life satisfaction data in the survey.

are less pessimistic about the state of the economy, as well as, unsurprisingly, about how their life will proceed. These country rankings are consistent with the evidence from the 2002 ESS previously reported in table 7.14, where the respondents report on their current views on the economy, the government, and democracy.

Interestingly, respondents seem more optimistic about their own lives than they are about the economy or the employment situation in their country. For example, in the United Kingdom, respondents are twice as likely to report that they think their own situation will improve than to report that they think either the economic situation or the employment situation of the country will improve. Moreover, the trend in the former is up, while the trend in the latter is down. The proportion of U.K. respondents saying that the situation will be “better” for the economic and employment situations and their life in general over the next twelve months is set out in table 7.33. Annual percentage point changes in the unemployment and inflation rates are also shown. There is some evidence that respondents’ expectations about the wider economic and employment situation in the Eurobarometers are well correlated with actual ( $t + 1$ ) macro-outturns, as can be seen in table 7.34.

Figure 7.7, panel A plots the proportion of respondents in the Eurobarometers who say they expect the economic situation in the next twelve months in the United Kingdom to “improve” (inverted) against the changes in both the unemployment rate and the inflation rate. The responses to how the economic situation is expected to develop is also highly correlated with

**Table 7.33** Expectations twelve months ahead: U.K.

	Your life in general	Economic situation	Employment situation	Annual pp changes in		Economic situation	
				Unemployment	Inflation	GfK	MORI
1995	38	25	21	-1.0	0.6	-6.9	-17.5
1996	42	25	27	-0.5	-0.1	-3.6	-6.9
1997	39	29	33	-1.1	-0.7	8.3	7.3
1998	39	21	23	-0.9	-0.2	-6.9	-17.0
1999	36	25	31	-0.2	-0.3	-4.4	-5.3
2000	41	24	28	-0.5	-0.5	-10.8	-9.2
2001	46	21	23	-0.7	0.4	-14.8	-22.2
2002	46	16	19	0.3	0.1	-8.1	-22.8
2003	49	17	20	-0.2	0.1	-18.4	-28.3
2004	44	18	20	-0.2	-0.1	-12.9	-21.8
2005	44	18	20	-0.1	0.8	-11.8	-20.6
2006	43	21	21	0.7	0.2	-17.9	-28.3

*Source:* Columns (1) to (3): as in table 18. Columns (4) and (5): Office of National Statistics. Columns (6) and (7): MORI General Economic Optimism Index ([www.IPSOS-MORI.com](http://www.IPSOS-MORI.com)—economic optimism over the next twelve months), GfK NOP Consumer Confidence Survey. (Q4. How do you think the general economic situation in this country will develop over the next twelve months?)

*Note:* “pp” means “percentage point.”



**Table 7.34** Correlation matrix

	Correlation matrix: unemployment rate	Annual pp changes at time $t + 1$ in inflation
Economic situation	-0.70	-0.48
Employment situation	-0.65	-0.45

Note: “pp” means “percentage point.”

other surveys of economic confidence, such as the Growth from Knowledge Group (GfK) and Market and Opinion Research International Inc. (MORI) measures of general economic confidence for the coming twelve months, which use the same questions. The correlations are 0.73 and 0.85, respectively, as shown in figure 7.7, panel B. Macroeconomic variables appear to impact individual’s expectations about their own lives and what they expect to happen to the economy as a whole, as do their current levels of happiness.

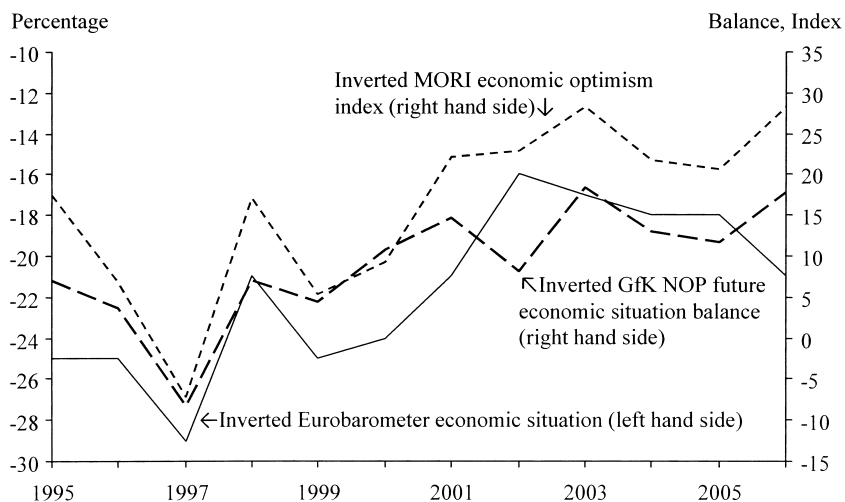
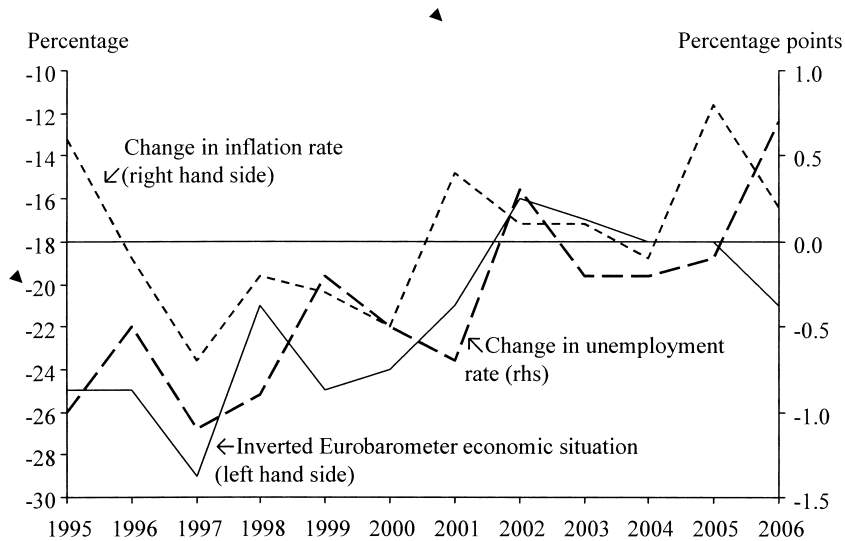
## 7.7 Conclusions

There are broadly consistent patterns in the SWB microdata, no matter what data file is used and no matter which country—perhaps excluding the poorest countries with low life expectancy. Results using data on well-being seem very similar to the results obtained from NTA—and potentially more stable, as sample sizes are often large. *Happiness* appears to be (a) U-shaped in age, (b) higher for the most educated, (c) higher for the better paid, (d) higher for nonminorities, (e) higher for the employed, and (f) higher for married people. Analogous results are found using self-reported unhappiness data. However, when such questions are asked in relation to the week prior to interview, the country rankings are quite different and seem more consistent with findings with the U-index that relate to fifteen-minute intervals.

Responses on blood pressure and pain appear to validate the happiness and life satisfaction data, as they are likely less subject to any cultural and language differences that might arise—for example, if the French are less emphatic when reporting their well-being. Happy people and happy countries seem to have fewer blood pressure and pain problems.

There are long consistent time runs of data available for macroeconomic analysis dating back to the early 1970s. Well-being across *nations* is correlated with the unemployment rate, the current inflation rate, and the highest inflation rate in a person’s adult life, as well as with GDP growth rates, especially in poorer countries. Happiness and life satisfaction data help to forecast economic patterns, including migration flows. Happy people are particularly optimistic about the prospects for the economy.

There are a number of SWB measures that can and already are being used as an NHI in one form or another. These seem to correlate strongly with other macro measures including the unemployment rate, the inflation



**Fig. 7.7 Proportion of U.K. Eurobarometer respondents saying the economic situation in twelve months will improve (inverted): A, The change in unemployment and inflation rates will improve; B, Compared with other measures of economic confidence.**

Source: Eurobarometers 1995 to 2006, MORI General Economic Optimism Index (www.IPSOS-MORI.com—economic optimism over the next twelve months), and the GfK NOP Consumer Confidence Survey (Q4. How do you think the general economic situation in this country will develop over the next twelve months?).

rate, and even the suicide rate. The simplest and most widely available SWB measure is apparently the 4-step life satisfaction index, which is already available in similar form through ongoing annual surveys for all EU countries collected by the E.U. Commission, as well as in most Latin American countries. The fact that so much harmonized cross-country data are already available of this type is the singular attraction for this one measure. The one country where suitable data are unavailable is the United States, although 3-step happiness data have been available for many years in the GSS, which is quite small in size and now only collected biannually.<sup>30</sup> I recommend that a 4-step life satisfaction plus a 3-step happiness question are included as soon as possible at regular intervals in one or more large national surveys in the United States, such as the Current Population Survey (CPS). The CPS is an obvious place to include these questions, as they could be asked on more than one occasion to the same individual—perhaps in the first and last rotation groups, which would permit panel data analysis to be done over time for the same individuals. Such work has been possible in the United Kingdom using the BHPS and in Germany using the GSOEP, but to my knowledge, it has not been possible in the United States. This needs to change.

Research on NTA appears to be an important complement to this work, but the 4-step life satisfaction NHI, in my view, should be its starting point. Obviously nations have different languages and cultures, and in principle, this may cause biases in happiness surveys. Krueger et al. have identified that there appears to be a bias when comparing results from France with those from the United States. They found that on average, the French spent their days in a more positive mood and spent more of their time engaged in activities that tend to yield more pleasure than did Americans. The Americans seem to be more emphatic when reporting their well-being. Despite this, there are considerable similarities between the findings from the U-index and those from happiness and life satisfaction data. We are all trying to get utility proxy data for the  $u$  in the conventional utility function  $u(y)$ , and in principle, this is complementary to normal economics, not a rival to it. Happiness data no doubt have weaknesses, but it seems unlikely that they contain no useful information. A standard equation structure has now been replicated hundreds of times in a large number of nations, so we need to get to the bottom of it. Plus, income comes in positive and concave, inflation and unemployment hurt, and so on; all this seems to make sense to economists. Thus there are interesting regularities in well-being data. Whatever they mean, and whatever criticisms one might have of such data, it seems worth the time of economists and others attempting to understand why these patterns exist. It is good scientifically if rather different subjective well-being measures give similar equation structures. They seem to.

30. The World Database of Happiness does report data on 4-step life satisfaction (see table 7.2) for the United States, drawn from a number of small Gallup polls for the years 1991, 1997, and 2002 to 2004.

A big question going forward is how to incorporate the findings from national time use with those from the subjective well-being literature. Of interest will be whether there are differences, for example, between countries who speak the same language, such as the United Kingdom, Australia, Canada, and New Zealand. Are there significant differences between the results obtained from NTA and SWB in other countries besides the United States and France? If happiness is U-shaped in age, to what extent is the time use of the young different from that of the old? What is it that makes people unhappy during middle-age? Nations have different languages and cultures, and in principle, that may cause biases—perhaps large ones—in happiness surveys. At this point in research on subjective well-being, the size of any bias is not known, and there is no accepted way to correct the data, but progress is being made. National Time Accounting and SWB appear to be complements rather than substitutes. There is still much work to be done.

## Appendix

**Table 7A.1** OLS happiness equations: 2003 EQLS

	Life satisfaction	Happiness
Household income (Euros)	.0001754 (11.72)	.0000915 (6.60)
Age	-.0475 (9.31)	-.0346 (7.33)
Age <sup>2</sup>	.0005 (11.50)	.0003 (8.08)
Male	-.1844 (6.41)	-.1525 (5.72)
16–19 years schooling	.1797 (4.61)	.1972 (5.46)
20+ years schooling	.2712 (6.21)	.2491 (6.15)
Still studying	.1016 (0.89)	.2236 (2.13)
No schooling	.2341 (1.31)	.0604 (0.36)
Self-employed	.2506 (1.98)	.0820 (0.70)
Manager	.4361 (3.55)	.2269 (2.00)
Other white collar	.2251 (1.86)	.0405 (0.36)
Manual worker	.1189 (1.01)	.0050 (0.05)
Home worker	.1785 (1.45)	.1114 (0.98)
Unemployed	-.6847 (5.49)	-.5874 (5.08)
Retired	.2864 (2.39)	.1786 (1.61)
Student	.5249 (3.33)	.2678 (1.84)
Very good health	-.3109 (6.05)	-.4164 (8.74)
Good health	-.7433 (14.94)	-.8651 (18.76)
Fair health	-1.3280 (24.70)	-1.5188 (30.50)
Poor health	-2.2910 (35.29)	-2.5683 (42.67)
Married/living together	.3389 (7.78)	.6240 (15.46)
Separated/divorced	-.2355 (3.99)	-.2292 (4.19)
Widowed	-.1400 (2.27)	-.1989 (3.48)
Constant	8.0087 (41.49)	8.7142 (48.12)

*Notes:* Equations also include twenty-seven country dummies. *T*-statistics are in parentheses.

**Table 7A.2 OLS coefficients by country from life satisfaction and happiness equations**

	Male	Age min.	ALS 16-19	ALS ≥ 20	Time	Married	Widowed	Self-employed	Student	Retired	Unemployed	N
Belgium	-.03	48	.03	.12	-.004	.15	-.12	-.05	.14	-.05	-.31	57,637
Denmark	-.06	44	.03	.10	.003	.14	-.04	-.03	.05	-.13	-.27	56,882
France	-.02	46	.10	.24	.005	.12	-.08	<sup>a</sup>	.33	.13	-.24	58,335
Germany	<sup>a</sup>	42	.02	.10	-.004	.11	-.04	.05	.12	-.05	-.52	85,631
Greece	-.01	56	.16	.28	<sup>a</sup>	.12	-.12	<sup>a</sup>	.29	<sup>a</sup>	-.21	47,801
Ireland	-.09	37	.14	.27	<sup>a</sup>	.12	-.07	.04	.22	-.04	-.55	55,839
Italy	<sup>a</sup>	56	.09	.12	.011	.15	-.07	.03	.13	<sup>a</sup>	-.39	59,032
Luxembourg	-.04	41	.06	.11	.003	.15	-.08	<sup>a</sup>	.12	<sup>a</sup>	-.41	23,297
Netherlands	-.08	46	.07	.12	.001	.16	-.16	<sup>a</sup>	.10	-.04	-.37	56,710
Portugal	.04	62	.08	.15	-.003	.05	-.12	.08	.16	-.04	-.29	38,354
Spain	-.02	51	.04	.11	.006	.11	-.11	.03	.11	<sup>a</sup>	-.27	38,969
Sweden	-.02	49	.06	.08	.019	.17	<sup>a</sup>	.01	<sup>a</sup>	-.09	-.25	18,427
U.K.	-.06	38	.10	.19	.002	.14	-.08	<sup>a</sup>	.18	-.07	-.40	76,346
Europe	-.03	46	.08	.16	.001	.11	-.10	.01	.17	-.05	-.37	768,993
U.S.	-.04	41	.09	.19	<sup>a</sup>	.28	<sup>a</sup>	.05	.17	<sup>a</sup>	-.23	46,035

Source: Eurobarometers and GSS 2006. OLS, dependent variable is 4-step life satisfaction and 3-step happiness in the United States. Excluded categories are "single," and "ALS < 15 years." Also includes dummies for home workers and those who are divorced. Data for the United States are from 1972 to 2006 (excluding 1979, 1981, 1992, 1995, 1997, 1999, 2001, 2003, and 2005), and data for Europe are from the Eurobarometers from 1973 to 2006 (excluding 1974 and 1996). Data for Greece are from 1981 to 2006; for Spain and Portugal are from 1985 to 2006; and for Sweden and Finland are from 1995 to 2006 (all excluding 1996). Age minimum calculated from the always highly significant age and age squared coefficients. Europe also includes Austria (1995 to 1995), Czech Republic, Hungary, Poland, Slovakia, Slovenia, Bulgaria, Romania, Croatia, Turkey, and Estonia (all 2004 to 2006), plus Norway (1990 to 1995), and includes country dummies for each.

<sup>a</sup>Means *t*-statistic < 2.

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