

# **Happiness and Well-Being Across Nations**

## **READING NOTE**

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**New Perspectives on Job Satisfaction and Well-Being**

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### [SLIDE 3]

“...I should say, like some we have heard of, no, a dreary, desolate, and indeed, quite abject and distressing one, what we might call, by way of eminence, the *dismal science*” Thomas Carlyle, 1849

U.S. Declaration of Independence, July 4, 1776.

"We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable rights, that among these are life, liberty and the pursuit of happiness."

I have been asked to give the opening keynote address today at this very interesting conference on job satisfaction and wellbeing. I remember giving a paper at a happiness conference at LSE some years ago when there was much less interest in the topic, particularly from politicians and the media. Not so today.

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Despite what Thomas Carlyle said when he was arguing that slavery was morally superior to allowing the market to work, economics is no longer the *dismal science*. A growing body of literature in the economics of happiness has emerged. It is now fashionable to try to understand the pursuit of happiness. According to Krueger and Schkade (2006), since 2000, 157 papers and books have been published using data on life satisfaction and subjective well-being.

Anyway, I came to the topics of happiness and well-being as a labour economist who had mostly worked on wages, and who early on – as a PhD student working at the Department of Employment at Steel House in Tothill Street just down the road – was struck by the stability of the Mincerian earnings function across time and space. The basic structure of a log earnings equation, no matter what data set was used and what country it is estimated for, has a similar structure. Sadly Jacob Mincer died recently before he could receive what I view as a well deserved Nobel prize. It turns out that there are patterns in the well-being data.

I am struck by the fact that there is a great deal of stability in happiness and life satisfaction equations, no matter what country we look at, what dataset or time period, whether the question relates to life satisfaction or happiness and how the responses are coded whether in three, four, five or even as many as ten categories.

In general economists have focussed on modelling two fairly simple questions, one on life satisfaction and one on happiness and that is what I have done in my research, mostly with Andrew Oswald at the University of Warwick, but also with David Bell at the University of Stirling. Typical questions are as follows.

### [SLIDE 5]

1) Happiness – (e.g. from the General Social Survey)

*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?*

## 2) Life satisfaction – from the Eurobarometer Surveys

*On the whole, are you very satisfied, fairly satisfied, not very satisfied, or not at all satisfied with the life you lead?*

Economists have had longstanding reservations about the reliability of interpersonal comparisons of well-being. Krueger and Schkade (2006) have examined the persistence of individual's responses to well-being questions over a two week period. They concluded that the test-retest correlations were reasonably high and "are probably sufficiently high to support much of the research that is currently being undertaken on subjective well-being, particularly where group means are being compared."

One definition of happiness is the degree to which an individual judges the overall quality of his or her life as favourable. Psychologists view it as natural that a concept such as happiness should be studied in part by asking people how they feel.

As a validation of the answers to recorded happiness levels, it turns out that answers to happiness and life satisfaction questions are correlated with:

### **[SLIDE 6]**

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.

### **[SLIDE 7]**

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 obicularus orus facial muscles fire, and human beings identify these as 'genuine' smiles).

### **[SLIDE 8]**

7. Skin-resistance measures of response to stress
8. Electroencephelogram measures of prefrontal brain activity.

**[SLIDE 9]**

**Most people are happy.**

**[SLIDE 10]**

In the USA in 2004 only 13% of people in the GSS said they were not very happy, 55% were pretty happy and 32% very happy. In the *Eurobarometers* for the EU in 2001, 2% said they were not at all satisfied, while 10% were not very satisfied, 54% fairly satisfied and 33% very satisfied.

Mean happiness and life satisfaction scores for European countries are presented in Table 1. The data are from the European Quality of Life Survey, 2003, Table 1 results are based on scores from 1-10. Denmark is highest and Bulgaria is lowest on both measures. The rankings are similar no matter if happiness or life satisfaction are used.

Table 1 suggests there is no obvious relationship with suicide rates. Note also that the UK suicide rate is low by international standards at 6.9/100000 compared with 10.7 for the US, 17.6 in France and 42.1 in Lithuania.

Table 2 presents happiness and job satisfaction scores from the *International Social Survey Programme 2002*, covering many countries, both developed and developing, and from Europe and elsewhere, including the USA. Job satisfaction scores from the European Quality of Life Survey are also presented. The scores in columns 1 & 2 are from 1-7, and column 3 from 1-10. Happiness and job satisfaction in Table 2 are highest in Mexico, surprisingly, and lowest in Bulgaria. Job satisfaction using the EQLS data is highest in Denmark and lowest in Turkey.

By now the standard econometric approach is to estimate an ordered logit or an OLS with the coding such that the higher the number the more satisfied an individual is. 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 (Table 3).

As I alluded to earlier, there are a number of consistent patterns in the data across countries and through time. There are fewer consistent patterns in the job satisfaction data; that literature has fewer exogenous variables than are present in the wellbeing data. The main findings from happiness equations are as follows (Blanchflower and Oswald, 2004a, 2006e).

**[SLIDE 11]**

**Happiness across countries is higher among:**

**[SLIDE 12]**

Women  
Married people  
The highly educated

The healthy  
Those with high income  
The young and the old – U-shaped in age  
The self-employed (Blanchflower, 2004),

**[SLIDE 13]**

**Happiness is low among:**

**[SLIDE 14]**

Newly divorced and separated people  
Adults in their mid to late 40s  
The unemployed and the disabled  
Immigrants and minorities  
Those in poor health  
Commuters

**[SLIDE 15/16]**

Wellbeing is correlated with life events such as being unemployed or being married.

**[SLIDE 17]**

There is also evidence that well-being is U-shaped over the life cycle in the USA and Europe, minimizing in the late forties for both men and women, even after controlling for cohort effects (for males the minimum is 49.5 and 45.1 for women in the USA and 44.1 and 42.6 for Europe respectively). Why is happiness U-shaped over the life cycle?

- a) Individuals learn to adapt to their weaknesses and in mid-life quell their infeasible aspirations.
- b) Inherently cheerful people live longer maybe?
- c) A comparison process may be at work – I have seen my school friends die and I count my blessings (Blanchflower and Oswald, 2006e)

There is also evidence that current levels of happiness are impacted by what happened to you as a child. That is true even for older people. Oswald and I have found evidence that parental divorce, death and parental quarrelling lower happiness many years later (Blanchflower and Oswald, 2006b, 2006c). We also find some evidence that parents who divorce but didn't quarrel have the biggest negative impact. This presumably is because divorce in such circumstances comes as a surprise to the children.

**[SLIDE 18]**

*What about money?*

**[SLIDE 19]**

The data shows that richer people are happier and healthier. Jonathan Gardner and Andrew Oswald (2007) have found that Britons who receive lottery wins of between £1000 and £120,000 go on to exhibit better psychological health. But individuals are less happy if their incomes are far above those of the poorest people (Blanchflower and Oswald, 2004a). People, however, do appear to compare themselves more with well-off families, so that perhaps they get happier the closer their income comes to that of rich people around them. Relative income certainly appears to matter.

**[SLIDE 20]**

We have tried to evaluate the value in money terms of various non-economic outcomes such as marriage and found that it would take a lot of money to compensate for a lasting marriage. The money value of events like unemployment and divorce are large (Blanchflower and Oswald, 2004a, 2004b). The relation between measures of well-being and income is actually quite weak.

Kahneman et al (2006) have argued that subjective well-being is connected to how people spend their time. People with higher income tend to devote relatively more of their time to work. "On balance the activities that high income individuals spend relatively more of their time engaged in are associated with no greater happiness, on average, but with slightly higher tension and stress".

In Blanchflower and Oswald (2000a) we found that when asked whether they would like to spend more time with their family 46% of workers in the US and 36% in Britain replied in the affirmative. This compared with 26% in Denmark, 18% in the Netherlands and 9% in Japan.

**[SLIDE 21]**

USA	46%	New Zealand	26%
Great Britain	36%	Switzerland	23%
Sweden	32%	Italy	21%
Norway	27%	Netherlands	18%
Denmark	26%	Japan	9%
Canada	26%	Spain	8%

**[SLIDE 22]**

*What about happiness in whole countries?*

**[SLIDE 23/24]**

Happiness is negatively correlated with unemployment (Figure 1)

**[SLIDE 25/26]**

and inflation (Figure 2). DiTella, McCullough and Oswald (2001) show that people are happier when inflation and unemployment are low. They find that unemployment depresses well-being more than does inflation.

Wolfers (2003) has shown that greater macro volatility undermines wellbeing. Wolfers has found that eliminating unemployment volatility would raise wellbeing by an amount roughly equal to that from lowering the average level of unemployment by a quarter of a percent. Interestingly the effects of inflation volatility on well-being was smaller.

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It also appears that happiness is positively correlated with GDP growth (Figure 3). When a nation is poor it appears that extra riches raises happiness.

**[SLIDE 28/29]**

We can look at a scatter plot across nations of life satisfaction scores from the World Values Survey of 1995-97 and GDP per capita for 2002 taken from Wolfers and Leigh (2006). However, growth in income in richer countries is not correlated with growth in happiness (Figure 4). This is the Easterlin hypothesis (Easterlin, 1974) and is illustrated in the figure, which uses data from the 1995/2000 World Values Survey; the slope of the function for western countries is approximately horizontal.

There is evidence that for poorer countries that both happiness and life satisfaction have trended up over time.

**[SLIDE 30/31]**

An examination of data from the World Database of Happiness ([http://www1.eur.nl/fsw/happiness/hap\\_nat/nat\\_fp.htm](http://www1.eur.nl/fsw/happiness/hap_nat/nat_fp.htm)) suggests that this is especially true recently in South America between 1997 and 2004<sup>1</sup>

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<sup>1</sup> Life satisfaction on a 4 point scale is

	1997	2004
Argentina	2.14	2.92
Bolivia	1.97	2.40
Brazil	2.38	2.67
Chile	2.32	2.80
Columbia	2.50	3.14
Mexico	2.61	2.96
Uruguay	2.40	2.73
Venezuela	2.45	3.26

**[SLIDE 32]**

and in Eastern Europe since 2001.<sup>2</sup> Hungary is the main exception.

For the major countries, however, there seems to be little evidence that happiness or life satisfaction have trended up over time.

**[SLIDE 33/34]**

That is true in the raw happiness data for the United States, as we showed in Blanchflower and Oswald (2004a).

**[SLIDE 35]**

As can be seen from Figure 5, average happiness levels for the US are flat, while real GDP per capita has risen.

**[SLIDE 36]**

Wellbeing is flat through time in the other rich countries too,

**[SLIDE 37]**

as can be seen from Figure 6 for France, West Germany, Netherlands and the UK.

**[SLIDE 38]**

In the USA both job satisfaction (scale 1-4) and happiness (scale 1-3) in Figure 7 – (which re-plots the happiness data from Figure 5) have been flat since 1972.

**[SLIDE 39]**

Real income levels in the USA have risen six-fold over 100 years, but the suicide rate was the same in 2005 as 1900 (at 10/100,000 people).

There is some consistent evidence though that the wellbeing of the young (<30) has risen over time in both the USA and Europe (Blanchflower and Oswald, 2000b). The rise is mostly among the unmarried.

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<sup>2</sup> Life satisfaction on a 4 point scale is

	2001	2004
Czech Republic	2.14	2.92
Hungary	2.54	2.52
Latvia	2.54	2.64
Lithuania	2.29	2.52
Poland	2.65	2.78
Romania	2.12	2.38
Slovakia	2.48	2.65
Slovenia	3.04	3.10

**[SLIDE 40/41]**

We found that this upward trend is not explained by changing education or work, falling discrimination or rise of youth-oriented consumer goods.

**[SLIDE 42]**

What, exactly, goes wrong when a wealthy country gets richer? We are not certain, but possible explanations include:

**[SLIDE 43]**

- a) Social comparisons (you compare your 3 BMWs to people with 3 BMWs)
- b) Habituation: people adapt to money
- c) Mistaken choices (long commutes and working hours).

People draw comparisons between their income and those of others. Jen is happy as she compares herself to her neighbours, and as she makes more money that makes her happier.

**[SLIDE 44]**

If Brad's income is lower than that of his neighbours, Brad is unhappy – even though he has the same income as Jen. Erzo Luttmer (2005), for example, found that an increase in neighbour's earnings and a similarly sized decrease in own income each have roughly the same effects on well-being. Relative income matters.

*Cross-country rankings of happiness*

There is a consistent structure to happiness and life satisfaction scores across countries and across various datasets. The northern European countries – especially the Danes, but not the Scots – have generally higher happiness and life satisfaction scores than residents of Southern Europe, especially Italy, Greece and Turkey.

**[SLIDE 45]**

Residents of former Eastern bloc countries have low happiness scores (Blanchflower, 2001), but are they less happy?

**[SLIDE 46]**

This begs the question, whether such comparisons are meaningful given language and cultural differences? I believe they are.

One way to overcome this in a simple way is to compare countries where the same language is spoken - Australia, Canada, New Zealand, UK, USA (as we did in Blanchflower and Oswald, 2005, 2006a). In those papers we argued that Australia's

high ranking on the HDI measure was a paradox given its much lower ranking on happiness and job satisfaction scores. Wolfers and Leigh (2006) disagreed.

Another way is to look for some other objective criteria. A recent paper by Banks, Marmot, Oldfield and Smith (2006) argued that Americans are less healthy than Europeans; differences in blood pressure form part of the author's evidence.

#### **[SLIDE 47]**

We found that happier nations report systematically lower levels of hypertension (Blanchflower and Oswald, 2006c, 2006d). Happiness and blood pressure are negatively correlated across countries ( $r=-.6$ ). This seems to represent a first step toward the validation of cross-country estimates. Denmark has the lowest reported levels of high blood pressure in our data. Denmark also has the highest happiness levels. Portugal has the highest reported blood pressure levels and the lowest levels of life satisfaction and happiness.

It does seem meaningful to do cross-country comparisons. It appears there is a case to take more seriously the subjective 'happiness' measurements made across countries.

#### Further analysis of well-being in the United Kingdom

Finally, I now turn to examine the evidence on happiness, wellbeing and mental ill-health for the UK. In turn I examine the following

#### **[SLIDE 48]**

- 1) Happiness and life satisfaction
- 2) Job satisfaction
- 3) Stress
- 4) General health
- 5) Psychological distress
- 6) Suicide.

##### *1) Life satisfaction and happiness*

###### *a) Life satisfaction*

As noted earlier, there are now a host of datasets that ask comparable happiness and/or life satisfaction questions across a host of countries, including, since 2000, European Social Surveys, 2001 and 2003; the European Quality of Life Survey; Eurobarometer Trend file 1972-2004 along with Eurobarometers for individual years; plus the International Social Survey, 2002.

The evidence from these data sets, whether based on the raw means or on country dummies extracted from a happiness equation which includes various controls, suggests that the UK is in the middle of the pack.

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Generally the UK is lower ranked than Austria, Denmark, Ireland, Japan, Luxembourg, Netherlands, New Zealand, Sweden, Switzerland and the USA.

**[SLIDE 50]**

The UK usually ranks higher than Former Soviet bloc countries (Blanchflower, 2001), Belgium, France, Portugal, Spain, Italy and Germany.

In comparison with 16 major countries, the UK ranks somewhat lower on the Human Development Index published by the World Bank (Blanchflower and Oswald, 2005, 2006a). Published every year by the United Nations, the HDI is a score that amalgamates three indicators: lifespan, educational attainment and adjusted real income. The HDI, however, is a mechanical criterion. It does not capture the contentment or psychological state of individuals or even the level of activity in the economy such as the unemployment rate. There are grounds for believing that it should.

	Happiness	HDI
UK	6	11
Australia	7	3
Austria	1	14
Denmark	9	15
Finland	15	11
France	14	16
Germany	17	21
Ireland	8	4
Japan	4	7
Netherlands	11	10
New Zealand	5	20
Norway	10	1
Portugal	16	28
Spain	13	19
Sweden	12	5
Switzerland	3	9
United States	2	8

Source: ISSP 2002 and Human Development Report, World Bank 2006

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In terms of time series movements in life satisfaction in the UK – mean scores from the Eurobarometers are little changed since 1973, although there has recently been an up-tick.

1973	3.15
1978	3.16
1988	3.21
1998	3.16
2000	3.14
2002	3.17
2004	3.24

### b) Happiness

There is also a little evidence on recent trends in happiness. Data are available on a four point happiness scale from Fogarty (1985) from the European Value Study conducted in Britain in 1981, the World Values Survey of 1990, and a poll conducted by GFK/NORI for BBC programme aired in 2005 (1=not at all happy, 2=not very happy, 3=quite happy, 4=very happy). The 1981 mean was 3.34 compared with a 1990 mean of 3.28 and 3.24 in 2005 (Source: World database on happiness <http://www1.eur.nl/fsw/happiness/>). Happiness in the UK also appears to be flat over time.

### 2) Job satisfaction

#### [SLIDE 52]

Interestingly, the UK's ranking on job satisfaction is also in the centre of the group. Indeed, evidence by Francis Green and Nicholas Tsitsianis (2006) using the BHPS suggests that *job satisfaction* in the UK (and Germany) fell from 1992-2002 although more recent data a slight rise in levels which suggest the longer run trend is fairly flat. Green and Tsitsianis also produce evidence that trends in the Netherlands, Finland, Belgium, Austria, Denmark, France, Spain, Italy, Portugal and Greece are all approximately flat, which is consistent with the evidence presented earlier on happiness and life satisfaction.

On job satisfaction,

#### [SLIDE 53]

the UK (Table 5) generally ranks below nine of the ten countries it also ranked below on happiness: Austria, Denmark, Ireland, Luxembourg, Netherlands, New Zealand, Sweden, Switzerland and the United States. The one major exception is Japan.

### 3) Stress

#### [SLIDE 54]

Stress as measured by the GHQ score in the British Household Panel Study (BHPS) increased between 1992 and 2000, but declined subsequently (Figure 8).

#### [SLIDE 55]

It is considerably higher than it was in the early 1990s.

1991	10.77
1997	11.25
2000	11.37
2001	11.31
2002	11.17

2004 11.16

4) *General health*

**[SLIDE 56]**

Self-perceptions of health have remained roughly constant since 1977 (GHS).

	Good	Fairly Good	Not good
1977	58	30	12
1987	60	28	12
1995	60	26	14
1998	60	27	14
2001	59	27	14
2003	59	27	14

Source: General Household Survey, 1977-2003 and [www.statistics.gov.uk/StatBase/Expodata/Spreadsheet/D8779.xls](http://www.statistics.gov.uk/StatBase/Expodata/Spreadsheet/D8779.xls)

Having said that, the percentage of *employees* who say they have had health problems for more than 12 months has been increasing (LFS) (Figure 9).

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More than 22% of employees had health problems lasting over a year in 2006, up from 19% in 2000.

5) *Psychological distress*

There is a good deal of evidence to suggest that there has been an increase in psychological distress in the UK over time. Indeed, in the National Psychiatric Morbidity Study one in six adults was diagnosed with a neurotic disorder. What is the evidence?

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a) Amanda Sacker and Richard Wiggins analysed the National Child Development Study and the British Cohort Study cohorts, who were born in 1958 and 1970 respectively and found that the risk of psychological distress (measured by the malaise index) was fairly stable over the period 1981-1990. However, the risk increased over the period 1991-2000. The more recently born BCS70 cohort had significantly raised odds of psychological distress compared with the NCDS cohort.

b) Singleton et al (2000, Table 3.1) reported an increase in the prevalence of neurotic disorders in Great Britain between 1993 and 2000 in their study of psychiatric morbidity among adults living in private households. Only the results that are significant at the 95% level are reported:

- |                  |             |             |
|------------------|-------------|-------------|
|                  | <b>1993</b> | <b>2000</b> |
| • Sleep problems | 25          | 29*         |

• Depression	10	12*
• Concentration & forgetfulness	8	10*
• Depressive ideas	9	10*
• Worry about physical health	5	7*
• Obsessions	9	6*
• Compulsions	6	3*

Sleep problems and depression, depressive ideas, concentration and forgetfulness along with worry about physical health have increased. Interestingly, more serious disorders such as obsessions and compulsions have declined. A follow-up survey in 2001 showed that half of people with neurotic disorders had not recovered 18 months later.

Looking solely at employees, a study of LFS data by the DTI suggests that the percentage of workers with health problems, including depression, has been steadily increasing over the past decade (Figure 10).

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In 2006, nearly 22% of employees had some form of health problem, up from less than 16% in 1998. The proportion of employees with depression has risen from 0.4% to 0.7% over the same period.

**[SLIDE 60]**

c) The number of prescription items for anti-depressant drugs has *increased* from 9 million in 1991 to 27.7 million in 2003 (source: Department of Health and Social Trends, 36).

d) Treatments for mental disorders increased in the 1990s (rates/1000 patients).

**[SLIDE 61]**

	Depression		Anxiety	
	Men	Women	Men	Women
1994	19.9	50.5	17.8	41.7
1996	25.0	60.8	20.9	47.4
1998	29.0	70.1	23.8	54.4

Source: Bajekal et al (2006) Table 9.13.

e) The number of individuals receiving *Disability Living Allowance* (DLA) because of mental health causes has increased. Out of 407,000 receiving Disability Living Allowance in Feb 2005 15.2% were because of ‘mental health causes’. However, 23.2% of new awards of DLA in year to Feb 2005 were a result of this reason (source: Disability Living Allowance Quarterly Statistics, February 2005, Department of Work and Pensions, Table 2.5).

**[SLIDE 62]**

f) The proportion of the working population in the Labour Force Survey that self-report suffering from ‘depression, bad nerves or anxiety’ has increased.

	UK	Scotland
1998	0.93%	1.33%
2000	1.08%	1.34%
2002	1.40%	1.92%
2004	1.65%	2.03%
2006Q1&2	1.66%	2.19%

The proportion in Scotland in this category is especially high

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g) Figures 11 a & 11 b, for men and women respectively suggest that the probability of reporting depression, bad nerves and anxiety rises with age to reach a maximum in the mid 40s. This is the exact mirror image of our finding of a U-shape in age in happiness which also minimises in the mid 40s.

6) It is slightly puzzling then to see a decline in suicide rates (per 100,000 population, both sexes) after peaking in 1998. Below I report age standardised three year rolling averages (Source: Brock et al, 2006).

**[SLIDE 65]**

	UK	Scotland
1991-1993	20.7	29.1
1994-1996	19.2	32.6
1996-1998	19.5	31.2
1998-2000	20.8	32.8
2000-2002	19.4	32.4
2002-2004	18.3	30.0

Suicide rates in the UK are now lower than they were in the early 1990s.

Legislation which came into force in September 1998 restricted the number of tablets per packet of paracetamol and other non-opiate analgesics. Strikingly Keith Hawton of the University of Oxford and co-authors have shown that suicide deaths from paracetamol and aspirin fell by 22% in the first year and persisted in the next two years after this legislation was implemented. Liver unit admissions and liver transplants for paracetamol induced liver damage are down 30% in four years

*Scotland*

We should note here though that the suicide capital of the UK is Scotland.

## **[SLIDE 66]**

All ten suicide ‘hotspots’ in the UK are in Scotland. The highest suicide rates for men are in the Shetland Isles; Eilean Siar (Western Isles) and the Scottish Highlands. There are also high rates for men in other more rural areas West Dunbartonshire (5); East Ayrshire (6); Clackmannanshire (7); Moray (9); North Ayrshire (10); Inverclyde (14); Renfrewshire (15); Dumfries and Galloway (17); Scottish Borders (19). This finding is not obviously driven by deprivation although there is stronger evidence of that for females and for the rest of the UK.

As I noted a few moments ago, a relatively high proportion of individuals in the LFS who reside in Scotland report suffering from ‘depression, bad nerves or anxiety’. Within the UK there is also evidence that the Scots are especially unhappy – hence the title of my paper with David Bell – ‘The Scots may be brave, but they are neither healthy nor happy’ (Bell and Blanchflower, 2007)

Note also that Scotland has high levels of blood pressure and drug dependency. The Scots also have high rates of obesity, diabetes, accidental death, liver disease, coronary heart disease, lung cancer, asthma and multiple sclerosis. It turns out that multiple sclerosis is positively correlated with latitude.

## **Conclusions**

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To sum up then, given our current real income levels, growth is not making the industrialized nations happier. Happiness and job satisfaction levels have not risen over time. Measures of psychological distress, however, are on the rise. Approximately one in six adults in the UK now has a neurotic disorder. Policy in the coming century will likely need to concentrate more on non-materialistic goals. Layard (2005), Helliwell (2006) and Vemuri and Constanza (2006) and others have made a case for taking wellbeing data more seriously in welfare evaluation. Ed Diener and Martin Seligman (2004) and Nobel Laureate Daniel Kahneman have called for establishing a kind of National Wellbeing Index. It is conceivable that in the future more attention will have to be paid to health and well-being .

## **[SLIDE 68]**

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**Table 1: Life satisfaction and happiness, by country (ranked by life satisfaction)**

Country	Life satisfaction mean	Happiness mean	Suicide rate
Denmark	8.4	8.3	13.6
Finland	8.1	8.1	20.6
Austria	7.8	7.9	17.9
Sweden	7.8	7.9	13.4
Ireland	7.7	8.1	12.7
Luxembourg	7.7	8.0	10.9
Belgium	7.5	7.7	21.1
Netherlands	7.5	7.7	9.2
Spain	7.5	7.8	8.2
United Kingdom	7.3	7.7	6.9
Malta	7.3	7.9	5.0
Germany	7.2	7.6	13.5
Italy	7.2	7.5	7.1
Cyprus	7.2	7.8	n/a
Slovenia	7.0	7.4	28.1
France	6.9	7.3	17.6
Greece	6.8	7.6	2.9
Czech Republic	6.5	7.2	16.9
Poland	6.2	6.9	15.5
Romania	6.2	7.2	14.1
Portugal	6.0	6.8	11.7
Estonia	5.9	6.8	27.3
Hungary	5.9	7.1	27.7
Slovakia	5.7	6.5	13.3
Turkey	5.6	6.5	n/a
Latvia	5.5	6.4	26.0
Lithuania	5.4	6.4	42.1
Bulgaria	4.4	5.9	14.0
EU15	7.3	7.6	
EU25	7.1	7.5	
NMS	6.1	6.9	
CC3	5.6	6.6	
USA			10.7
Canada			11.9
Australia			12.7
New Zealand			11.9

Question 31: All things considered, how satisfied would you say you are with your life these days? Scale from 1 'very dissatisfied', to 10 'very satisfied.'

Question 42: Taking all things together on a scale of one to 10, how happy would you say you are? Here one means very unhappy and 10 means you are very happy

NMS – 10 new member states joined \May 2004

CC3 – 3 candidate countries Bulgaria, Romania and Turkey.

Source: European Quality of Life Survey, 2003 and World Health Organisation

[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)

**Table 2. Mean happiness, and job satisfaction scores**

	Happiness (ISSP)	Job satisfaction (ISSP)	Job satisfaction (EQLS)
Australia	5.39	5.04	
Austria	5.54	5.51	7.73
Belgium			7.81
Brazil	5.42	5.11	
Bulgaria	4.53	4.75	6.46
Cyprus	5.29	5.36	7.16
Czech Republic	5.03	4.92	7.02
Denmark	5.35	5.42	8.16
Estonia			6.85
Finland	5.26	5.12	7.96
Flanders	5.20	5.22	
France	5.26	5.07	6.94
Germany			7.93
Germany East	5.02	5.14	
Germany West	5.17	5.27	
Great Britain	5.43	5.06	7.33
Hungary	4.99	5.11	7.06
Ireland	5.35	5.41	7.50
Italy			7.35
Israel Jews	5.32	5.19	
Japan	5.56	4.89	
Latvia	4.85	4.82	6.82
Mexico	5.58	5.80	
Malta			7.40
Netherlands	5.28	5.12	7.46
New Zealand	5.48	5.14	
Northern Ireland	5.56	5.31	
Norway	5.29	5.23	
Philippines	5.40	5.33	
Poland	4.97	4.94	6.81
Portugal	5.15	5.17	6.83
Republic of Chile	5.54	5.16	
Romania			7.44
Russia	4.83	4.89	
Slovak Republic	4.88	4.96	6.51
Slovenia	5.18	5.17	7.00
Spain	5.24	5.05	7.12
Sweden	5.24	5.17	7.61
Switzerland	5.51	5.61	
Taiwan	5.19	4.96	
Turkey			6.32
United States	5.52	5.34	
N	45,800	25,197	12,234

Source: columns 1 and 2 ISSP 2002 (scale 1-7) and Blanchflower, D.G. and A.J. Oswald (2005), "Happiness and the Human Development Index: The Paradox of Australia," *The Australian Economic Review*, Volume 38(3), September 2005, pp. 307-318(12). Column 3 source: European Quality of Life Survey (scale 1-10)

Notes: columns 2 and 3 workers only

**Table 3. Happiness and life satisfaction ordered logits for Europe**

	Happiness	Life satisfaction	Happiness	Life satisfaction	Life satisfaction
Age	-.0598 (22.91)	-.0529 (20.33)	-.0289 (6.63)	-.0357 (8.22)	-.0456 (48.11)
Age <sup>2</sup>	.0006 (23.61)	.0006 (22.90)	.0003 (7.52)	.0004 (10.92)	.0005 (47.25)
Male	-.1705 (12.10)	-.1697 (12.09)	-.1809 (7.42)	-.1799 (7.46)	-.1151 (19.82)
Austria	.0011 (0.03)	.4093 (10.16)	.1597 (1.97)	.4306 (5.32)	-.1831 (8.42)
Belgium	.1518 (3.67)	.3063 (7.46)	-.1521 (1.92)	.0338 (0.43)	-.2029 (16.98)
Bulgaria			-1.8039 (21.49)	-2.4595 (29.70)	
Cyprus			-.6098 (6.37)	-.5802 (6.08)	
Czech Republic	.4354 (10.90)	-.4207 (10.43)	-.5572 (6.83)	-.8559 (10.37)	
Denmark	.7407 (16.94)	1.3130 (29.99)	.3379 (4.10)	.9380 (11.33)	1.1342 (92.10)
Estonia	-.8286 (16.45)	-.6226 (12.56)	-.5989 (6.29)	-1.1248 (12.01)	
Finland	.5831 (14.68)	.8740 (22.13)	.5378 (6.72)	.8608 (10.75)	-.2550 (11.89)
France	-.0439 (0.78)	-.4027 (7.09)	-.6116 (7.78)	-.5399 (6.86)	-1.0161 (85.01)
Germany	-.2193 (5.84)	-.0266 (0.71)	-.0400 (0.50)	.0088 (0.11)	
West Germany					-.4389 (37.45)
East Germany					-1.1791 (75.58)
Greece	-1.0045 (25.22)	-.8740 (22.13)	-.5448 (6.68)	-.7760 (9.44)	-1.5554 (117.00)
Hungary	-.8202 (14.90)	-.8607 (15.96)	-.5069 (6.13)	-1.1352 (13.87)	
Ireland	.1825 (3.57)	.1848 (3.65)	.0434 (0.52)	.1063 (1.32)	.0558 (4.65)
Israel	-.3750 (7.46)	-.3925 (7.77)			
Italy	-.9874 (16.42)	-.1012 (1.68)	-.5110 (6.43)	-.3233 (4.09)	-1.1439 (94.91)
Latvia			-.9938 (11.99)	-1.2728 (15.55)	
Lithuania			-.9078 (10.91)	-1.4179 (17.38)	
Luxembourg	.4857 (10.73)	.9330 (20.71)	.1702 (1.80)	.3447 (3.61)	.2732 (17.01)
Malta			.0261 (0.27)	-.1533 (1.61)	
Netherlands	.1778 (3.85)	.4516 (9.86)	-.2349 (2.96)	.0941 (1.21)	.4935 (41.50)
Norway	.3132 (7.69)	.5584 (13.84)		.4589 (18.35)	
Poland	-.7857 (18.52)	-.6812 (16.18)	-.5517 (6.58)	-.7943 (9.59)	
Portugal	-.6582 (15.32)	-.8904 (20.92)	-.6388 (7.73)	-.9486 (11.61)	-1.4090 (101.65)
Romania			-.3571 (4.42)	-.8226 (10.07)	

Slovakia			-1.2699 (15.69)	-1.5501 (18.85)	
Slovenia	-.2860 (6.27)		-.3525 (3.78)	-.2645 (2.84)	
Spain	-.1326 (8.86)	.0434 (1.01)	-.0127 (0.16)	.0319 (0.40)	-.6537 (46.57)
Sweden	.3585 (8.86)	.7021 (17.53)	.0214 (0.26)	.3045 (3.74)	.3224 (14.93)
Switzerland	.4354 (10.90)	.8516 (21.35)			
Turkey			-1.1445 (13.31)	-1.4137 (16.35)	
Minority	-.2537 (7.04)	-.3162 (8.87)			
Immigrant	-.1536 (6.15)	-.1746 (7.02)			
Self-employed	.0376 (1.45)	.0720 (2.77)	.0539 (1.14)	.0644 (1.38)	.0266 (2.88)
Student	.0877 (2.96)	.1887 (6.37)	.1840 (1.94)	.3021 (3.18)	.2256 (10.21)
Unemployed looking	-.6810 (17.46)	-.9984 (25.52)	-.6504 (13.16)	-.8578 (17.60)	-.9842 (84.45)
Unemployed not looking	-.5236 (9.42)	-.6525 (11.65)			
Disabled	-.0245 (0.48)	-.1596 (3.17)			
Retired	.0975 (3.65)	.1508 (5.66)	.1349 (3.21)	.0367 (0.88)	-.0475 (4.59)
Community Service	.0785 (0.60)	.1681 (1.29)			
House work	.0901 (3.60)	.0884 (3.55)	.0407 (0.90)	-.0444 (0.99)	-.0277 (3.19)
Other Im status	-.0570 (0.97)	-.0717 (1.22)	.0399 (0.39)	-.0765 (0.78)	-.0281 (1.38)
Separated(/divorced)	-.9508 (17.60)	-.7946 (14.65)	-.9694 (24.11)	-.6735 (16.98)	-.9793 (40.91)
Divorce	-.6767 (25.19)	-.5378 (20.14)		-.8282 (57.66)	
Widowed	-.8851 (31.60)	-.5782 (20.81)	-.8713 (20.61)	-.5204 (12.45)	-.6204 (56.31)
Never Married	-.6242 (30.54)	-.4348 (21.36)	-.6857 (18.67)	-.4210 (11.63)	-.3413 (44.89)
Health good	-.6215 (35.89)	-.5988 (34.63)	-.6329 (14.81)	-.4178 (9.99)	
Health fair	-1.2010 (56.24)	-1.2003 (56.33)	-1.1999 (28.34)	-.9066 (22.02)	
Health bad	-2.0017 (58.85)	-2.0170 (59.90)	-1.8850 (40.12)	-1.4684 (32.21)	
Health very bad	-2.8267 (42.92)	-2.9138 (45.35)	-2.8970 (49.24)	-2.3429 (41.06)	
Years of schooling	.0126 (6.63)	.0156 (8.25)			
2004 dummy/time	-.0218 (1.50)	.0188 (1.30)			.0058 (15.17)
Schooling dummies	-	-	6	6	11
Cut_1	-7.9589	-6.4172	-7.3002	-6.0812	-4.6264
Cut_2	-7.2460	-5.8626	-6.6503	-5.4993	-2.9350

Cut_3	-6.4937	-5.2300	-5.9320	-4.8521	-0.319
Cut_4	-5.7414	-4.5334	-5.3140	-4.3350	
Cut_5	-5.1822	-4.0223	-4.1580	-3.1685	
Cut_6	-4.0914	-3.0940	-3.5160	-2.5633	
Cut_7	-3.5052	-2.580	-2.5517	-1.6523	
Cut_8	-2.5801	-1.7443	-1.1287	-.2729	
Cut_9	-1.1956	-.4255	-.1154	.6935	
Cut_10	.0475	.7120			
Pseudo R <sup>2</sup>	.0585	.0647	.0822	.0880	.0818
N	72,860	72,844	25,283	25,603	598,116

Notes: excluded categories: UK, health very good, married, employee. T-statistics in parentheses  
Columns 1 and 2, European Social Survey, 2002 & 2004.  
Columns 3 and 4. European Quality of Life Survey, 2003  
Column 5. Eurobarometers, 1972-2002

**Table 4. Happiness Ordered logits.**

Age	-.0703 (19.50)	Hungary	-.5937 (7.39)
Age <sup>2</sup>	.0006 (17.50)	Ireland	-.0303 (0.41)
Male	.0493 (2.56)	Israel Jews	-.2289 (2.94)
Widowed	-.9550 (24.70)	Japan	.2927 (3.67)
Divorced	-.9410 (24.79)	Latvia	-1.1849 (14.91)
Separated	-1.0734 (17.08)	Mexico	.5739 (7.55)
Single	-.7061 (26.42)	Netherlands	-.2255 (3.03)
Part-time worker	-.0263 (0.79)	New Zealand	.2672 (3.28)
Employed<part-time	-.0809 (1.14)	Northern Ireland	.6129 (7.63)
Helping family member	.0017 (0.01)	Norway	-.1849 (2.53)
Unemployed	-.5856 (14.10)	Philippines	.1290 (1.62)
Student	.1170 (2.53)	Poland	-.7831 (10.41)
Retired	-.0919 (2.61)	Portugal	-.3840 (4.83)
Housewife	-.0047 (0.14)	Republic of Chile	.4732 (6.43)
Disabled	-.5060 (7.23)	Russia	-1.0989 (15.46)
OLF	-.3200 (5.28)	Slovak Republic	-.9461 (12.17)
Lowest qualification	-.0100 (0.24)	Slovenia	-.4804 (6.17)
Above lowest	.1600 (3.75)	Spain	-.2662 (4.07)
Higher secondary	.2250 (5.30)	Sweden	-.2381 (3.02)
Above higher secondary	.2800 (6.17)	Switzerland	.3382 (4.33)
University degree	.3844 (8.53)	Taiwan	-.3835 (5.56)
Austria	.4134 (6.12)	United States	.4103 (5.37)
Brazil	.4423 (6.21)		
Bulgaria	-1.6117 (20.45)	Cut_1	-8.2572
Cyprus	-.0923 (1.15)	Cut_2	-6.7028
Czech Republic	-.7606 (10.11)	Cut_3	-5.2755
Denmark	-.1206 (1.59)	Cut_4	-3.7093
Finland	-.3441 (4.45)	Cut_5	-1.5908
Flanders	-.3725 (4.99)	Cut_6	.3909
France	-.3069 (4.44)		
Germany East	-.6619 (6.40)	Pseudo R <sup>2</sup>	.0457
Germany West	-.4331 (5.38)	N	44,468
Great Britain	.2300 (3.34)	Log likelihood	-59227

Source: ISSP 2002

Notes: excluded category Australia, married, full-time and no formal qualifications.  
Columns 5 and 6 are for workers only

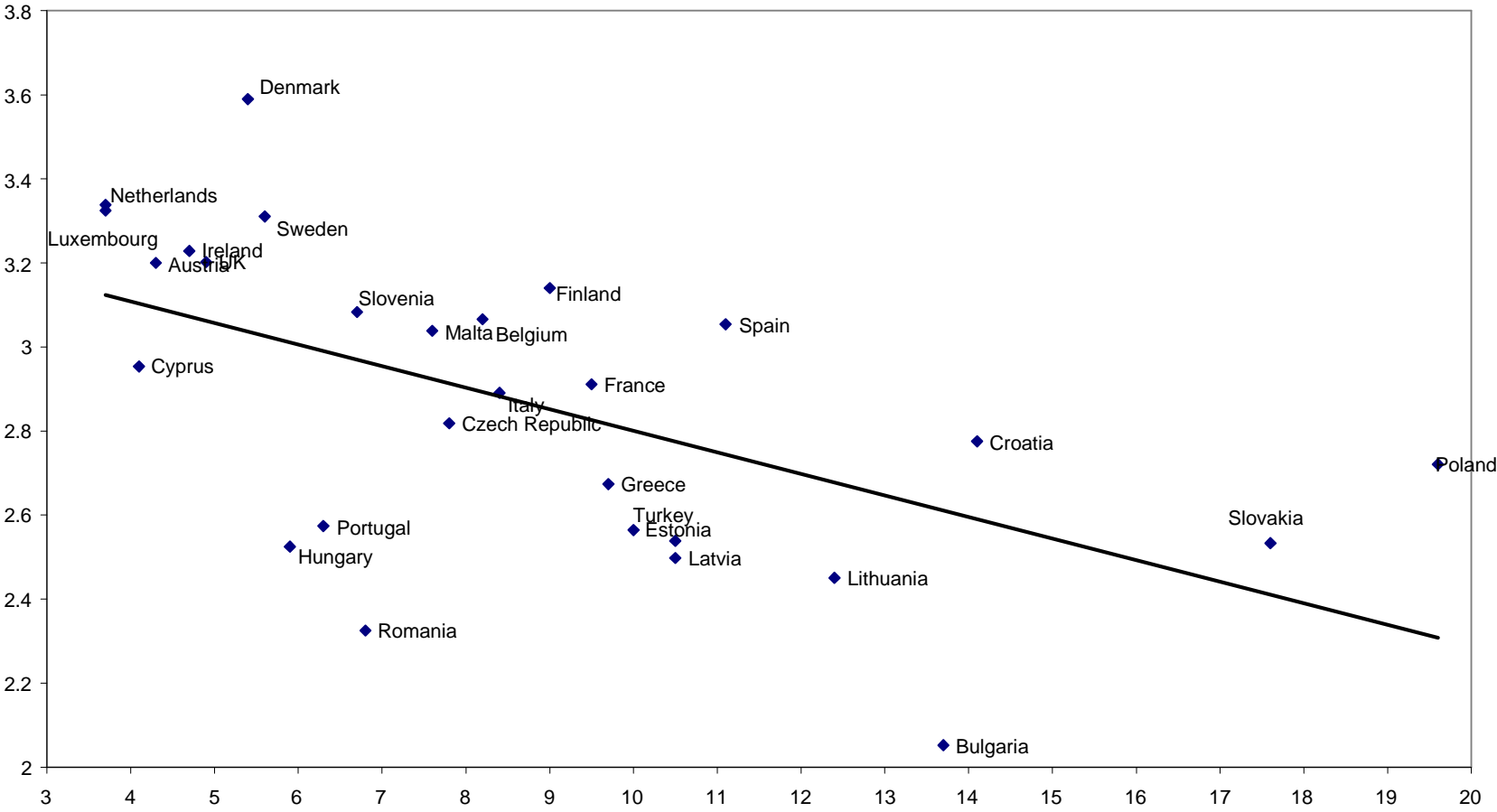
**Table 5. Job satisfaction around the world, 2001-2003 (workers only)**

	(1)	(2)	(3)
	2001	2002	2003
Age	.0149 (8.54)	.0071 (6.75)	.0089 (6.21)
Male	.0052 (0.13)	.0169 (0.68)	-.0402 (1.25)
Australia		-.1480 (1.77)	
Austria	.1587 (1.42)		.4492 (3.96)
Belgium	.0476 (0.44)		.3029 (2.68)
Bulgaria		-.7512 (7.26)	-.7047 (5.44)
Chile		.1828 (2.20)	
Cyprus		.5592 (6.80)	-.1160 (0.90)
Czech Republic		-.4646 (5.77)	-.2528 (2.19)
Denmark	.5931 (5.52)	.4838 (6.16)	.7633 (6.75)
East Germany	-.1826 (1.64)	-.0902 (0.68)	
Estonia			-.4209 (3.24)
Finland	-.2928 (2.63)	-.0876 (1.07)	.4494 (4.04)
Flanders		.0518 (0.64)	
France	-.5956 (5.48)	-.1530 (2.16)	-.3444 (3.15)
Germany			.5689 (4.69)
Greece	-.6473 (5.42)		-.2352 (1.87)
Hungary		-.1292 (1.28)	-.1881 (1.55)
Ireland	-.1294 (1.16)	.4220 (5.02)	.1900 (1.67)
Israel		.1254 (1.45)	
Italy	-.4365 (3.83)		-.0778 (0.70)
Japan		-.3929 (4.34)	
Latvia		-.5756 (6.57)	-.4936 (4.19)
Lithuania			-.2197 (1.85)
Luxembourg	.4217 (3.29)		.1773 (1.38)
Malta			.0824 (0.65)
Mexico		1.2286 (15.44)	
Netherlands	.5889 (5.34)	-.0524 (0.67)	-.0267 (0.25)
New Zealand		.0286 (0.33)	
Norway		.1009 (1.34)	
Philippines		.4354 (4.85)	
Poland		-.4298 (4.79)	-.4226 (3.32)
Portugal	-.6255 (5.68)	-.0355 (0.38)	-.4680 (3.98)
Romania			.1409 (1.14)
Russia		-.4820 (6.23)	
Slovakia		-.1980 (2.21)	-.5941 (5.09)
Slovenia		-.0272 (0.29)	-.2337 (1.76)
Spain	-.4618 (4.07)	-.2048 (2.88)	-.2355 (1.99)
Sweden	.1175 (1.12)	.0198 (0.24)	.2194 (1.99)
Switzerland		.7221 (8.66)	
Turkey			-.6194 (4.38)
USA		.4772 (5.74)	
West Germany	.0954 (0.89)	.1372 (1.44)	
Cut_1	-3.6911	-4.4580	-3.7925
Cut_2	-2.6646	-3.2015	-3.1054
Cut_3	-1.6542	-2.0592	-2.4911

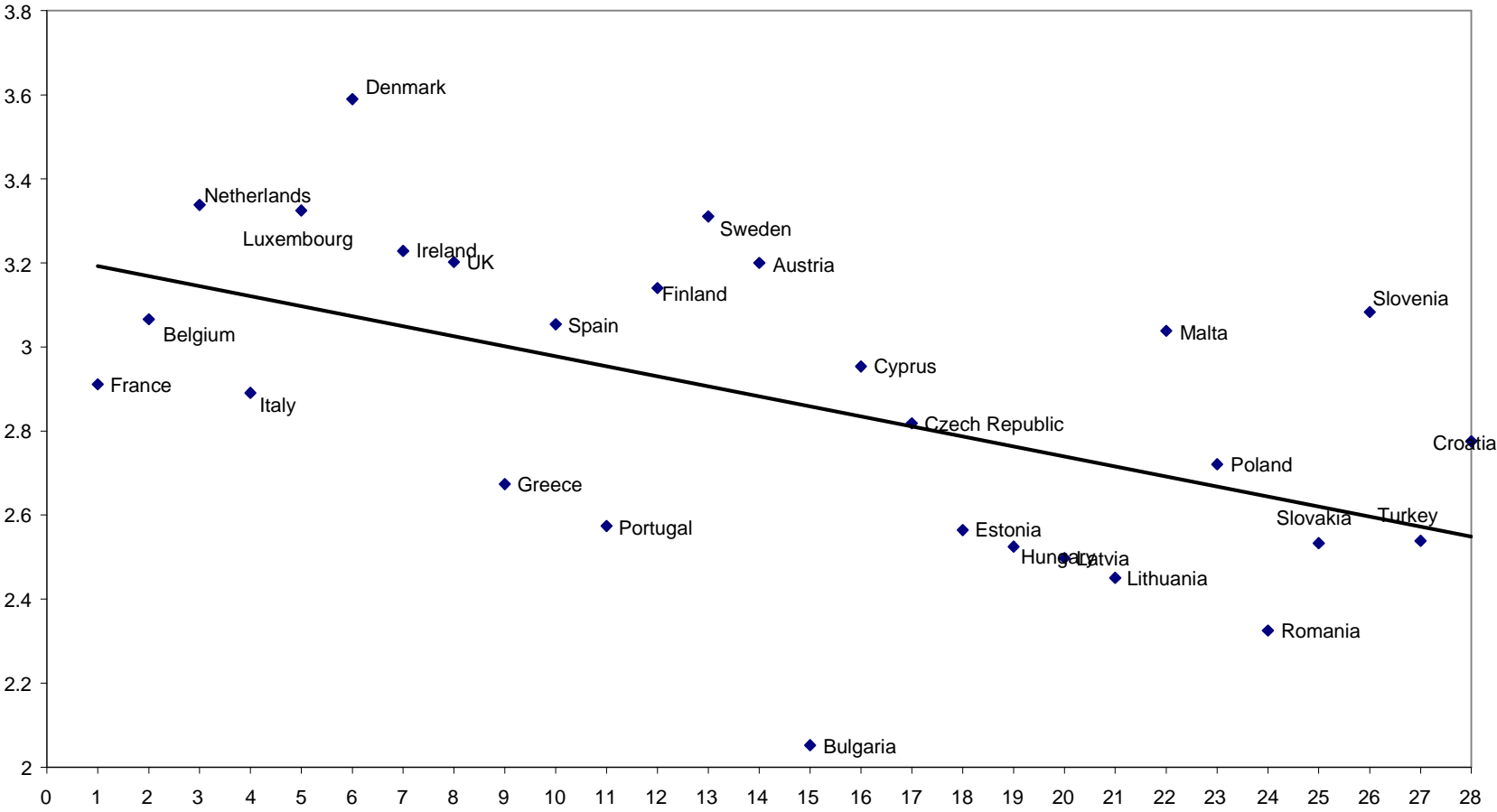
Cut_4	-5720	-1.0704	-2.0383
Cut_5	.6964	.7849	-1.1380
Cut_6	2.1756	2.6045	-.5647
Cut_7	5.0003		.1784
Cut_8			1.2609
Cut_9			2.0923
Pseudo R <sup>2</sup>	.0169	.0163	.0119
N	7,715	21,998	12,234

Source: Column 1. Eurobarometer #56.1. Column 2: ISSP 2002. Column 3. European Quality of Life Survey. Excluded category, United Kingdom. T-statistics in parentheses

**Figure 1: Life Satisfaction and the Unemployment Rate (2003)**

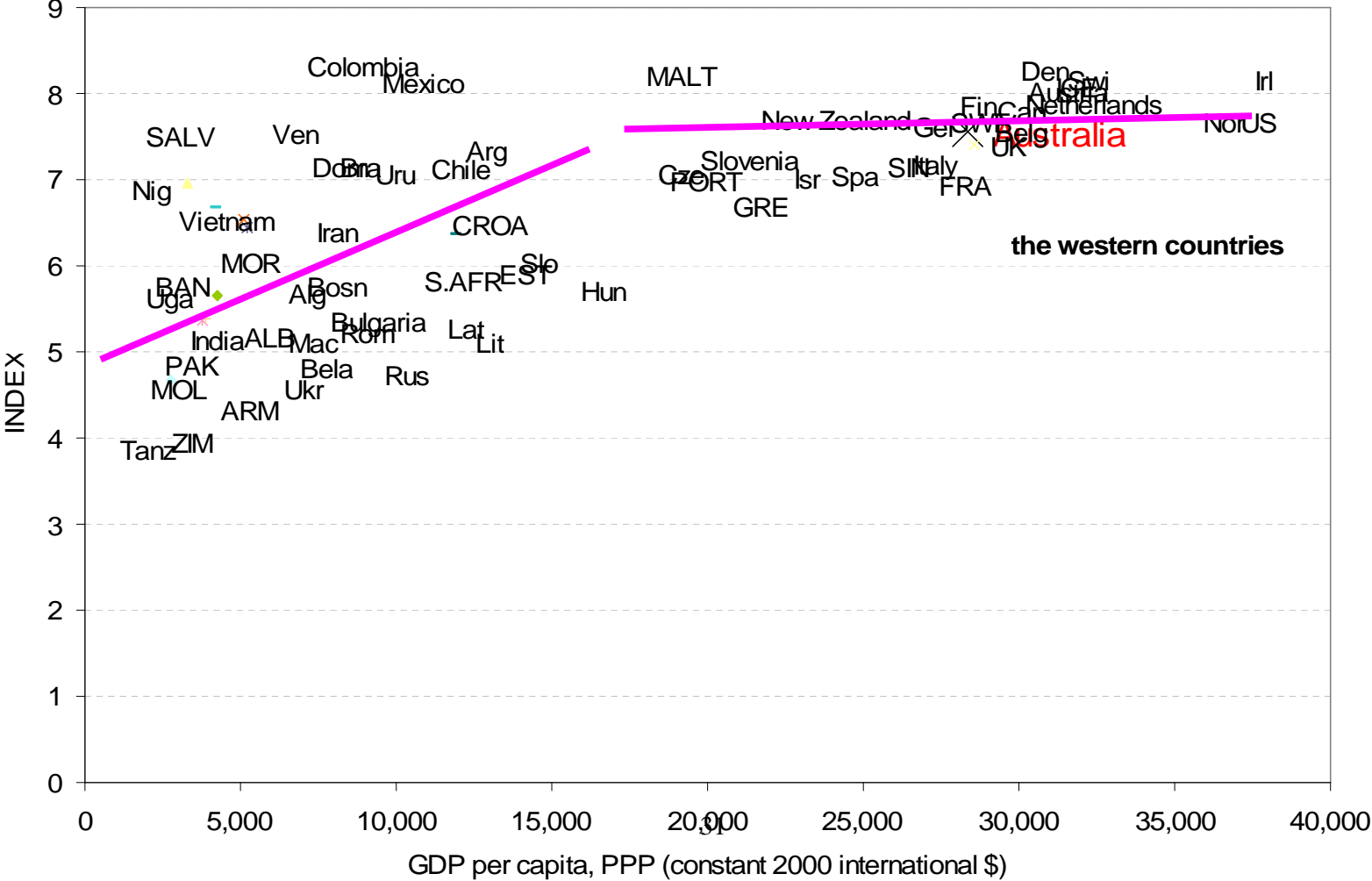


**Figure 2: Life Satisfaction and Inflation (HICP, 12 month average, December 2003)**

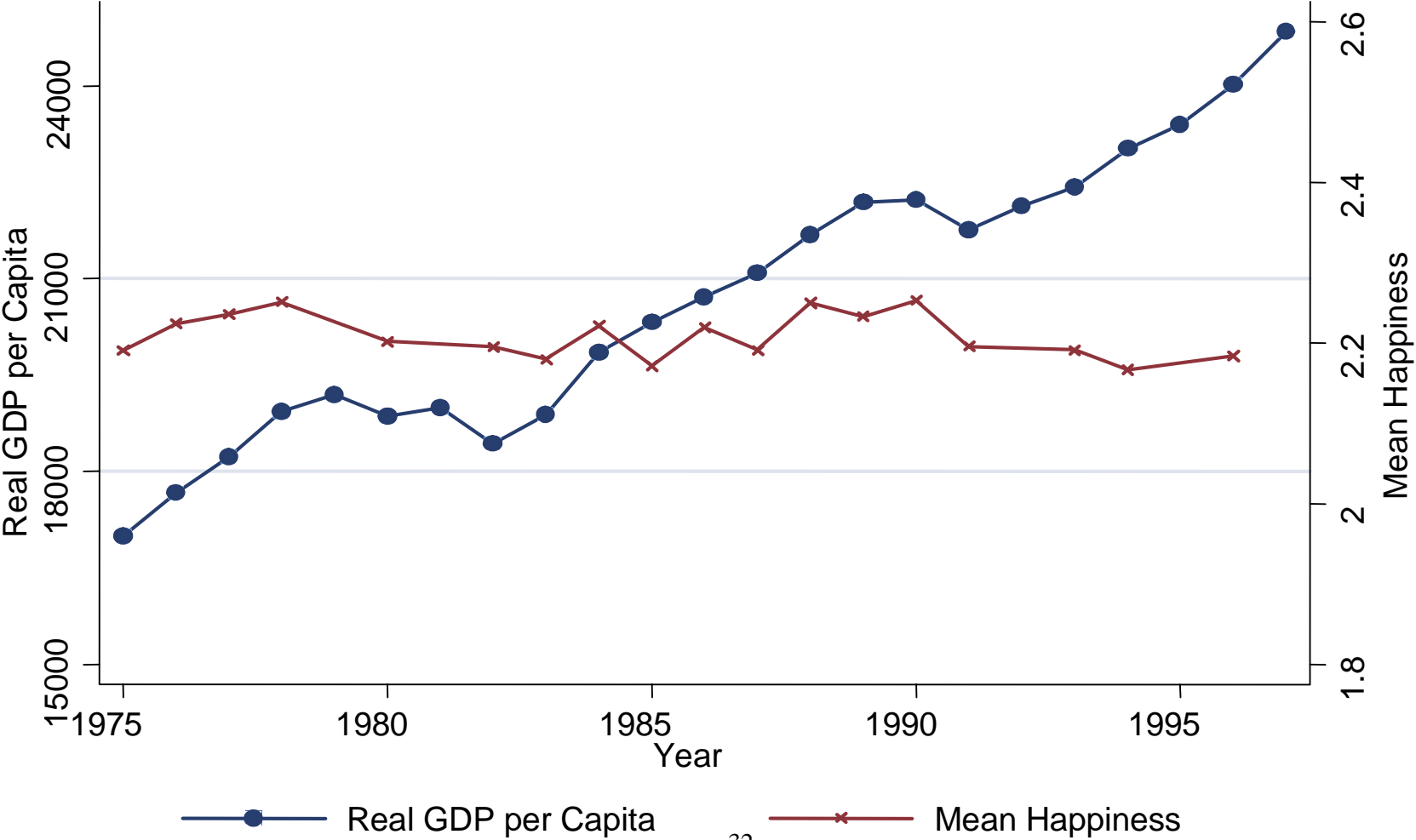




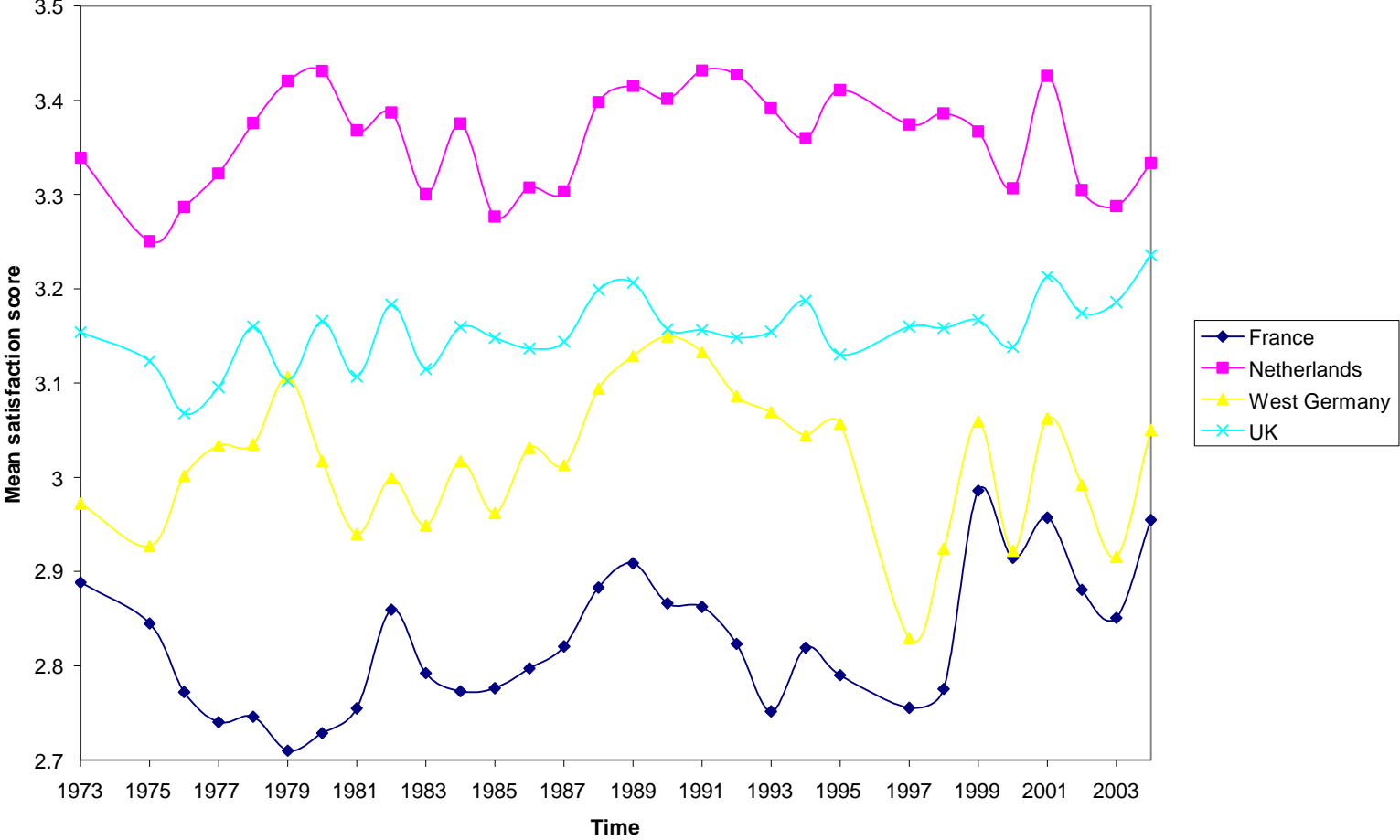
**Figure 4: 1995/2000 World Values Survey results**



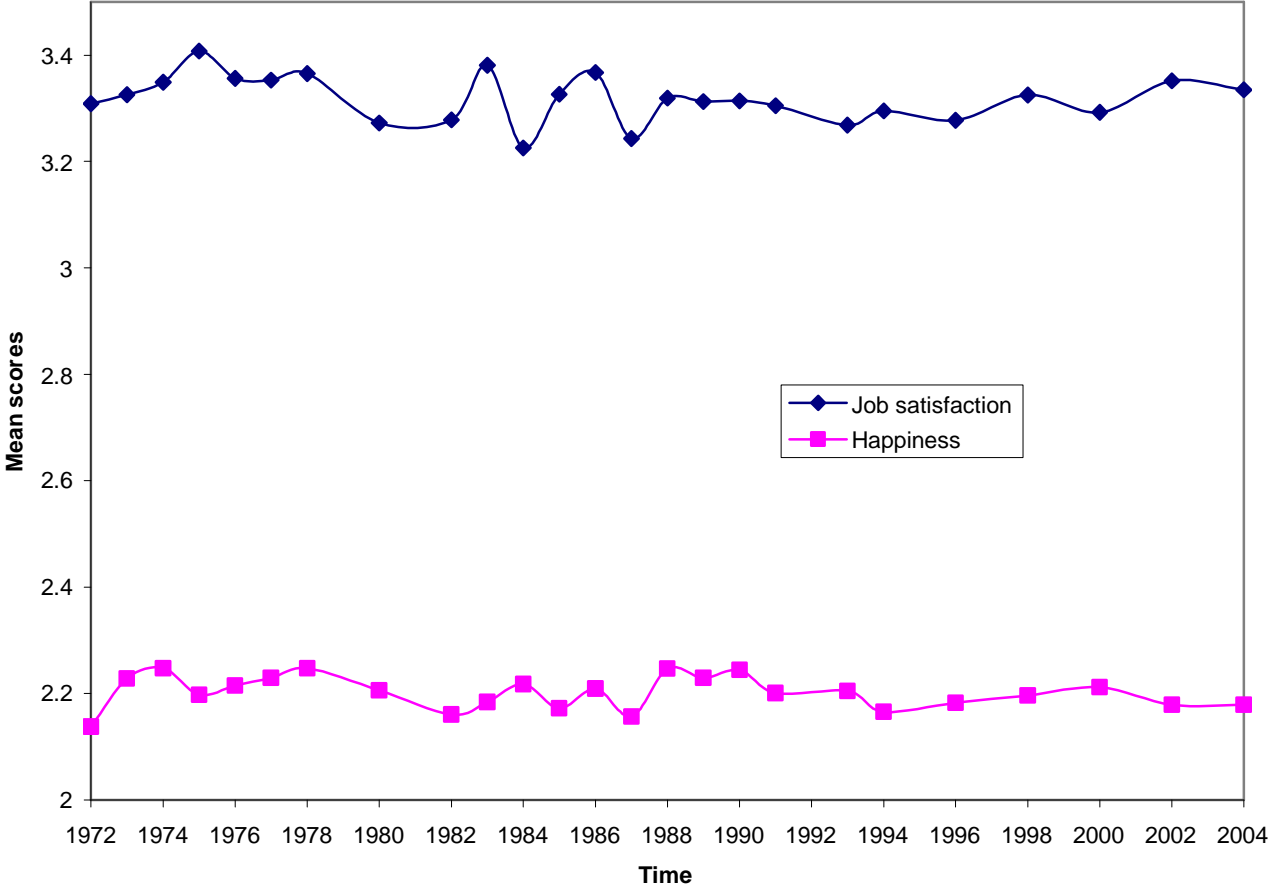
**Figure 5. Average Happiness and Real GDP per Capita for repeated cross-sections of Americans.**



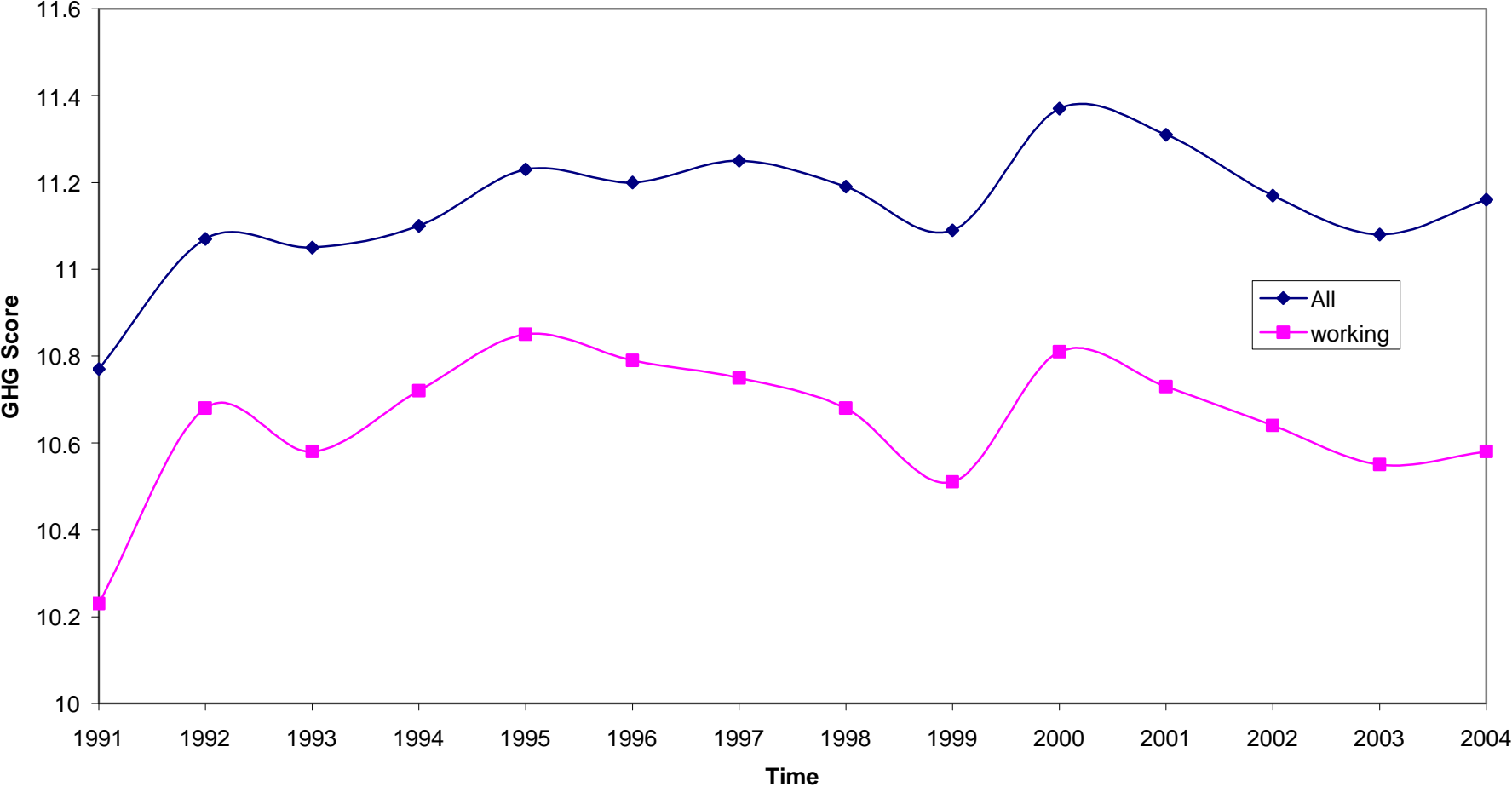
**Figure 6. Mean Life Satisfaction scores, 1973-2004**



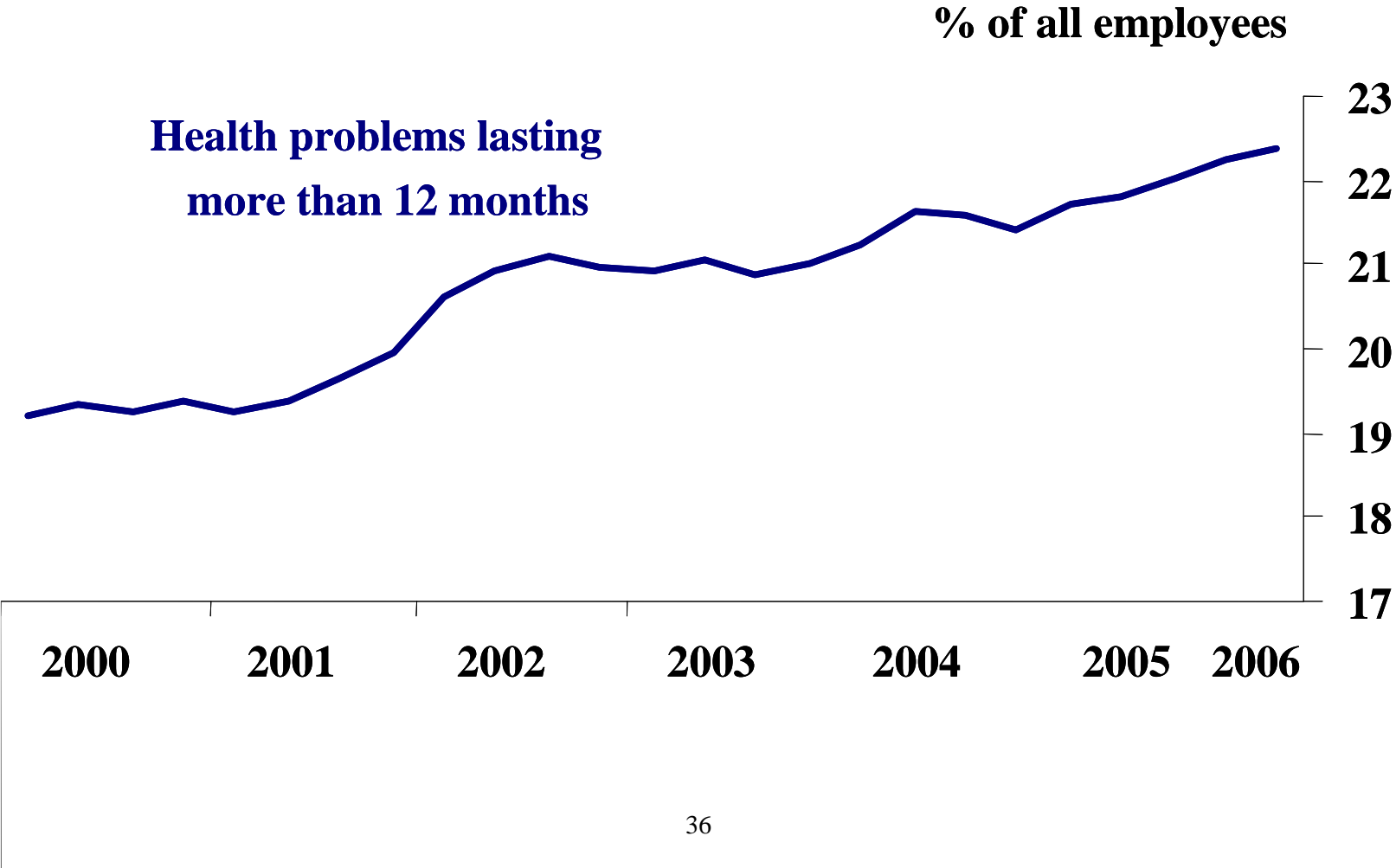
**Figure 7. Job Satisfaction and Happiness, USA (General Social Surveys)**



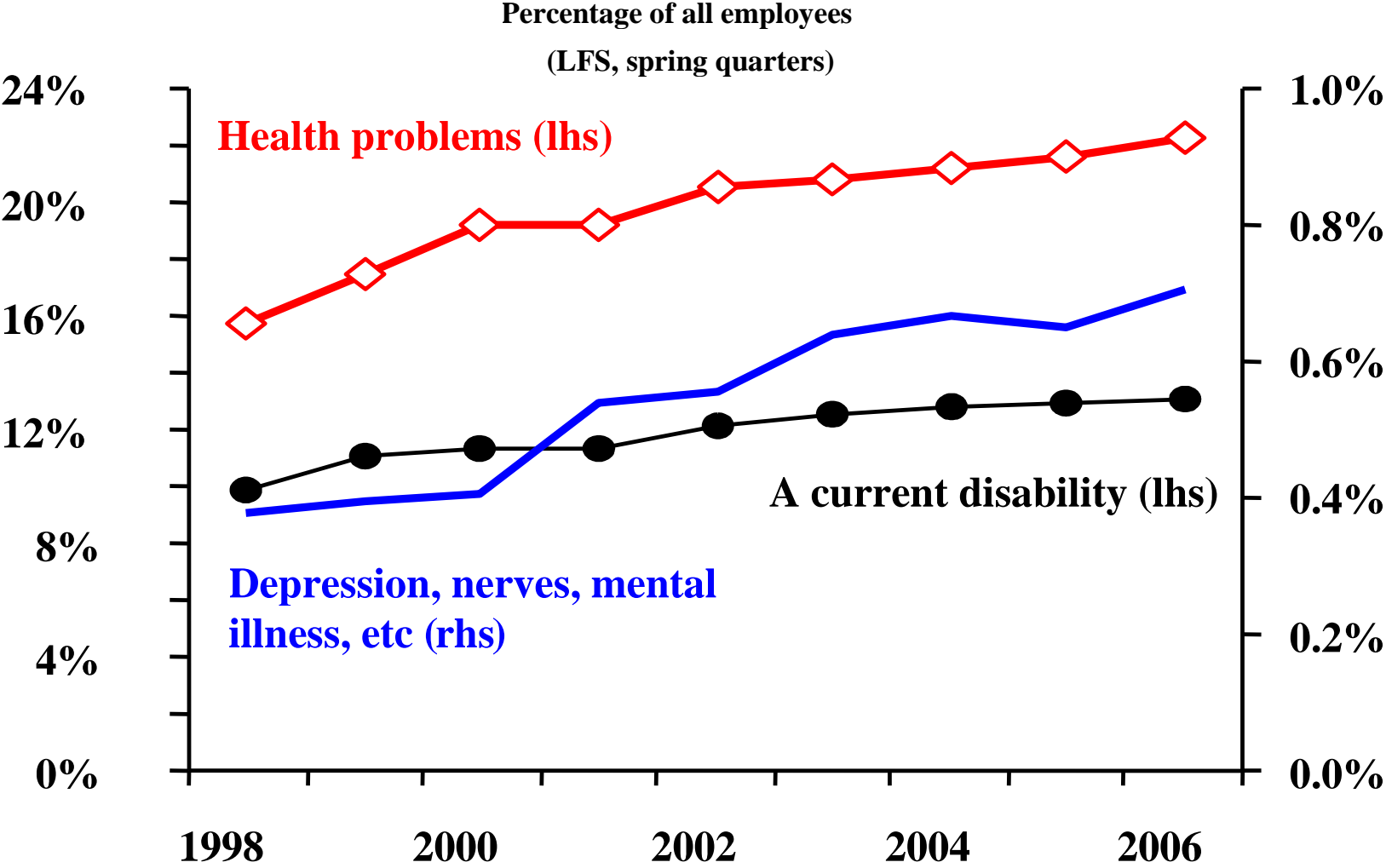
**Figure 8. GHQ Stress Score, BHPS, 1991-2004**



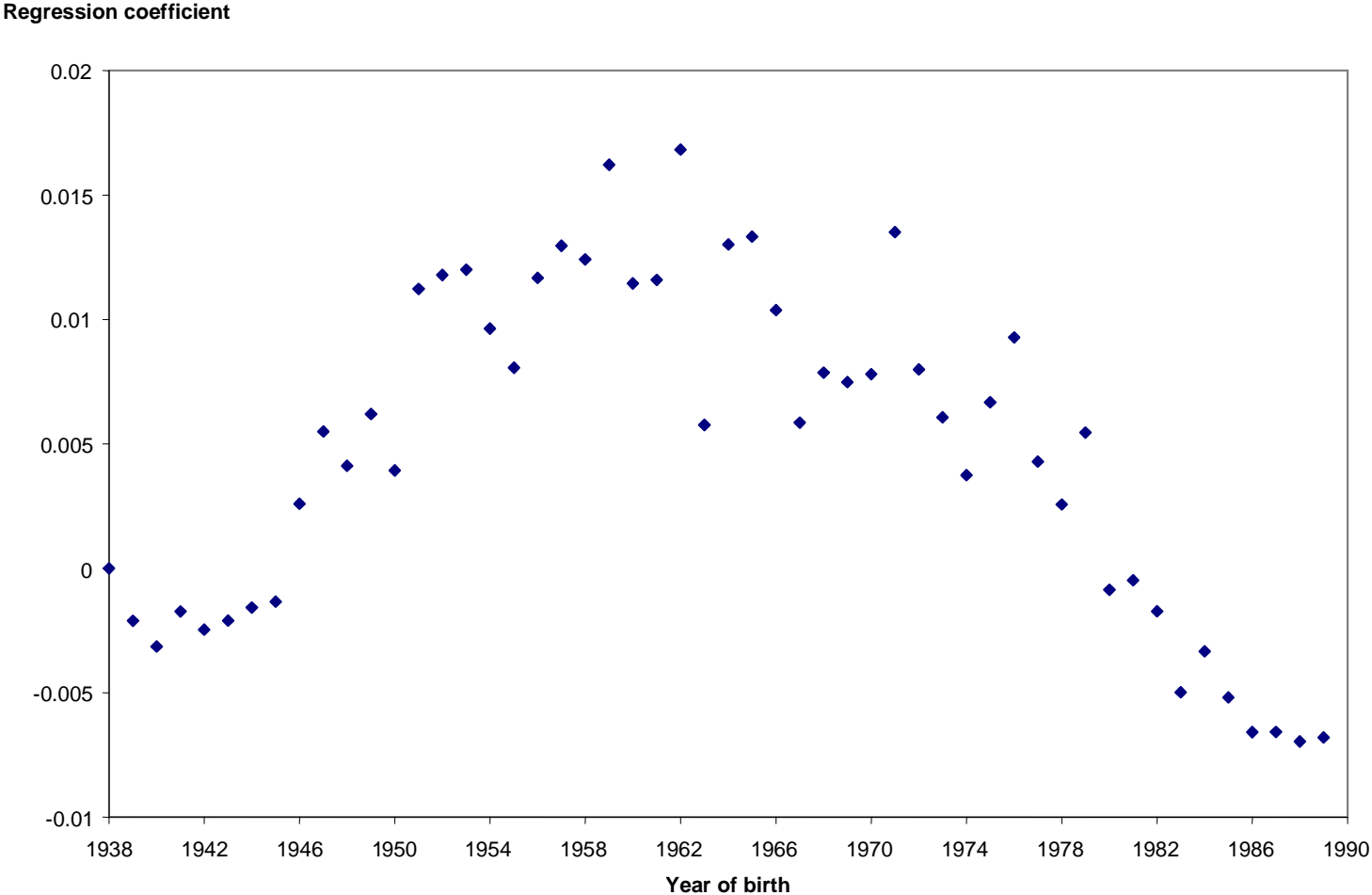
**Figure 9: Health problems lasting more than 12 months, LFS**



**Figure 10: Trends in health problems and disability amongst employees, LFS**



**Figure 11a. Depression - regression coefficients, Males LFS 2004-2006Q2**



**Figure 11b. Depression - regression coefficients, Females, LFS 2004-2006Q2**

