UCD CENTRE FOR ECONOMIC RESEARCH

WORKING PAPER SERIES

2012

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WP12/08

March 2012

UCD SCHOOL OF ECONOMICS
UNIVERSITY COLLEGE DUBLIN
BELFIELD DUBLIN 4

The Influence of Macroeconomic Conditions and Institutional Quality on National Levels of Life Satisfaction

Brendan Walsh*

Summary: Answers to the Eurobarometer question on Life Satisfaction are used to explore the effects of macroeconomic performance and institutional quality on average levels of self-assessed well-being in the countries of the enlarged European Union between 2004 and 2011. It is found that variations in national levels of life satisfaction can largely be accounted by a small number of socio-economic indicators. Life satisfaction is lowest in poor, corrupt countries where income inequality is pronounced. The adverse effect of higher unemployment on life satisfaction is partially offset by the positive impact of lower inflation. However, even when these factors are allowed for, significant country-level differences persist.

Key words: Life Satisfaction, Living Standards, Unemployment, Inflation, Corruption, Income Inequality.

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Helpful comments from Kevin Denny, Peter Lunn, David Madden, Anthony Murphy, Cormac Ó Gráda, Kevin O'Rourke and Andrew Oswald are gratefully acknowledged. The views expressed and any remaining errors are my own.

I. INTRODUCTION

The economic and social determinants of self-assessed well-being or "happiness" have been intensively researched by economists and psychologists over recent decades (for a survey, see Frey and Stutzer, 2002). The topic was given new impetus by the publication of the report of the Commission on the Measurement of Economic Performance and Social Progress (Stiglitz et al., 2009) and documents such as *GDP and Beyond - Measuring Progress in a Changing World* (Commission of the European Community, 2009). The rise in unemployment and fall in living standards in many countries during the current recession give the subject added topicality.

Despite the large volume of continuing research in this area, several issues remain unresolved. There has been renewed debate on the Easterlin hypothesis which states that beyond a fairly low threshold happiness is not significantly higher in richer than in poorer countries and does not increase within countries as their incomes rise over time (Easterlin, 1974, Stevenson and Wolfers, 2008, Easterlin and Angelescu, 2009). Some claim that income inequality is a major influence on health and other indicators of well-being (Wilkinson and Pickett, 2009) while others are more cautious (Alesina *et al*., 2004, Snowden, 2010). The negative impact of corruption on economic performance has been highlighted in some economic studies (Mauro, 1995, Tanzi, 1998) but its potential influence on national well-being has been neglected. Despite the widespread impression to the contrary, a recent study claimed that the effects on life satisfaction of the current recession have been small and relatively short-lived in the US (Deaton, 2011).

Whereas many previous studies of happiness and life satisfaction use individual-level data and include controls for macroeconomic conditions, the present study asks whether variations in national average levels of self-assessed well-being can be accounted for in terms of a number of salient measures of economic performance and institutional quality. The data used are Eurobarometer survey results for the enlarged EU over the years 2004-2011.

The main findings are that life satisfaction is highest in rich countries that are relatively free from corruption and where income inequality is low. It is also shown that higher unemployment reduces life satisfaction while lower inflation raises it. While these conclusions may seem unsurprising, firm evidence has been lacking to support them.

II. THE DATA

The Commission of the European Union has been using the Eurobarometer survey to monitor the evolution of public opinion in the member states since 1973. At least 1000 face-to-face interviews are conducted in each country for each survey, with larger numbers in the larger countries. A question on Life Satisfaction (LS) has been included in one or more of the annual surveys since

1975 and since 2004 responses have been collected for the 27 current member states (EU-27) as well as for Croatia and Turkey.[1] The responses to this question have been used to explore how inflation and unemployment are traded-off in terms of subjective well-being in twelve EU countries over the period 1975-91 (Di Tella et al., 2001).

The Eurobarometer LS question is: "On the whole are you very satisfied, fairly satisfied, not very satisfied, or not at all satisfied with the life you lead?" Summaries of the distribution to the responses to this question are reported for individual countries. In the present study the responses have been scored 3, 2, 1, and 0 respectively and averaged over each of the eight years 2004-2011 to obtain an annual LS score for each of the twenty nine countries. Thus the data used here are derived from the responses to approximately 450,000 interviews aggregated to 232 observations by country and year. The countries included in the study are at very different levels of economic and institutional development and the time period covers an initial period of rapid growth followed by the severest recession since the Second World War.

The survey results show large differences across the 29 countries both in the average LS scores and in how they have fluctuated over the eight-year period. The highest recorded score was Denmark's 2.67 in 2009, the lowest was Bulgaria's 1.04 in 2005. Figure 1 shows how these different averages arose. Whereas 69 per cent of Danes in 2009 said they were "very satisfied" with their life, a mere 2 per cent of Bulgarians responded in this manner in 2005. Virtually no Danes said they were "not at all satisfied" with their lives, whereas this was the response of almost 30 per cent of Bulgarians.

In a sizeable minority of countries LS has been high and stable over the years. Denmark, the Netherlands, Luxembourg, and Sweden comprised the top four countries (not always in the same order) in all eight years. At the other extreme, Bulgaria, Hungary, and Romania were consistently at or near the bottom of the league table, where they were joined by Greece towards the end of the period. However, many countries recorded significant declines in LS, comparing 2004 with 2011. The largest declines occurred in Greece and Spain, but Cyprus, Portugal, Malta, Turkey, Italy, Ireland, and Slovenia also experienced significant falls. Slovakia was the only country that started from a low level of LS and recorded a large improvement over the period. The range of international experiences over the period 2004 to 2011 is illustrated in Figure 2.

Using these data, the present study explores the influences of a small number of key economic and institutional factors on national levels of LS. Three standard indicators have been used to capture the effects of economic conditions, namely the unemployment rate, the inflation rate, and the level of *per capita* GDP. The Gini coefficient (GINI) was used to measure the

[1] The results are available at http://ec.europa.eu/public_opinion/description en.htm.

distribution of income within countries. These four variables are available from the Eurostat website.[2]

The unemployment rate is based on data collected in national Labour Force Surveys using the International Labour Office definitions of labour force status. The inflation rate is the annual rate of change in the Harmonized Index of Consumer Prices. Two alternative measures of GDP could be used. The first is a volume index of GDP *per capita* in Purchasing Power Standards (PPS), expressed relative to the EU-27 average set to equal 100. This index is primarily designed to measure differences in living standards between the countries at a point in time, but it also reflects the changes in the performance of countries relative to the EU average over time. The second available measure is the level of GDP *per capita* at constant prices using market exchange rates for those countries that are not in the Eurozone and making no adjustment for divergences in national price levels. This measure reflects variations both between and within countries in the volume of GDP per person. The between-country variation is much higher (relative to the mean) in this measure than in the alternative. However, within-country variation is similar on the two measures. As is to be expected, in each year the between-country correlation between the two measures is very high ($r > 0.95$).

GINI is the Gini coefficient derived from the Lorenz Curve showing the cumulative shares of the population arranged according to the level of disposable income relative to the cumulative share of the total disposable income received by them. The index varies between 0 and 100, with higher values indicating a greater the degree of income inequality. The Gini coefficients have not yet been published for 2011 and only one value is available for Turkey, for 2006, when it was 44.8 – far higher than that of any other value in the sample. Observations for 2011 and for Turkey were excluded from the results that include GINI.

In addition to these conventional economic indicators, the Transparency International Corruption Perceptions Index is used here as a broad measure institutional quality. This index is based on the perceptions of business people and experts of corruption involving public officials, civil servants and politicians.[3] This index rates countries on a scale from 10 ("very clean") to 0 ("highly corrupt"). Because higher scores indicate better institutional quality it has been labelled CLEAN in this study. In addition to its intrinsic value as a measure of institutional quality, it is also plausible to view it as a proxy for national levels of social capital and trust in others, variables that have been linked to higher levels of LS in numerous studies (see, for example Layard, 2005). The expectation is that even after allowance has been made for economic factors people living in less

[2] http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/themes.
[3] http://www.transparency.org/policy_research/surveys_indices/

corrupt countries are on average more satisfied with their lives than those in more corrupt countries.

Table 1 displays the means and standard deviations of the six variables used in this study for the pooled data, for the 29 countries averaged over the eight years, and for the eight years averaged over the countries. In 2011 GDP *per capita* at market exchange rates varied from over €57,000 in Luxembourg to just €3,000 in Romania.[4] The impact of the recession on countries has varied, with Ireland and Spain experiencing very sharp rises in unemployment after 2007 while unemployment rates in Austria, Belgium, and Germany remained virtually unchanged. Across the 29 countries the dispersion of unemployment rates increased over time, whereas inflation rates converged downwards after 2007. Income inequality as measured by the GINI index was highest in Latvia and Portugal and lowest in Slovenia and Sweden. Between 2004 and 2011 inequality increased significantly in Bulgaria and to a smaller degree in Germany but fell in Estonia, Hungary, and Poland. Finally, there were wide variations in the perceived level of corruption, with very low and stable levels in the Scandinavian countries and persistently high levels in many former Communist countries. Poland recorded a marked reduction in perceived corruption over the period whereas it rose significantly in Greece.

III. BASIC RESULTS

The basic equation estimated was:

$$Y_{it} = \alpha_0 + \beta_1 X_{1\,it} + \ldots + \beta_k X_{k\,it} + u_{it} \qquad (1)$$

i = 1 ... N countries, t = 1 ... T years

The regressors were the unemployment rate, the inflation rate, GDP, institutional quality as measured by CLEAN and income inequality as measured by GINI. Equations including the GINI variables were restricted to the seven years 2004-2010 and 28 countries excluding Turkey. Both linear and log-linear specifications were estimated. The former gave more significant results and these are reported in Table 2. Estimates based on both measures of GDP were obtained. Those using absolute levels of GDP were consistently more significant statistically and only these are reported. Ordinary Least Squares estimates are reported with *t*-ratios based on heteroscedasticity-adjusted standard errors.

[4]There are some well-known anomalies in the GDP data. The figure for Luxembourg is inflated by its enormous banking sector. Irish GDP exceeds its GNP by about 15 per cent due to the repatriation of profits accruing to multinational companies operating in the country. No attempt has been made to adjust for these distortions in the present study.

The results in Table 2 are highly significant statistically, with over 70 per cent of the variance in LS accounted for by the variables included in the regressions. All the coefficients are in accord with *a priori* expectations.

The significant negative coefficient on the unemployment rate is not surprising in view of the number of micro-studies that report lower levels of well-being among the unemployed than among those in employment (see, for example, Castronova and Wagner, 2011). It is implied that the 10-percentage point increases in unemployment that occurred in Spain and Ireland between 2007 and 2010 led to falls of about 0.15 of a point in LS. This is a very substantial drop on a four-point scale, equivalent for example to moving about 15 per cent of the population down a category, from "fairly satisfied" to "not very satisfied". Combined with the significant negative coefficient on the inflation rate, the findings are consistent with the conventional economic theory of a trade-off in the social welfare function between inflation and unemployment. The average unemployment rate in the sample rose from 6.5 per cent in 2008 to 10.1 per cent in 2010, but the inflation rate fell from 5.5 per cent in 2008 to 1.5 per cent in 2009. The extreme case was Latvia, where the inflation rate fell from 15.3 per cent in 2008 to -1.2 per cent in 2010. Inflation in Ireland also became negative in 2009 and 2010. The results in Table 2 suggest that a five percentage point drop in the inflation rate other things equal would raise LS by about 0.1 of a point. In approximate terms it could be said that the disinflation offset about half the adverse effects of the rise in unemployment in countries like Ireland and helped to account for the relatively stability of average LS scores in the majority of the countries in the sample.[5] Of course, it has to be emphasised that inflation and unemployment affect different groups in society differently and this analysis sheds no light on the distributional aspects of the adjustment. It is also important to notice that although the recession led to similar falls in output levels across the countries of the EU, this was not evenly reflected in the behaviour of unemployment rates, which rose much more sharply in some countries than others. In contrast to the situation in Spain and Ireland, the relative stability of the unemployment rate in Austria and Germany helped support LS during the recession.

The strong showing the GDP variable in Table 2 is surprising in light of the continued debate surrounding the question whether higher income is associated with greater happiness. The coefficient is stable across the equations, but it is small and implies that raising a country's real income by ten per cent from the EU average would raise its LS score by about 0.07 of a point. In the extreme case, moving from the low Romanian level to the high Luxembourgeois level would

[5] This trade-off between inflation and unemployment is similar to that reported by Di Tella *et al*, 2001.

raise the LS score by 0.33 of a point. This hypothetical change is illustrated in the following distributions of answers to the Eurobarometer LS question:

Income level:	Not at all satisfied = 0	Not very Satisfied = 1	Fairly Satisfied = 2	Very Satisfied = 3	LS
Low	10%	30%	40%	20%	1.70
High	5%	17.5%	45%	32.5%	2.05

But even though the results favour the view that income exerts a significant influence on LS, the coefficients on CLEAN and GINI point to the even greater influence of these variables. For example, if corruption in Italy were to fall to Swedish levels the national LS score would rise by 0.42 of a point – a larger improvement that that associated with the increase in income illustrated above. If Turkey is excluded from consideration, the country in the sample with the most unequal distribution of income is Latvia, while Slovenia has one of the most equal. Reducing inequality to the Slovene level would have raised Latvian LS by approximately 0.18 of a point.

The results shed light on the patterns of variation in LS between and within countries illustrated in Figure 1. The countries that report consistently high LS scores also tend to rank consistently high on several of the variables included in the regressions in Table 2. For example, Denmark, which records a high and stable level of LS, has enjoyed low unemployment, low inflation, low perceived corruption, and high income over the years. At the other extreme, Romania has had consistently high levels of perceived corruption, high inequality and low income, while Bulgaria and Latvia have suffered from the problems low income, high corruption and inequality, with the added scourge of high unemployment. The sharp fall in average LS in Greece after 2006 is understandable given that the unemployment rate soared, real income declined by 13 per cent, and the level of perceived corruption rose significantly. The improvement in average LS in Slovakia, on the other hand, is intelligible given that between 2004 and 2011 income rose from 57 to 67 per cent of the EU average, unemployment and inflation fell sharply, and income inequality and the level of perceived corruption remained stable.

IV. EXTENSIONS

With a panel of data of the type used in this study, the issue of unobserved heterogeneity can be addressed in ways that are not possible with a cross section relating to a single point in time. It may be the case that the countries in the sample differ due to certain time-invariant characteristics that affect their quality of life. It is possible that national cultures influence the manner in which questionnaires like the Eurobarometer are completed, with biases towards acceptable, positive

answers in some countries and ornery, negative answers in others. It is easy to think of other possible influences on LS that have not been included in the analysis, although many of these might be correlated with the variables that have been included.

It is also possible that certain time-varying characteristics of the years included in the study could influence the level LS in all of the countries. For example, an exceptionally fine summer in Europe could raise the overall level of LS in a particular year.

The fixed effects (FE) model is one approach to dealing with this issue. This consists of estimating an expanded version equation (1):

$$Y_{it} = c + \alpha_{i-1} + \beta_{t-1} + \gamma_1 X_{1\,it} + \ldots + \gamma_k X_{k\,it} + u_{it} \qquad (2)$$

i = 1 ... N countries, t = 1 ... T years

This allows for shifts in the intercept for each year and country, representing time-invariant country effects and country-invariant annual effects.

The inclusion of year-specific effects does not pose a problem because of the relatively large variation between countries. The regressions reported in Table 3 were rerun including intercept-shift dummy variables for the years. A joint test of the hypothesis that all these coefficients are zero (that is, $\beta_t = 0$) is not rejected. For example, the test for their exclusion from the third equation was F (6, 184) = 0.65, p = 0.69.

However, the question of estimating country-specific effects is more problematical due to the low within-country variance in several of the regressors. In this situation the inclusion of FEs for all countries creates a severe problem of collinearity between these effects and the explanatory variables that exhibit little within-country variation over the nine-year sample period (see Table 1). The degree of this collinearity is illustrated by auxiliary regressions of GDP, CLEAN, and GINI, on a full set of the other regressors including country FEs. The $\bar{R}^2$s were 0.996, 0.97 and 0.85, respectively, indicating that the inclusion of any of these variables in a full FE model would clearly render the coefficient estimates extremely unreliable. The corresponding $\bar{R}^2$s for UNR and INFR were much lower, 0.66 and 0.51 respectively.

The choice is between including fixed effects that have no substantive interpretation and "are inserted merely for the purpose of measuring shifts in the regression line rising from unknown variables" (Kennedy, 1998, p. 227) and risking the impact of unobserved heterogeneity on the validity of the inferences when country-specific fixed effects are not included. In the present context it may be argued that the high $\bar{R}^2$s reported in Table 2 indicate that this risk is low.

A compromise is to include country FEs only when this significantly reduces the unexplained variance. Taking this approach, and testing each country FE *seriatim*, led to the inclusion of ten FEs.

The results of expanded version of the third regression in Table 2 are shown in Table 3. As is to be expected, there is a large jump in the $\bar{R}^2$ - from 0.75 to 0.95. The results for the substantive regressors are, however, robust; all five remain highly significant statistically with coefficients close to those recorded in Table 2. The largest change is the reduction in the size of the effect of unemployment on LS.

Large positive FEs were estimated for Poland, Cyprus, Denmark and Croatia suggesting that the responses to the LS question in these countries is systematically more positive than "warranted" by their economic and institutional indices. At the other extreme, large negative FEs were estimated for Bulgaria, Portugal, Hungary, Austria and Germany. While some of these results might be regarded as confirming national stereotypes,[6] others are less obvious and call for further research.

V. CONCLUSION

The factors influencing average levels of LS between the member states of EU-27 (plus Croatia and Turkey) over the years 2004-2011 have been studied. This period saw initial rapid economic growth followed by the sharpest decline in economic activity experienced in decades. In many countries this led to a significant fall in living standards and a protracted rise in unemployment rates. Not surprisingly, the average level of LS declined across the 29-country sample, especially during and after the economic setback of 2009. However, the decline was not as dramatic nor as uniform as the adverse macroeconomic developments might have led us to expect. In several countries average LS was higher in 2011 than it had been in 2004.

Most of the variation in average LS in the 29-country sample over the eight years can be accounted for by the behaviour of four or five socio-economic indicators. These are the unemployment and inflation rates, the level of real GDP *per capita,* the perceived level of corruption, and the degree of income inequality. Even when account of made for the influence of these variables, several countries continue to exhibit persistently high or low levels of LS that remain unaccounted for and have to be attributed to unobserved heterogeneity.

Bearing this caveat in mind, it is clear that the lowest average levels of LS are found in relatively poor countries, with high unemployment, high perceived levels of corruption and unequal income distributions. Since 2004 LS declined most in countries where unemployment rose, living standards declined, and there was no reduction in the level of corruption or income inequality. However,

[6] Christensen et al*.,* 2006, in their discussion of the paradox of the cheerful or smug Danes suggest that the low level of expectations prevailing in the country helps explain the high level of LS. At the other end of the scale, 'national culture' could be invoked to help account for the low Portuguese scores. In 2011 the sombre Portuguese music genre known as *Fado* (fate) was inscribed in the UNESCO Intangible Cultural Heritage Lists.

rising unemployment was generally accompanied by falling inflation and this offset the adverse impact of the recession on national LS to a significant degree.

The highly significant influence of the income variable on LS in a sample that exhibits such a wide dispersion in average living standards runs counter to the view that a higher standard of living does not enhance subjectively-assessed national well-being. But while the results show a robust link between higher income and greater LS, the impacts of both the level of perceived corruption and the distribution of income highlight the importance of wider considerations over and above economic performance *per se*.

The finding that higher unemployment lowers national levels of LS draws attention to the importance of mitigating the adverse effects of economic downturns on the labour market. Despite sharing the in global recession of 2008, countries like Germany and Austria recorded relatively small increases in unemployment and this is reflected in the stability of their national LS levels. The labour markets in Spain and Ireland, on the other hand, deteriorated dramatically during the recession and this reduced national LS.

These findings are important in the context of the increased emphasis now being placed on the need to use measures of subjective well-being to complement conventional measures of economic progress. They suggest that while living standards, unemployment and inflation are important, so too are income distribution and institutional quality. Policy makers need to pay more attention to these indictors in order to advance the average level of self-assessed well-being in their countries.

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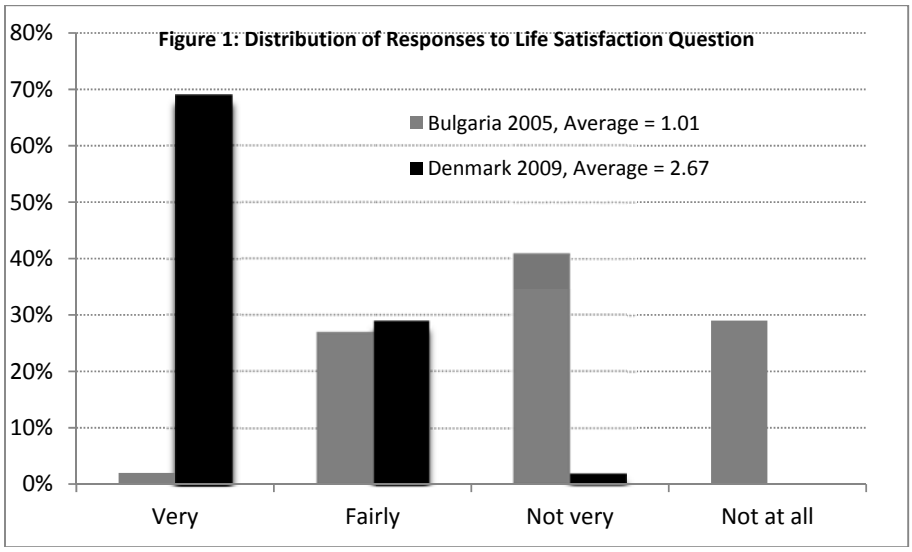

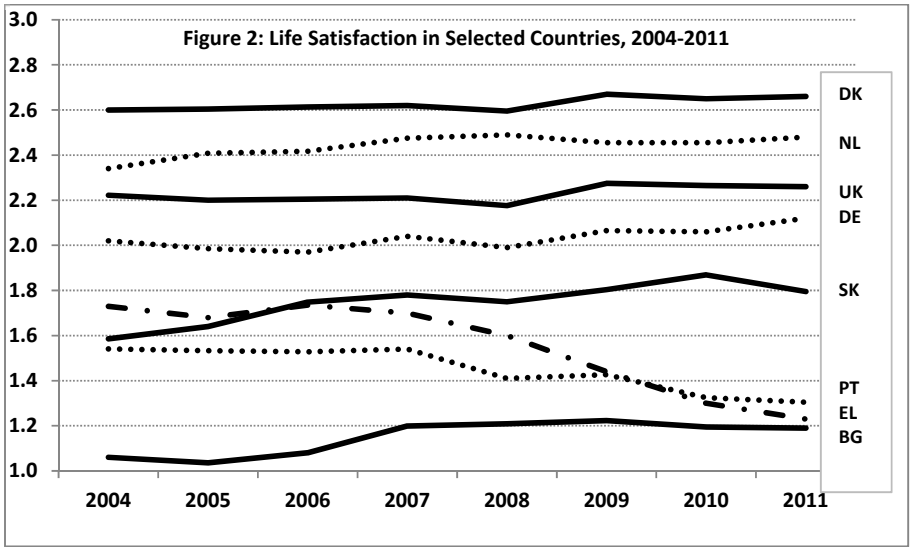

DK = Denmark, NL = The Netherlands, UK = The United Kingdom, DE = Germany,
SK = Slovakia, PT = Portugal, EL = Greece, BG = Bulgaria

Table 1: Descriptive Statistics

	LS		Unemployment		Inflation		CLEAN		GDP		GINI	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
					Pooled data							
	1.92	0.36	8.34	3.48	3.19	2.49	6.24	1.91	18.17	13.01	30.03	4.87
					By Country							
Austria	2.03	0.03	4.55	0.46	1.99	0.81	8.19	0.34	28.70	0.95	25.95	0.33
Belgium	2.18	0.03	7.89	0.58	2.31	1.27	7.29	0.17	26.68	0.54	26.91	0.74
Bulgaria	1.15	0.08	8.97	2.31	6.03	3.10	3.81	0.29	2.63	0.24	31.65	4.06
Croatia	1.79	0.03	10.58	1.96	2.80	1.38	3.88	0.38	6.86	0.35	29.38	1.66
Cyprus	2.15	0.08	5.15	1.28	2.31	1.17	5.95	0.50	16.10	0.47	28.65	0.53
Czech Republic	1.91	0.04	6.73	1.30	2.40	1.75	4.70	0.39	8.20	0.55	25.28	0.49
Denmark	2.63	0.03	5.28	1.62	1.95	0.85	9.40	0.09	34.13	1.06	25.31	1.42
Estonia	1.77	0.05	9.62	4.42	4.53	3.08	6.60	0.23	6.80	0.59	32.86	2.18
Finland	2.29	0.02	7.82	0.82	1.71	1.15	9.35	0.29	29.71	1.25	25.83	0.35
France	1.96	0.04	9.12	0.68	1.84	0.86	7.11	0.26	25.08	0.39	28.58	1.30
Germany	2.03	0.05	8.64	1.89	1.73	0.77	8.00	0.14	26.86	1.05	28.41	1.79
Greece	1.55	0.20	10.52	2.93	3.42	1.07	4.13	0.49	15.45	0.74	33.39	0.59
Hungary	1.41	0.07	8.51	1.91	5.13	1.59	4.98	0.25	6.19	0.20	26.53	3.07
Ireland	2.23	0.06	8.04	4.49	1.23	2.03	7.63	0.25	32.02	1.74	30.36	1.44
Italy	1.76	0.09	7.46	0.82	2.10	0.75	4.60	0.50	21.31	0.64	31.91	0.81
Latvia	1.60	0.06	11.39	5.03	6.17	5.05	4.46	0.35	5.75	0.61	36.76	1.24
Lithuania	1.58	0.06	10.34	5.09	4.12	3.21	4.79	0.14	5.79	0.56	35.59	1.23
Luxembourg	2.38	0.04	4.73	0.29	2.86	1.25	8.43	0.13	58.06	2.36	27.61	0.87
Malta	2.05	0.09	6.77	0.43	2.46	1.13	5.95	0.53	11.70	0.54	27.38	0.77
Netherlands	2.44	0.05	4.26	0.75	1.51	0.42	8.81	0.14	28.54	0.99	26.70	0.84
Poland	1.83	0.05	11.85	4.50	2.97	0.97	4.40	0.82	6.47	0.70	32.79	1.88
Portugal	1.45	0.10	9.67	1.85	1.99	1.27	6.24	0.28	12.72	0.19	36.13	1.77
Romania	1.37	0.07	7.03	0.67	7.38	2.25	3.45	0.38	2.76	0.23	33.79	2.36
Slovakia	1.75	0.09	13.54	2.80	3.05	2.21	4.46	0.38	5.99	0.67	25.66	1.34
Slovenia	2.09	0.05	6.17	1.19	2.89	1.41	6.34	0.30	13.69	0.82	23.53	0.40
Spain	1.98	0.13	13.44	5.51	2.69	1.33	6.59	0.38	17.23	0.45	32.05	1.23
Sweden	2.43	0.02	7.34	0.85	1.71	0.75	9.24	0.05	34.93	1.22	23.85	0.56
Turkey	1.77	0.13	10.24	1.77	8.51	1.51	4.03	0.49	5.76	0.49	44.80	0.00
UK	2.23	0.04	6.14	1.39	2.61	0.87	8.13	0.46	30.93	0.75	33.33	0.91
					By Year							
2004	1.95	0.37	8.78	3.66	3.40	2.76	6.19	2.13	17.25	12.80	29.97	5.24
2005	1.93	0.36	8.34	3.15	3.09	2.02	6.23	2.09	17.70	13.09	29.97	5.09
2006	1.95	0.35	7.48	2.53	3.26	1.96	6.31	2.00	18.31	13.42	30.29	4.99
2007	1.96	0.33	6.55	2.03	3.49	2.46	6.35	1.82	18.97	13.84	30.15	5.05
2008	1.92	0.35	6.46	1.98	5.52	3.27	6.34	1.73	18.93	13.62	30.04	4.95
2009	1.90	0.38	9.02	3.51	1.53	1.88	6.20	1.81	17.82	12.78	29.90	4.79
2010	1.90	0.38	10.13	4.23	2.25	1.96	6.15	1.89	18.09	12.97	29.96	4.70
2011	1.88	0.39	9.93	4.17	2.95	1.41	6.13	1.98	18.31	13.04	29.96	4.70

Table 2

Life Satisfaction Regression Results without Country Effects
Dependent variable: Average level of Life Satisfaction (LS)
Ordinary Least Squares, Absolute values of *t*-ratios based on robust standard errors in parentheses

	Equation number:		
	1	2	3
Sample:	*EU-27 plus Croatia and Turkey 2004-2011* N = 232	*EU-27 plus Croatia 2004-2010* N = 196	*EU-27 plus Croatia 2004-2010* N = 196
Intercept	1.3894*** (16.9)	1.4265*** (14.8)	1.9206*** (12.4)
Unemployment rate	-0.0146*** (3.6)	-0.0156** (3.1)	-0.0125 (2.5)*
Inflatin rate	-0.0177** (2.8)	-0.0272*** (3.9)	-0.0226** (3.0)
GDP	0.0069*** (5.2)	0.0068*** (5.0)	0.0072*** (5.7)
CLEAN	0.0942*** (9.3)	0.0932*** (8.6)	0.0806*** (7.6)
GINI			-0.0156*** (3.8)
$\bar{R}^2$	0.71	0.73	0.75

*p ≤ .05 **p ≤ .01 ***p ≤ .001

Table 3

Life Satisfaction Regression Results with Country Effects
Dependent variable: average level of Life Satisfaction
Ordinary Least Squares with absolute values of *t*-ratios (based on robust standard errors) in parentheses

Sample: EU-27 plus Croatia, 2004-2010, N = 196

Intercept	1.7976*** (20.0)	Fixed Effects			
Unemployment rate	-0.0130*** (3.3)	Poland	0.2417*** (5.3)	Germany	-0.1741*** (8.9)
Inflation rate	-0.0114** (3.3)	Cyprus	0.1988*** (4.6)	Austria	-0.2800*** (15.1)
GDP	0.0057** (3.3)	Denmark	0.1545*** (5.0)	Portugal	-0.3572*** (10.7)
CLEAN	0.0960*** (9.3)	Croatia	0.1530*** (4.7)	Hungary	-0.3655*** (9.6)
GINI	-0.0137*** (7.0)	Luxembourg	-0.0866 (1.6)	Bulgaria	-0.4265*** (8.5)

$\bar{R}^2 = 0.93$

*p ≤ .05 **p ≤ .01 ***p ≤ .001

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