Is Feeling Richer More Important Than Being Richer?

The Relationship Between People's Economic Position and Well-Being in Europe

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June, 2020

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Abstract

Using data from the European Quality of Life Survey, this thesis aims to add to the literature on the effects of income on well-being, by not only examining the relationship between well-being and relative income in 34 European countries but by primarily focusing on people's perceived economic position and its role in well-being. The four main results are: (1) Most people view themselves as being neither worse nor better off than others in their country. (2) Perceiving oneself worse off is associated with lower well-being while perceiving oneself better off is associated with higher well-being. The association is much stronger between well-being and the perception of being worse off. (3) Relative income matters more to people's well-being than absolute income, which is in line with previous research. (4) When estimating models where both perceived and actual relative economic position is included, it can be seen that people's perceived position has a significantly stronger association with well-being, compared with their actual economic position.

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1 Introduction

Traditional microeconomic theory states that an increase in income has a positive effect on an agent's utility, regardless of how much other people's income increases or decreases. Research, however, shows that this is not the case. Rather, relative income, at least in richer countries, is the deciding factor when looking at the effects of income on happiness and well-being (see e.g. Boyce et al., 2010; Caporale et al., 2007; Clark and Oswald, 1996; Clark et al., 2006; Ferrer-i-Carbonell, 2005; Latif, 2016; Luttmer, 2005; McBride, 2001; Powdthavee, 2009; Senik, 2008). It seems, therefore, that an increase in an agent's income is important to an agent *because* of its increase relative to some other reference group. There is, however, not complete consensus regarding what people's reference group looks like or who people compare themselves to.

The goal of this thesis is to add to the literature on the relationship between income and well-being, by not only using data on relative and absolute income but also people's perceived economic position within their country. The aim is, therefore, to use additional information on people's perception to better understand the channels through which income relates to well-being. Understanding how people situate themselves in reference to others can provide insights into who and how people compare themselves economically. Further, understanding whether absolute income, relative income, or self-assessed relative standing matters most to people's well-being is an insightful addition to the literature on the relationship between income and well-being.

In section 2, a brief overview of the literature is presented and the thesis situated within it. Section 3 presents the data and methods used. In section 4, the results are presented and discussed. Section 5 concludes.

2 Previous Literature

In 1974, Easterlin posed his famous question of whether raising the income of all would increase the happiness of all. Since then the question has been called the Easterlin paradox, since it reveals the discrepancy between micro evidence that income increases happiness and macro evidence of richer nations not getting happier in proportion to their increase in GDP (R. Easterlin, 1974, 1995, 2010, 2016). Since then many have either supported his findings (e.g. Clark et al., 2008; Di Tella and MacCulloch, 2008) or used different methods to show that there is no threshold of income, at which it stops having positive effects on people's well-being (Deaton, 2008; Deiner et al., 2013; Sacks et al., 2010; Stevenson and Wolfers, 2008, 2013).

As a plausible attempt of a solution to the paradox, it has been suggested that the driving force of this so-called paradox, is relative income. That is to say, what the micro evidence captures, is in part the happiness gains of being richer than others, while the

conflicting macro evidence shows that the increase in aggregate income does not have a great effect on an individual's happiness in richer nations. Prior research suggests that income has a positive effect on well-being, but that the deciding factor is not the actual amount of income, but the income relative to others (see e.g. Boyce et al., 2010; Caporale et al., 2007; Clark and Oswald, 1996; Clark et al., 2006; Ferrer-i-Carbonell, 2005; Latif, 2016; Luttmer, 2005; McBride, 2001; Powdthavee, 2009; Senik, 2008). In other words, an individual's well-being seems to increase with a rise in income, provided that other's income does not rise to the same extent.

Evidently, therefore, this research conflicts with the fundamental microeconomic idea that increasing an agent's income will increase his or her utility, regardless of other agents. Overall, researchers agree that this is not the case. The disagreement is rather *how much*, if at all, absolute income matters for an individual's well-being or utility. Even though there is an overall consensus that relative income is crucial when looking at the relationship between income and well-being, it's harder to determine what the income is relative to. That is to say, it is not clear to *whom* people compare themselves, and therefore not clear how relative income is to be understood. Some have argued that people's reference group, and therefore how relative income is to be determined, is their neighbours (Barrington-Leigh and Helliwell, 2008; Knight et al., 2008), while others make the circle much larger so that the reference group is people's country (Becchetti et al., 2011) or even the whole world (Deiner et al., 2013).

Of course, it is likely that multiple reference groups exist, and that social comparisons differ between individuals, cities, and countries. Nevertheless, theory suggests that individuals tend to compare themselves to others that are similar to them and with whom they have more contact, e.g. their family, friends, neighbours, or colleagues (Festinger, 1954; Karraker, 2014). For example, some research suggests that individuals who live in high-income neighbourhoods might experience their own social status as low because of their relative deprivation compared to their rich neighbours, regardless of what their absolute income is (Woo et al., 2018).

Research is therefore still needed to understand the association between relative income and well-being since without an understanding of what the reference group is, it is impossible to accurately establish the nature of the relationship. Otis (2017) points out in his paper on perceived relative standard of living and subjective well-being in China, that there is something crucial lacking in the research into the relationship between well-being and income, namely people's perception of their economic standing relative to others. If we are to understand the complex relationship between income and well-being, people's perception has to be examined. Scarce literature is available on the relationship between perceived economic position and well-being. Karraker (2014) examines perceived economic position's association with environmental mastery (one of the six factors of psychological well-being) among elderly people in the United States. Diener et al. (2013)

find, using global data, that a rise in income was more likely to have a positive effect on people's well-being if it was accompanied by more satisfaction with their finances (which is likely to be comparative).

This thesis contributes to the literature in the following ways: (1) It uses European data to examine the relationship between income, relative and absolute, and well-being, and supports prior findings that relative income is the deciding factor when looking at the association between income and well-being. (2) It adds to the scarce literature on people's perceptions of their economic position and how it relates to well-being, as well as absolute and relative income. It shows that people's perception of their financial situation seems to tell us more about their happiness than either absolute or relative income.

3 Data and Methods

3.1 Data

The data used for the analysis originates from the third wave of the European Quality of Life Survey, which was conducted in 2011 and 2012 in 34 European countries[1] (27 EU countries and 7 non-EU countries). The number of observations from each country ranged from 1,000 to 3,055, adding up to 43,636. Due to missing values, observations used in the analysis are 32,202, see Table 9 for the number of observations from each country.

In this analysis, self-evaluated happiness and self-evaluated satisfaction with life (SWL) are used as proxies for well-being or utility. Where happiness is viewed to be more fleeting or volatile, while satisfaction with life is thought to be more stable, with less variance between days or even years. The questionnaire included a question on general happiness and a question on satisfaction with life. The happiness question was the following: "Taking all things together on a scale of 1 to 10, how happy would you say you are? Here 1 means you are very unhappy and 10 means you are very happy." The question on SWL was the following: "All things considered, how satisfied would you say you are with your life these days? Please tell me on a scale of 1 to 10, where 1 means very dissatisfied and 10 means very satisfied."[2] Both the happiness variable and the SWL variable are highly skewed, with the majority of respondents ranked at the higher scales (the overall mean is 7.277 for happiness and 7.003 for SWL). To accommodate this fact,

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[1]The countries are the following, in alphabetical order: Austria, Belgium, Bulgaria, Croatia*, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland*, Ireland, Italy, Kosovo*, Latvia, Lithuania, Luxembourg, the Former Yugoslav Republic of Macedonia* (now North Macedonia), Malta, Montenegro*, Netherlands, Poland, Portugal, Romania, Serbia*, Slovakia, Slovenia, Spain, Sweden, Turkey*, and the United Kingdom, where non-EU members (in 2011) are marked with an asterisk.

[2]This variable is not the same as the five-item scale of overall satisfaction with life as introduced by Diener et al. in their paper in 1985.

Table 1: Descriptive Statistics

Statistic	Mean	St. Dev.
Income	1,160.563	1,968.752
Children	0.497	0.907
male	0.434	0.496
female	0.566	0.496
age	50.035	17.795

Financial situation compared to others in your country:

Much worse	0.061	0.239
Somewhat worse	0.153	0.360
Neither worse nor better	0.525	0.499
Somewhat better	0.216	0.412
Much better	0.046	0.209

Well-being (scale of 1-10):

Happy	7.277	1.968
Satisfaction with life	7.003	2.191

N=32,203

I have standardised the happiness and SWL variables, so that the mean is zero and standard deviation 1. This makes interpretation easier since an increase in an individual's happiness refers to his or her movement within the distribution.

The main independent variables of interest are answers to a question about self-assessed relative economic standing, or perceived economic position, specifically: "Could you please evaluate the financial situation of your household? In comparison to most people in [COUNTRY], would you say it is: Much worse, somewhat worse, neither worse nor better, somewhat better, much better." Dummy variables were created for each possible answer, such that each variable refers to each answer, assigning 1 if the participant responded "much better" and 0 otherwise, and so on for each of the five possible answers.

In addition to perceived economic standing, an important variable is equivalised household monthly income (presented in euros). The variable is comprised of two questions, one asking respondents to state their income, the other asking them to choose between twenty-two income ranges if they are not sure about the exact income[3], where the respondents answer one of the two questions. The respondent's income has been transformed depending on their country using purchasing power parity (PPP) (OECD

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[3]Respondents answered the question What letter best matches your householdâs total net income? by marking one of twenty-two income ranges, from "less than €12" to "€1,250 or more" per week, or from "less than €50" to "€5,500 or more" per month, or from "less than €600" to "€66,000 or more" per year. When appropriate, the income ranges were converted into local currencies using the exchange rate at the time. The variable was coded as the midpoint value for each range.

and Eurostat, 2012) to make meaningful comparisons between countries possible. The OECD-modified equivalence scale was used to scale the net household income to account for economies of scale and make it more comparable between households. The scale assigns a value of 1 to the first adult, 0.5 to each additional adult, and 0.3 to each child (OECD, 2013, p.173-175). This equivalised income variable was included as is in the data set.

This equivalised income variable was used to create five dummy variables for individuals' actual relative economic position so that their perception could be compared to their actual situation. For each country, individuals were divided into five groups, depending on their income: The top 20%, the next 20%, and so on. Thus, this variable is not based on people's self-assessed economic position but on their self-reported income, which is subsequently compared to that of other subjects in the same country. This means that the dummy variable for the top 20% includes those in the top 20% in each country, not the top 20% in all 34 countries. This is done to take into account that income distribution varies considerably between countries, and having a specific amount of income is unlikely to put you in the same percentage group in all countries.

Other control variables are age, gender, marital status, number of children in the household, education, employment, country, and the degree of urbanisation where the individual resides to control for possible geographic differences in well-being[4]. Unweighted summary statistics of the variables used in the analysis can be viewed in Table 1.

3.2 Method

The empirical models build upon what has been done previously within the economic literature on well-being (see e.g. Lindqvist et al., 2018, Latif, 2016, Ólafsdóttir et al., 2015, Clark et al., 2006, and Groot and Maassen van den Brink, 2004). The assumption is that happiness and satisfaction with life (SWL), which are taken to be proxies of well-being or utility, of an individual are associated with income (which is taken to be a rather noisy proxy for consumption (Clark et al., 2006)), economic position (EP), actual and perceived, and other individual traits as follows:

$$W_i = \beta_0 + \beta_1 ln Y_i + \sum_{k=1}^{q} \alpha_k EP_{k,i} + \sum_{n=1}^{p} \gamma_n X_{n,i} + \varepsilon_i \tag{1}$$

Where W is the standardised well-being variable, either happiness or SWL. *EP* is a

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[4]It is not clear whether or to what extent urbanisation affects well-being in richer countries. Easterlin et al. (R. A. Easterlin et al., 2011) show that in Europe, individuals in rural areas have a slightly higher mean satisfaction with life, but another study using European data suggests that a higher score in SWL is associated with living in urbanised areas that are not densely populated, compared to other regions (Lenzi and Perucca, 2018).

vector of dummy variables for the variables of interest, either perceived economic position (PEP) or people's relative economic position (REP). PEP_1 refers to perceiving oneself much worse off, PEP_2 refers to feeling somewhat worse, PEP_3 somewhat better off, and PEP_4 much better off. Perceiving oneself neither worse nor better off is taken as the reference and omitted from the models. REP_1 refers to being in the bottom 20% of the country's income distribution, REP_2 being in the 21-40th percentiles, REP_3 being in the 61-80th percentiles (above the mean), and REP_4 being in the top 20%, where the middle-income group is taken as the reference. X are other individual traits traditionally controlled for in well-being functions as well as country-dummies. To account for the recognized diminishing marginal utility of income (see e.g. Layard et al., 2008), and to make the distribution of the income variable better resemble a normal distribution, the natural log of income is used.[5]

Three different specifications of the model were fitted. The first only includes the PEP-variables as well as the income variable and the individual traits used as controls. This model is estimated to examine the relationship between people's perception of their financial situation and their well-being. The second includes the REP-variables, as well as the income variable and controls. An estimation of this model is in line with the other research on the relationship between relative income, absolute income and well-being. The third includes both the PEP- and the REP-variables, and the income variable and controls. This third model is the most interesting since including both perceived and actual economic position the possible effects of each on well-being can be isolated from each other. This provides information on whether actual or perceived economic position has a stronger association with well-being.

Additionally, two different specifications of the model which only includes perceived economic position were fitted. In the first model, the control variables are age, age squared, gender, marital status, degree of urbanisation, number of children in the household and country. In the second model, variables on education and employment are added. Since the effect of income on well-being can in part be explained by employment and education, including these variables as covariates might bias the point estimate for income in the analysis (Groot and Maassen van den Brink, 2004). By including employment, one essentially controls for the effects of leisure time on well-being. Furthermore, it is not unlikely that perceived economic position, on the one hand, and education and employment, on the other, are connected, while not obvious to what extent and in what way. When estimating the models with either just the REP-variables or both the REP- and PEP-variables, education and employment are included as controls. Additional analyses were performed by gender and by each country. Sample weights were used to make the results

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[5]To make sure this is the correct functional form, income was plotted against happiness and SWL. See Figure 2 in Appendix A.

cross-nationally representative and nationally representative in the case of the regressions by country (Eurofound and GfK EU3C, 2012b).

The models were estimated using OLS regressions and standard errors were clustered by country. An estimation using country fixed effects (FE) was not conducted due to the way the REP-variables were constructed[6] since it would lead to multicollinearity problems. The alphas and betas are coefficients measuring the relationship between well-being on the one hand and income and perceived economic position on the other. The gammas measure the relationship between other covariates and well-being. An error term, assumed to be normally distributed, is denoted by ε. Presuming that income increases well-being we expect $\beta_1 > 0$ in all specifications of the model. When estimating the models with the PEP- and REP-variables separately, we expect that $\alpha_1 < \alpha_2 < 0$ and $\alpha_4 > \alpha_3 > 0$, with being much worse off having the lowest point estimate but being much better the highest. Similar point estimates are expected to hold when including both the PEP- and REP-variables in the model.

4   Results and discussion

The focus of this thesis is people's economic position, both perceived and actual. The question of interest is, therefore, as has been said above, how well off people *think* they are compared to other families in the same country and how that compares to their actual relative income. Before looking at the relationship between people's economic position and well-being, looking at how people position themselves provides interesting information since it reveals what people think of their own situation, rather than what it objectively is. Furthermore, since researchers do not agree on what people's reference group is, looking at the distribution of people's answers might provide some insight into what it actually is. This chapter will be divided into two sections. In the first section, I will discuss people's perception, focusing on how different groups of people position themselves economically within their country. In the second section, the results from the regressions will be presented, discussed and used for further analysis.

4.1   People's Perception of Their Economic Position

The distribution of the answers can be seen in Table 2, which shows how all 32,203 individuals answer the question of how well or bad off their family is compared to other families in the same country. More than half of the individuals, or 52.5%, answer that they are similarly well off compared to other families in their country. This, by itself, is interesting. There are at least three possible explanations for this, some more plausible

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[6]As said above, the REP-variables are constructed using the each country's income distribution, this means that the within each country the REP-variable holds the same information as the income variable.

Table 2: Self-assessed financial situation compared to others in country

	Percent	Income	Happiness	SWL
Much worse	6.1%	535.575	5.404	4.884
		(1,243.323)	(2.535)	(2.601)
Somewhat worse	15.3%	774.788	6.473	5.992
		(1,919.172)	(2.046)	(2.320)
Neither worse nor better	52.5%	1,034.649	7.387	7.115
		(1,617.353)	(1.816)	(2.010)
Somewhat better	21.6%	1,614.724	7.902	7.777
		(2,198.456)	(1.609)	(1.764)
Much better	4.6%	2,539.739	8.220	8.180
		(3,637.098)	(1.588)	(1.857)

Note: Stand. dev. in parentheses   N=32,203

than others. The first is that people's perception is accurate and reflects reality, the second is that the income distribution in these 34 European countries is so equal that most people perceive themselves similarly well off as others in their country, and the third is that when people are asked to compare their family's situation to others in the same country, they compare themselves to a different group of people (e.g. their neighbours or people that have similar characteristics). In what follows, I will look into these three possible explanations.

4.1.1 Is People's Perception Accurate?

The fact that more than half of people answer that they are neither financially better nor worse off than others might simply reflect reality. That would mean that within each of the 34 European countries used in this analysis, half of the individuals are of similar economic position. This would also entail that the other half accurately position themselves, which means that those that perceive themselves as being much worse off financially than others actually are much worse off, and so on. This is assuming that what people understand when asked about how well they are off financially, is their income level compared to others (which is not obviously the case).

In support of this, we can see, in Table 2, that the mean income of those claiming they are much worse off is lower than those claiming they are only somewhat worse off. What's more, we can see that the mean income is increasing in line with a better view of one's financial situation. But what can also be seen is that the standard deviation of the

Table 3: Self-assessed financial situation by income group

	Bottom 20%	21-40%	41-60%	61-80%	81-100%
N:	6,023	6,044	6,339	5,757	6,035
Much worse	17.6%	7.1%	3.3%	1.9%	1.1%
Somewhat worse	25.1%	22.2%	14.3%	9.7%	4.9%
Neither better nor worse	46.6%	57.1%	59.9%	57.2%	41.9%
Somewhat better	9.3%	12.1%	19.7%	26.7%	39.5%
Much better	1.5%	1.5%	2.7%	4.4%	12.6%

mean income is very high. This suggests that although people tend to situate themselves correctly, many do not seem to do so accurately. This is even clearer if we look at Table 9 in Appendix B. There, people are grouped by country and by how they answered the question on financial standing. Although one can see that in most cases individuals that situate themselves higher, have a higher average income, the standard deviation is so great that it contradicts the claim that people accurately situate themselves within the income distribution of their country.

Another way of seeing if people accurately position themselves within their country's income distribution is by using the dummy variables created for their relative economic position (see section 3.1) to see whether people's perceived economic position and their *actual* relative economic position are the same (or at least close). This has been done in Table 3. There it can be seen that some respondents do indeed situate themselves accurately, but many of them are far from doing so. What is striking, is that most people *still* situate themselves as neither better nor worse off than others in the country regardless of their income, albeit a greater share of them situate themselves towards the middle of the income distribution. Therefore, one must conclude that there is some other explanation for the fact that most people perceive themselves neither better nor worse than others in their country.

4.1.2 Does People's Perception Reflect a Low Gini Index?

Another possible explanation for most people perceiving themselves as neither better nor worse than others in their country could be that in their country there is high equality, which would then lead to people perceiving most other people in the country being similarly well off, despite income not being completely equal. If this hypothesis holds, then one would assume that a country's lower Gini coefficient would lead to more people perceiving themselves as neither better nor worse off financially than others. In figure 1
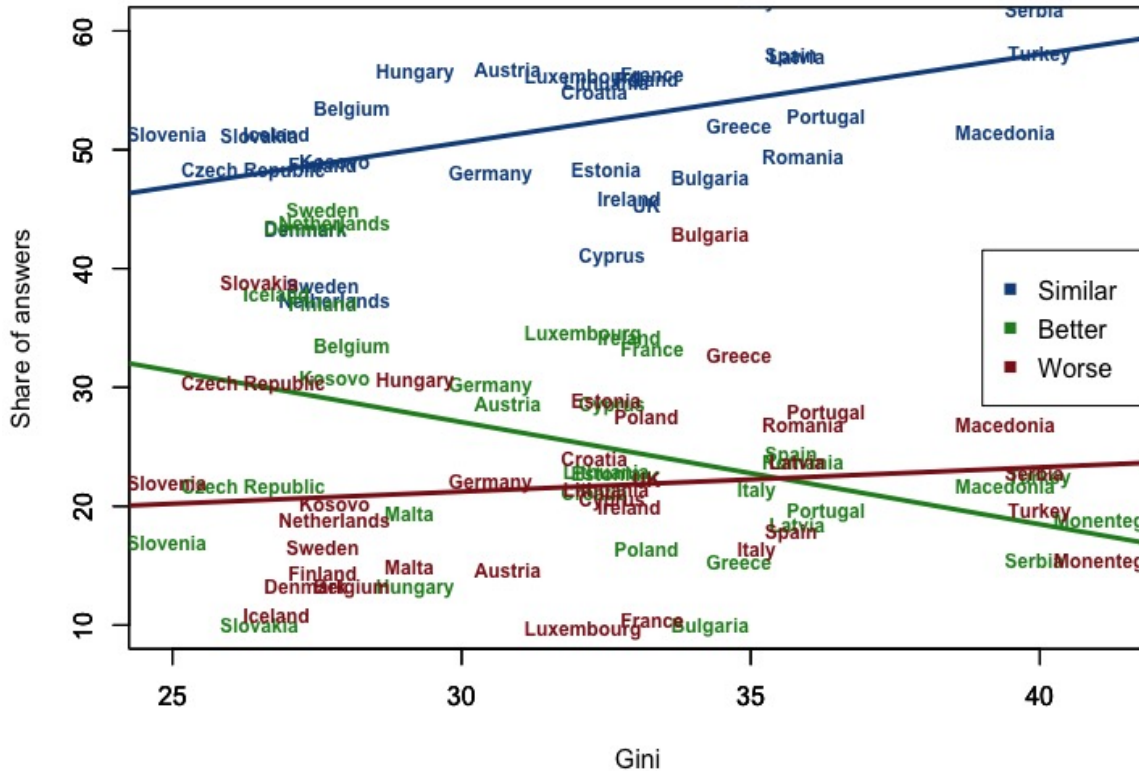
Figure 1: Share of people that perceive themselves similarly well off plotted against Gini coefficient. The blue country names refer to the share of people that state that their financial situation is neither worse nor better off than others in their country. The green country names refer to the share of people that state they are better off financially than others in their country and the red refer to the share of people that state they are worse off.

the share of people in each county who position themselves as neither worse nor better off is plotted on the country's Gini coefficient as it was at the time of the survey as estimated by the World Bank (2019). Table 8 in Appendix B presents people's self-assessed financial situation (much worse and somewhat worse have been grouped together, as well as somewhat better and much better) with the Gini coefficient.

Looking at figure 1, the opposite seems to be the case. That is, countries with a higher share of people positioning themselves as similarly well off are associated with a higher Gini coefficient. Surprisingly, the lowest share of people situating themselves similarly well off as others can be seen in Sweden and the Netherlands, countries that consistently have a low Gini coefficient. Furthermore, in many countries with a low Gini coefficient, a greater share of people perceive themselves as better off than worse off (see e.g. Belgium, Denmark, Finland, Iceland, Netherlands, and Sweden).

It can also be seen in figure 1 that a lower Gini coefficient is associated with a greater

share of people perceiving themselves better off than others in their country. Although not much can be said for certain about the relationship between the Gini coefficient and people's perception of their financial situation, it can be concluded that the explanation for people systematically perceiving themselves no worse nor better off financially than others in their country is not simply because of overall income equality (although it might, of course, be part of the reason).

One possible reason for a bigger share of people answering that they are neither worse nor better off than other in countries that have more inequality, is that it might be harder for them to situate themselves within the income distribution. A country with high inequality will have more "extreme" ends of the income distribution, which would make "the middle" bigger, which would make it harder for people to accurately assess where they land in the income distribution and therefore simply guess that they are in the middle. Another possible explanation might be that in countries with more inequality, mobilisation or communication between groups might be less, which would lead to people not having an accurate idea about the financial situation of other households in their country.

Overall, this perception of similar economic position might be enforced further by the generous welfare systems that are in place in many of the 34 countries, since even though people's income is different, people's access to education and health care, for example, is quite equal. Indeed, although income is often viewed as representing consumption, in many countries it is an inaccurate measure of consumption (Clark et al., 2006, p.30-31). In countries with a good social system, consumption of health, education, and other public goods is paid by taxes and not directly by the individual. Therefore, it's not unlikely that income is a bad representation of consumption in many countries in Europe. This would mean that although people's income differs, their consumption does not differ to the same degree, which leads to people feeling similarly well off. In other words, despite income inequality, consumption inequality is often not as great (see e.g. Krueger and Perri, 2006), which would lead to a greater share of people perceiving themselves as similarly well off as others in their country.[7]

4.1.3 People's Perception Reflects Homogeneous Reference Groups

The third possible explanation for people's perception is that when they are asked to compare their financial situation to others in their country, they do not do so. Instead, they might compare themselves to others similar to them, e.g. their family, neighbours or colleagues. This is what the literature on relative income and reference groups suggests (see section 2).

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[7]Further analysis is needed to examine this hypothesis, for example by using data from countries that do not have the same welfare system, e.g. the United States.

Consider again Table 3, specifically at the top 20% group. There, most people perceive their financial situation as either somewhat better or much better than others in the country (52.1%). One might be surprised that not a greater share of people in the top 20% think they are better off than others. What is even more surprising, is that 6% of the top 20% perceive their financial situation as being worse than others in the country. This might suggest that although people are asked to compare their financial situation to all other households in their country, that is not actually what they do.

Further, the respondents might not be thinking about their income when answering questions about their financial situation; they might be thinking about consumption. In other words, it might be the case that when people are asked to compare their financial situation to others, what they compare is conspicuous consumption or other people's "flaunting of wealth". This might be explained by people's desire to *look* as if they are rich or at least that they have enough money, which in turn makes it hard for people to accurately compare their financial situation of others.

4.2 The Relationship Between Economic Position and Well-Being

The distribution of answers has now been discussed in detail, although clear explanations have not been provided for the fact that most people perceive themselves as neither better nor worse off than others. In the following section, the relationship between an individual's perceived economic position, as well as his or her actual economic position, and his or her well-being will be discussed and compared.

4.2.1 Regression Results: Perceived Economic Position

Results from the regression with the well-being variables (happiness and SWL) as the dependent variables can be found in Table 4, both with and without education and labour status variables as controls.[8]. In all cases, we can see that the point estimates for income are positive. Furthermore, perceived economic position (PEP_i) has the expected effects, i.e. perceiving oneself worse off is associated with lower levels of happiness and SWL, while the perception of being better off is associated with higher levels of well-being. The estimates for perceiving oneself much worse or better have a bigger absolute value than the perception of being somewhat worse or somewhat better off. All relevant point estimates are statistically significant at the 1% level.

It can be seen that, when controlling for education and employment, both perceived economic position and income have lower coefficients (in absolute terms), but the difference is not great (the biggest difference is in the point estimate for feeling much worse

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[8]Point estimates for all variables can be seen in Table 11 in Appendix B. A country FE model, using the same variables except the country-dummies, was estimated and the coefficient estimated were similar to the ones presented here.

Table 4: Models with perceived economic position as independent variables

	Dependent variable:			
	Happiness (standardised)		SWL (standardised)	
	Without educ. and labour	With educ. and labour	Without educ. and labour	With educ. and labour
	(1)	(2)	(3)	(4)
ln_inc	0.090***	0.071***	0.133***	0.105***
	(0.011)	(0.011)	(0.012)	(0.012)
PEP_1	−0.941***	−0.882***	−0.902***	−0.810***
	(0.045)	(0.044)	(0.042)	(0.042)
PEP_2	−0.418***	−0.397***	−0.455***	−0.421***
	(0.015)	(0.022)	(0.023)	(0.023)
PEP_3	0.153***	0.143***	0.168***	0.157***
	(0.017)	(0.017)	(0.017)	(0.017)
PEP_4	0.255***	0.241***	0.266***	0.248***
	(0.033)	(0.033)	(0.034)	(0.034)
Observations	32,065	31,883	32,135	31,953
Adjusted R^2	0.175	0.182	0.177	0.189
Note:				*p<0.1; **p<0.05; ***p<0.01

off (PEP_1)). This, by itself, is an interesting finding: One might suspect that people's education and/or employment would affect their perception of their social status. It does not seem to do so. Since the point estimates don't differ greatly and controlling for individual differences helps isolate the association we are interested in, all following regression results that are presented have education and labour status as controls.

For comparison, a model without the PEP-variables was estimated to see the point estimate for income (see Table 10 in Appendix C). There it is 0.159 when looking at its association with happiness compared to 0.071 with PEP-variables, but 0.191 when looking at the association with SWL compared to 0.105. In other words, including perceived economic position controls for some effects of income, which suggests that perceived economic position matters in addition to absolute income. It is to be expected that the coefficient estimate for income is higher when SWL is the dependent variable than when happiness is the dependent variable since happiness is considered noisier and having a more day-to-day variance based on mood, weather and other small everyday changes (see e.g. Ásgeirsdóttir et al., 2020). Therefore, from now on the main focus will be on the models where SWL is the dependent variable. For completion, the models with happiness as the dependent variable are included in Appendix C and discussed when called for.

Looking at the coefficients for the perceived economic position (PEP) variables, we

Table 5: Regression results, by gender

	Dependent variable:			
	Happiness (standardised)		SWL (standardised)	
	Men	Women	Men	Women
	(1)	(2)	(3)	(4)
ln_inc	0.077***	0.065***	0.094***	0.117***
	(0.017)	(0.016)	(0.018)	(0.017)
PEP_1	−0.835***	−0.916***	−0.848***	−0.771***
	(0.070)	(0.057)	(0.067)	(0.054)
PEP_2	−0.451***	−0.357***	−0.477***	−0.378***
	(0.036)	(0.028)	(0.036)	(0.028)
PEP_3	0.170***	0.113***	0.146***	0.164***
	(0.025)	(0.023)	(0.027)	(0.023)
PEP_4	0.272***	0.204***	0.271***	0.209***
	(0.046)	(0.048)	(0.047)	(0.051)
Observations	13,825	18,058	13,853	18,100
Adjusted R^2	0.196	0.172	0.214	0.168
Note:			*p<0.1; **p<0.05; ***p<0.01	

can first see that the size of the coefficients differ depending on whether the individual feels worse or better off. The size of the coefficient for PEP_1 (much worse off) is more than three times the size of PEP_4 (much better off). The size difference between PEP_2 (somewhat worse off) and PEP_3 (somewhat better off) is just over 2.5 times. Putting this into perspective, let us look first at income; the effect of a percentage increase in income 0.0011 standard-deviation (SD) units of SWP, that is to say, if an individual's income doubles (100% increase), his or her SWL increases by 0.105 SD units. But if an individual's PEP changes from feeling similarly well off to feeling much better off, that contributes on average an additional 0.248 SD units. Which means that perceiving oneself as being much better off is, on average, equivalent to their income doubling twice. This is not inconsiderable, but looking at PEP_4, we can see that the perception (whether it is accurate or not) of being much worse off is -0.810 SD units worse than the perception being of the same financial standing. This would mean, according to these estimates, that perceiving one's financial situation much worse than others is the equivalent of losing more than 771 times your income.

It would be tempting to state that perceiving one's economic situation as being worse than others has a significantly more effect on well-being than perceiving oneself better off, but since we do not know in which direction the causation runs, we cannot be confident that is the case. It might well be the case that many of those individuals who feel less

satisfied with their lives are more pessimistic about their finances. This is plausible if we keep in mind that most people (regardless of their actual relative financial situation) perceive themselves as being similarly well off as others in their country and some of those who are actually well-off perceive themselves as being worse off. This reinforces the idea that being pessimistic would lead to people scoring low in happiness and SWL while being more likely to consider their financial situation worse than others, not that people's perception of the financial situation has a negative effect on their well-being. Regardless of the causal connection, we can conclude that perceiving one's family's financial situation as being worse than other families' in the same country is associated with significantly lower levels of well-being, than perceiving it better.

Table 5 presents the regression results when the sample has been divided between men and women. Overall, we can see the same story as in Table 4, but there are still some noticeable differences between men and women. First off, we can see that income is associated with higher SWL for women (the opposite is true when looking at happiness). Furthermore, PEP_1 (much worse off) seems to have a smaller effect on women's well-being than men's[9]. It is hard to say what the reasons are for this. One possible explanation is that absolute wealth has a bigger effect on women's lifelong well-being, while social status (which might be captured by PEP) has a slightly bigger effect on men's day-to-day happiness, rather than women's. But, again, since the causal effects are not known, this is only speculation.

4.2.2   Regression Results: Relative Income

We have now looked at the relationship between perceived economic position and well-being, but as we saw in section 4.1, people's actual financial standing is not always the same as their perception of it. Therefore, there is reason to look at the relationship between people's well-being and their actual relative economic position. Using the five dummy variables on relative economic position (REP) created by using people's actual economic position instead of PEP, the models are estimated again. When interpreting the coefficient, we are comparing being in the top 20% (in the case of REP_1) of the income distribution in any of the 34 countries, to that of being in the middle income group (40-60th percentiles) in any of the countries. Since these dummy variables were created using the respondent's income, the models are estimated with and without the income variable (natural log of income), since it is not obvious to what degree multicollinearity is a problem. The point estimates can be seen in Table 6[10], where all relevant coefficients

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[9]We can also see when looking at the models with happiness as the dependent variable, that PEP_1 (much worse off) has a bigger negative point estimate for women, while PEP_4 (much better off) has a bigger positive point estimate for men.

[10]The estimates for the model with happiness as the dependent variable can be seen in Table 12 in Appendix C.

Table 6: Relative income

	Everyone	Men	Women	Everyone	Men	Women
			SWL (standardised)			
	(1)	(2)	(3)	(4)	(5)	(6)
ln_inc	0.038*	0.010	0.063*			
	(0.019)	(0.029)	(0.025)			
REP_1	−0.263***	−0.291***	−0.241***	−0.284***	−0.303***	−0.267***
	(0.030)	(0.048)	(0.038)	(0.021)	(0.035)	(0.027)
REP_2	−0.091***	−0.086*	−0.097**	−0.091***	−0.097**	−0.085***
	(0.024)	(0.038)	(0.030)	(0.019)	(0.031)	(0.024)
REP_3	0.097***	0.130***	0.063*	0.121***	0.124***	0.115***
	(0.023)	(0.034)	(0.030)	(0.019)	(0.029)	(0.025)
REP_4	0.172***	0.214***	0.136***	0.214***	0.210***	0.220***
	(0.028)	(0.042)	(0.036)	(0.019)	(0.030)	(0.025)
Observations	32,360	14,008	18,352	33,353	14,441	18,912
Adjusted R^2	0.139	0.161	0.121	0.139	0.162	0.121

Note: *p<0.1; **p<0.05; ***p<0.01

are significant at the 1%, 5% or 10% level, except for income in the model where only men are included in the sample.

We can see that the point estimates for income are very low (and in the case of men, we cannot conclude that it is not statistically different from zero). If we compare it to the estimation of the model without PEP or REP in Table 10, we can deduce that the correlation between well-being and income is mainly driven by people's relative income, not absolute. This is in line with the literature discussed in section 2, where the evidence supports that relative wealth matters more than absolute wealth.

Comparing the point estimates for the REP-variables of the models including income to that without income, we can see that they are consistently bigger but that they do not differ greatly. As might have been expected, the estimates suggest that being in the lower end of the income distribution is associated with lower well-being, while being in the higher levels of the income distribution is associated with higher well-being. Corresponding to PEP, we can see that the biggest estimates are those for REP_1, although the difference between being better and worse off is not nearly as great as with PEP. We can see that being in the bottom 20% of the distribution of any of the countries, is associated 0.263 SD lower well-being, compared to being in the middle of the income distribution. Comparing this with being in the top 20%, which results in 0.172 SD higher SWL, the difference is not even twice in size. This is a much smaller difference compared to the model with PEP. The results suggest that it matters slightly more to people that they are below the

Table 7: Main Results: Relative income and Perceived Economic Position

	Dependent variable:		
	SWL (standardised)		
	Everyone	Men	Women
	(1)	(2)	(3)
ln_inc	0.036***	0.009	0.060*
	(0.018)	(0.026)	(0.025)
REP_1	−0.133***	−0.145**	−0.125***
	(0.029)	(0.047)	(0.038)
REP_2	−0.034	−0.023	−0.045
	(0.023)	(0.037)	(0.029)
REP_3	0.043	0.079*	0.007
	(0.022)	(0.033)	(0.030)
REP_4	0.077**	0.117*	0.042
	(0.027)	(0.040)	(0.036)
PEP_1	−0.785***	−0.820***	−0.750***
	(0.042)	(0.067)	(0.054)
PEP_2	−0.408***	−0.459***	−0.368***
	(0.022)	(0.037)	(0.028)
PEP_3	0.148***	0.132***	0.160***
	(0.018)	(0.026)	(0.024)
PEP_4	0.243***	0.264***	0.207***
	(0.035)	(0.047)	(0.051)
Observations	31,953	13,853	18,100
Adjusted R^2	0.190	0.216	0.169

Note: $^*p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

average income than being above the average income.

4.2.3 Regression Results: Relative Income and Perceived Economic Position

Table 7 shows the point estimates for models that include both PEP and REP where SWL is the dependent variable (see Table 13 in Appendix C for estimates where happiness is the dependent variable). Again, we can see that the point estimates for absolute income are not statistically significant in the model where only men are included. It can further be seen that not all point estimates for REP are statistically significant and that compared to the point estimates in Table 6, the estimates are not as big, which can be explained by the fact that people's perception is included in the model. When we compare the PEP estimates in Table 7 to those in Table 4, we can see that they do not differ greatly.

This suggests that even if we control for people's placement within the actual income distribution in their country and their absolute income, the relationship between their perception of their financial situation and their well-being is almost the same. The point estimates for PEP are consistently bigger than those for REP and, most notably, being in two income groups above and below the middle income group in your country, does not seem to matter much when controlling for individual's perception. This points to people's perception of their financial situation being a better indicator of people's well-being than their actual situation. One possible reason for this is that the causal relationship between PEP and well-being is even more unclear than the relationship between relative income and well-being since, as was pointed out above, people with low scores in happiness or SWL might be more likely to underestimate their own financial situation. Further analysis for the reasons for people's perception of their own situation and the relationship between perceived and actual economic position and that of well-being is needed to say anything for sure about the dynamics of income, perception and well-being.

In Tables 14, 15, and 16 in Appendix C, the results by country are presented. There, the interpretation of the REP-coefficients is different from the one in Table 7, in that we are comparing, for example, being in the top income group in a specific country to being in the middle income group in that same country, while in Table 7 the comparison is between income groups regardless of the country. Since observations from each country are often few, not all point estimates are statistically significant and in some cases, the results seem counter-intuitive. For example, feeling much worse off is associated with a higher SWL in Belgium. Nevertheless, one can see an overall pattern of perception of a much worse financial situation being associated with lower well-being, while the perception of being much better off is associated with higher well-being, with somewhat worse off and better off being in between. Furthermore, the overall pattern shows that the point estimates for REP are smaller than those of PEP and often not statistically significant.

It is tempting to conclude that it matters much more to people to feel richer than others in their country than actually being richer. And, even more conspicuously, that feeling poorer matters significantly more than actually being poorer. Although this might be the case, this significant difference between the coefficient might also be explained by people's reference group. If people are not actually comparing themselves with others in their country when asked to assess their financial standing relative to others, then it should not be surprising that when looking at the income distribution within the country gives smaller point estimates. The difference would then be explained by the REP-variables not being constructed in accordance with people's actual reference group. A further examination of how the relative position variable should be constructed is needed to affirm whether it matters more or less to *feel* richer or *be* richer.

5 Conclusion

The relationship between income and well-being has been debated for decades. Most researchers agree that in richer countries, relative income is crucial for people's happiness, and likely more important than absolute income. The aim of this thesis was to add to the literature, by not only examining the relationship between well-being and relative income in 34 European countries but by primarily focusing on people's perceived economic position and its role in well-being.

There are four main results presented. First, looking at how people position themselves, it can be seen that most people view their own family's financial situation neither worse nor better than other families' in their country. Although no final explanation for that is presented, it is clear that contrary to what one might think, lower inequality does not result in more people positioning themselves as neither better nor worse off financially.

Second, when the relationship between perceived economic position and well-being is examined, it can be seen perceiving one's family worse off than other families in the country is associated with lower well-being when compared to feeling similarly well off, while perceiving oneself better off is associated with higher well-being. Perceiving oneself much worse off than others is related to a 0.810 SD lower SWL while perceiving oneself much better off is related to a 0.248 SD higher SWL. This suggests that it matters more to people that they are worse off than others than that they are better off.

Third, when looking at the effects of relative income, where people were divided into groups of each 20% income group, it can be seen that relative income matters while absolute income only matters slightly, if at all. This is in line with prior research.

Fourth, when estimating models where both perceived and actual relative economic position is included, it can be seen that perceived position has a significantly stronger association with well-being, compared to the actual relative position. This estimation also suggests that even when controlling for people's actual placement within their country's income distribution as well as their absolute income, the relationship between their perceived economic position and well-being is the same. That is to say, it seems not to matter whether you are rich or poor, the effects of *feeling* poorer are the same regardless.

A further examination into why the majority of people perceive themselves as similarly well off as others in their country would be helpful. It might be possible to utilise the information on people's self-assessed economic position to better understand their reference group, a topic that researchers have not reached agreement on since information about people's reference group is crucial to understand the relationship between relative income and well-being. It might be the case that people do not really care where they fall in their country's income distribution since their reference group is different from all families in their country, and that is the reason for the smaller coefficients for the REP-variables compared to the PEP-variables. That is the more plausible explanation than

concluding that it simply matters more to people that they *feel* richer than others than actually being richer.

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Appendix A: Graphs
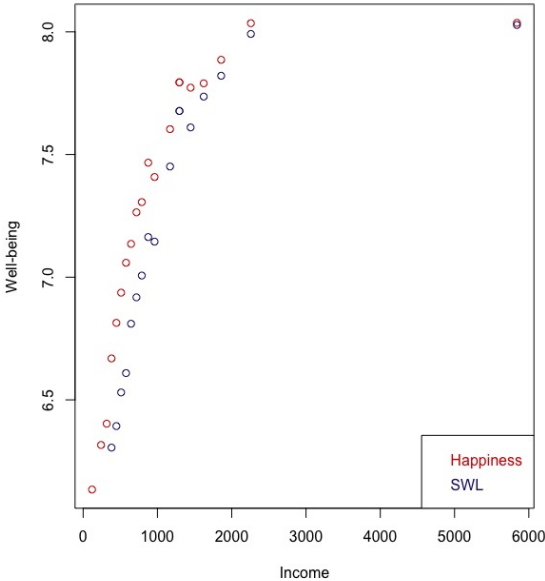
(a) Income
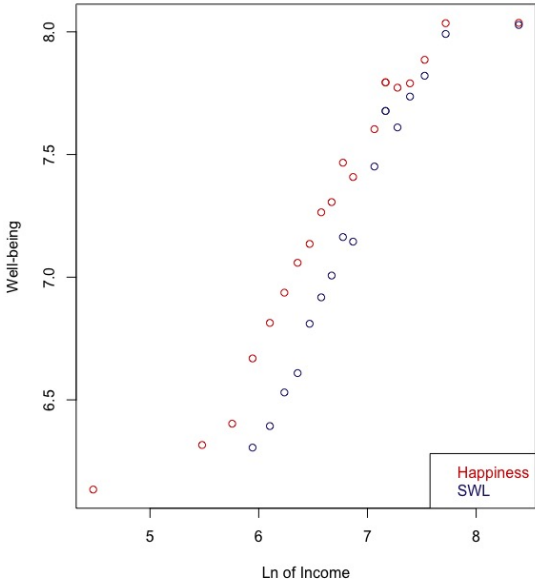
(b) Ln of Income

Figure 2: Well-being (happiness and SWL) plotted as functions of income and ln of income.

Appendix B: Summary Statistics

Table 8: Self-assessed financial situation compared to others in country, by country

Country	Worse	Similar	Better	Gini
Austria	14.7%	56.7%	28.6%	30.8
Belgium	13.1%	53.5%	33.4%	28.1
Bulgaria	42.7%	47.5%	9.8%	34.3
Croatia	24.0%	54.9%	21.1%	32.3
Cyprus	20.5%	41.0%	28.5%	32.6
Czech Republic	30.3%	48.2%	21.5%	26.4
Denmark	13.3%	43.3%	43.4%	27.3
Estonia	28.9%	48.3%	22.8%	32.5
Finland	14.3%	48.7%	37.0%	27.6
France	10.4%	56.3%	33.3%	33.3
Germany	22.0%	47.9%	30.1%	30.5
Greece	32.7%	52.0%	15.3%	34.8
Hungary	30.5%	56.4%	13.1%	29.2
Iceland	10.8%	51.3%	37.9%	26.8
Ireland	19.9%	45.9%	34.2%	32.9
Italy	16.2%	62.5%	21.3%	35.1
Kosovo	20.2%	49.0%	30.8%	27.8
Latvia	23.7%	57.8%	18.5%	35.8
Lithuania	21.4%	55.7%	22.9%	32.5
Luxembourg	9.6%	56.0%	34.4%	32.1
F.Y.R. Macedonia	26.9%	51.4%	21.7%	39.4
Malta	14.9%	65.7%	19.4%	29.1
Montenegro	15.3%	66.0%	18.7%	41.2*
Netherlands	18.8%	37.3%	43.9%	27.8
Poland	27.6%	56.0%	16.4%	33.2
Portugal	27.8%	52.7%	19.5%	36.3
Romania	26.9%	49.4%	23.7%	35.9
Serbia	22.8%	61.8%	15.4%	39.9*
Slovakia	38.8%	51.2%	10.0%	26.5
Slovenia	22.0%	51.3%	17.7%	24.9
Spain	17.8%	57.9%	24.3%	35.7
Sweden	16.5%	38.6%	44.9%	27.6
Turkey	19.5%	57.9%	22.4%	40.0
UK	22.3%	45.3%	22.4%	33.2

* The Gini coefficient for 2011 not available, 2012 data instead.

Table 9: Answers, by country

	Much worse	Somewhat worse	Similar	Somewhat better	Much better
Austria (N = 755)					
PEP	2.1%	12.6%	56.7%	22.9%	5.7%
Happiness	6.625	7.074	7.643	7.936	8.419
SWL	6.062	6.979	7.549	7.960	8.581
Income	848.390	1,019.439	1,435.531	1,842.939	2,536.209
	(267.967)	(376.743)	(733.006)	(1,943.157)	(2,377.586)
Belgium (N = 742)					
PEP	0.8%	12.3%	53.5%	29.6%	3.8%
Happiness	6.500	6.714	7.635	8.059	8.321
SWL	7.000	6.011	7.474	7.968	8.143
Income	1,268.963	1,135.916	1,264.079	1,926.888	2,037.567
	(360.823)	(1,478.175)	(753.989)	(2,475.348)	(935.740)

Bulgaria (N = 770)

PEP	18.7%	24.0%	47.5%	8.4%	1.3%
Happiness	4.273	5.342	6.490	7.600	8.100
SWL	3.826	4.764	5.885	6.754	7.800
Income	268.109	401.557	510.985	691.187	860.608
	(148.770)	(275.876)	(269.529)	(344.421)	(540.423)

Croatia (N = 720)

PEP	9.4%	14.6%	54.9%	18.3%	2.8%
Happiness	6.239	6.442	7.347	8.068	8.100
SWL	5.206	5.790	6.858	7.788	7.850
Income	410.101	490.911	677.328	893.153	1,382.446
	(334.856)	(233.734)	(388.781)	(420.136)	(1,010.001)

Cyprus (N = 630)

PEP	7.5%	13.0%	51.0%	24.9%	3.7%
Happiness	6.447	7.138	7.426	7.897	8.182
SWL	5.319	6.561	7.325	7.561	7.652
Income	857.200	909.726	1,171	1,530.699	2,404.669
	(653.857)	(440.752)	(937.463)	(959.531)	(1,970.620)

Czech Republic (N = 730)

PEP	4.9%	25.3%	48.2%	18.2%	3.3%
Happiness	5.361	6.222	7.327	7.654	7.917
SWL	4.972	5.276	6.599	7.203	7.292
Income	496.675	754.157	880.866	1,128.228	1,582.455
	(219.455)	(289.968)	(364.062)	(435.107)	(814.525)

Denmark (N = 868)

PEP	1.6%	11.6%	43.3%	31.9%	11.5%
Happiness	8.214	7.644	8.332	8.424	8.560
SWL	8.214	7.950	8.505	8.523	8.900
Income	1,343.152	1,137.015	1,504.407	1,944.072	2,354.503
	(901.276)	(443.630)	(571.077)	(772.627)	(1,058.024)

Estonia (N = 772)

PEP	7.9%	21.0%	48.3%	20.2%	2.6%
Happiness	5.200	6.261	6.9033	7.436	7.650
SWL	4.213	5.621	6.263	7.205	7.500
Income	383.097	482.726	604.787	1,433.471	942.822
	(176.629)	(221.395)	(298.804)	(3,892.428)	(753.029)

Finland (N = 875)

PEP	3.1%	11.2%	48.7%	32.0%	5.0%
Happiness	7.407	7.867	8.160	8.404	8.682
SWL	6.519	7.500	8.129	8.436	8.727
Income	894.512	1.439.781	1,621.204	2,347.270	3,301.116
	(665.421)	(2,429.522)	(1,425.762)	(3,339.277)	(4,044.372)

France (N = 1,949)

PEP	2.3%	8.1%	56.3%	25.4%	7.9%
Happiness	5.500	6.247	7.392	7.654	8.229
SWL	5.000	6.063	7.138	7.633	8.085
Income	752.728	823.935	1,223.883	1,836.161	3,237.983
	(526.090)	(361.168)	(1,119.461)	(1,533.405)	(4,898.998)

Germany (N = 2,414)

PEP	6.2%	15.8%	47.9%	23.4%	6.8%
Happiness	5.392	6.751	7.580	7.966	8.141
SWL	5.000	6.438	7.502	7.747	8.190
Income	772.468	1,011.110	1,369.294	2,124.444	3,897.108
	(573.898)	(572.037)	(1,497.107)	(2,955.042)	(6,609.598)

Greece (N = 700)

PEP	13.3%	19.4%	52.0%	13.1%	2.1%
Happiness	4.891	5.837	6.766	7.500	7.067
SWL	4.280	5.326	6.403	7.196	7.067
Income	468.286	966.100	1,318.311	1,652.074	1,540.187
	(204.548)	(2,070.738)	(3,436.306)	(3,828.792)	(1,507.272)

Hungary (N = 714)

PEP	7.4%	23.1%	56.4%	11.5%	1.5%
Happiness	5.642	6.098	7.234	7.915	8.636
SWL	3.962	4.703	6.288	6.963	8.182
Income	442.538	516.014	565.248	766.550	827.642
	(324.984)	(303.500)	(312.316)	(627.355)	(335.039)

Iceland (N = 820)

PEP	2.2%	8.5%	51.3%	32.7%	5.2%
Happiness	7.833	7.586	8.393	8.534	8.605
SWL	7.889	7.357	8.259	8.605	8.791
Income	1,197.106	1,137.800	1,597.271	1,995.503	3,479.701
	(348.428)	(446.221)	(1,608.907)	(2,200.229)	(3,093.234)

Ireland (N = 843)

PEP	6.3%	13.6%	45.9%	26.3%	7.8%
Happiness	7.170	7.130	7.762	8.036	8.303
SWL	6.302	6.600	7.553	7.923	8.030
Income	1,084.882	1,514.286	1,703.300	2,707.683	3,166.181
	(813.810)	(3,858.434)	(3,598.188)	(4,576.357)	(5,611.237)

Italy (N = 1,474)

PEP	2.4%	13.8%	62.6%	19.7%	1.6%
Happiness	5.229	6.210	7.091	7.522	7.000
SWL	4.971	5.579	6.903	7.433	7.087
Income	2,427.334	1,168.327	1,624.059	2,071.385	3,589.362
	(8,566.088)	(2,195.409)	(3,066.532)	(2,549.885)	(3,628.045)

Kosovo (N = 636)

PEP	9.0%	11.2%	49.1%	24.8%	6.0%
Happiness	4.600	5.661	5.939	7.007	7.676
SWL	4.259	5.531	5.736	7.306	6.947
Income	143.973	209.719	245.381	341.580	437.384
	(98.628)	(132.031)	(181.631)	(167.481)	(298.837)

Latvia (N = 876)

PEP	8.3%	15.4%	57.8%	15.8%	2.7%
Happiness	4.863	5.533	6.743	7.152	7.609
SWL	4.431	4.926	6.400	6.848	7.250
Income	261.590	386.394	476.245	758.644	870.734
	(141.329)	(306.382)	(255.709)	(588.833)	(507.308)

Lithuania (N = 1,004)

PEP	6.5%	14.9%	55.7%	2.06%	2.3%
Happiness	4.938	5.973	6.919	7.662	7.435
SWL	5.000	5.577	6.674	7.391	7.348
Income	354.139	396.860	551.372	765.632	959.930
	(403.548)	(245.175)	(388.972)	(417.054)	(576.066)

Luxembourg (N = 689)

PEP	1.5%	8.1%	56.0%	26.1%	8.3%
Happiness	6.500	7.286	7.915	8.006	8.211
SWL	5.900	6.821	7.705	8.200	8.614
Income	1,417.196	1,544.746	2,169.493	2,892.112	3,580.590
	(939.058)	(654.714)	(1,078.053)	(1,267.759)	(2,213.081)

F.Y.R. Macedonia (N = 685)

PEP	8.8%	18.1%	51.4%	17.7%	4.1%
Happiness	4.933	6.185	7.188	7.711	8.571
SWL	4.267	5.371	6.787	7.412	8.429
Income	274.314	397.828	534.714	78.1573	1,050.598
	(287.731)	(219.397)	(394.333)	(413.968)	(423.703)

Malta (N = 532)

PEP	3.6%	11.3%	65.8%	17.7%	1.7%
Happiness	5.632	6.283	7.126	7.734	8.333
SWL	5.526	6.610	7.106	7.606	7.778
Income	705.864	773.437	997.988	1,208.727	1,407.475
	(392.111)	(320.422)	(867.950)	(769.831)	(948.718)

Montenegro (N = 685)

PEP	5.4%	9.9%	66.0%	17.2%	1.5%
Happiness	6.324	6.897	7.785	8.296	8.700
SWL	4.703	5.691	7.191	7.915	8.200

| Income | 358.268 | 411.040 | 576.877 | 794.820 | 1,687.772 |
| | (324.674) | (292.427) | (324.478) | (546.970) | (1,283.524) |

Netherlands (N = 829)
PEP	4.8%	14.0%	37.3%	29.8%	14.1%
Happiness	6.625	7.250	7.715	8.061	8.094
SWL	6.350	7.112	7.686	8.016	8.179
Income	737.478	1,085.600	1,292.984	1,747.694	2,793.378
	(328.811)	(465.810)	(770.626)	(1,175.331)	(1,745.834)

Poland (N = 1,759)
PEP	8.0%	19.6%	56.1%	12.9%	3.5%
Happiness	5.593	6.469	7.449	7.991	8.548
SWL	5.071	6.009	7.298	7.678	8.742
Income	463.303	548.013	692.706	921.102	1,153.540
	(568.036)	(327.960)	(372.928)	(447.527)	(720.522)

Portugal (N = 577)
PEP	6.1%	21.7%	52.7%	18.5%	1.0%
Happiness	5.858	6.592	7.023	7.654	7.833
SWL	4.771	6.104	6.789	7.346	7.500
Income	382.015	694.355	805.639	1,090.548	1,690.754
	(199.136)	(817.162)	(853.318)	(650.060)	(664.996)

Romania (N = 1,286)
PEP	9.6%	17.3%	49.4%	21.5%	2.1%
Happiness	4.705	5.804	7.005	7.836	8.259
SWL	4.734	5.417	6.799	7.793	8.852
Income	227.421	293.347	416.490	576.088	773.325
	(157.982)	(169.470)	(259.620)	(419.761)	(451.778)

Serbia (N = 599)
PEP	7.8%	15.0%	61.8%	13.5%	1.8%
Happiness	5.021	6.400	7.344	7.802	8.273
SWL	3.936	5.089	6.511	7.407	7.182
Income	238.744	326.729	481.042	668.340	1,016.800
	(235.158)	(169.408)	(281.709)	(352.007)	(501.479)

Slovakia (N = 690)
PEP	12.6%	26.2%	51.2%	9.6%	0.4%
Happiness	5.057	6.188	7.187	7.606	5.000
SWL	4.011	5.718	6.697	7.394	5.000
Income	484.575	622.995	801.916	1,115.297	1,298.279
	(205.230)	(461.510)	(328.548)	(525.716)	(1,382.691)

Slovenia (N = 657)
PEP	9.1%	21.9%	51.3%	16.7%	0.9%
Happiness	5.441	6.427	7.491	7.835	8.000
SWL	5.550	6.299	7.418	7.591	7.833
Income	565.163	753.653	1,019.241	1,388.493	1,208.608
	(172.480)	(309.001)	(410.659)	(589.634)	(568.741)

Spain (N = 942)
PEP	4.0%	13.8%	57.9%	20.4%	3.9%
Happiness	5.868	7.108	7.921	7.760	8.405
SWL	5.026	6.777	7.591	7.604	8.432
Income	571.882	832.880	1,262.689	1,399.222	1,335.556
	(420.423)	(806.859)	(4,386.817)	(1,158.709)	(798.969)

Sweden (N = 858)
PEP	4.4%	12.1%	38.6%	34.3%	10.6%
Happiness	6.289	7.282	8.003	8.109	8.429
SWL	6.421	7.548	8.130	8.420	8.615
Income	906.637	1,318.474	1,668.340	2,051.336	2,680.604
	(423.225)	(2,455.132)	(1,726.109)	(2,197.021)	(1,298.476)

Turkey (N = 1,650)
PEP	6.2%	13.3%	58.0%	20.4%	2.2%
Happiness	4.471	6.082	7.098	7.771	7.917
SWL	5.078	5.581	6.753	7.688	7.528
Income	275.700	352.708	461.899	680.438	998.671
	(193.511)	(227.361)	(318.559)	(544.126)	(1,065.043)

UK (N = 1,655)

PEP	4.5%	17.8%	45.3%	25.7%	6.7%
Happiness	5.773	6.932	7.672	8.129	8.351
SWL	4.747	6.432	7.408	7.922	8.108
Income	653.126	1,269.142	1,366.212	2,505.737	3,252.569
	(488.097)	(6,490.594)	(1,858.310)	(3,333.257)	(4,660.992)

Appendix C: Regression Results

Table 10: Only income (control dummies not shown)

	Dependent variable:					
	Happiness (standardised)			SWL (standardised)		
	Everyone	Men	Women	Everyone	Men	Women
	(1)	(2)	(3)	(4)	(5)	(6)
ln_inc	0.159***	0.166***	0.151***	0.191***	0.180***	0.199***
	(0.012)	(0.018)	(0.016)	(0.013)	(0.020)	(0.017)
Observations	32,282	13,972	18,310	32,360	14,008	18,352
Adjusted R^2	0.123	0.137	0.114	0.132	0.152	0.116

Note: *p<0.1; **p<0.05; ***p<0.01

Table 11: Full results[†]

	Dependent variable:			
	Happiness (standardised)		SWL (standardised)	
	Without educ. and labour	With educ. and labour	Without educ. and labour	With educ. and labour
	(1)	(2)	(3)	(4)
ln_inc	0.090***	0.071***	0.133***	0.105***
	(0.011)	(0.011)	(0.012)	(0.012)
PEP_1	−0.941***	−0.882***	−0.902***	−0.810***
	(0.045)	(0.044)	(0.042)	(0.042)
PEP_2	−0.418***	−0.397***	−0.455***	−0.421***
	(0.015)	(0.022)	(0.023)	(0.023)
PEP_3	0.153***	0.143***	0.168***	0.157***
	(0.017)	(0.017)	(0.017)	(0.017)
PEP_4	0.255***	0.241***	0.266***	0.248***
	(0.033)	(0.033)	(0.034)	(0.034)
numchildren	0.025**	0.023*	0.031**	0.027**
	(0.009)	(0.009)	(0.010)	(0.010)
male	−0.050**	−0.048**	−0.027**	−0.016
	(0.014)	(0.015)	(0.015)	(0.015)
age	−0.025***	−0.020***	−0.025***	−0.020***
	(0.002)	(0.003)	(0.003)	(0.003)
age^2	0.0002***	0.0002***	0.0003***	0.0002***
	(0.00002)	(0.00003)	(0.00003)	(0.00003)
countryside	0.065*	0.073**	0.083***	0.092***
	(0.029)	(0.029)	(0.028)	(0.028)
village	0.038*	0.047**	0.023	0.033
	(0.018)	(0.018)	(0.019)	(0.019)
town	−0.009	−0.003	−0.022	−0.015
	(0.020)	(0.020)	(0.020)	(0.020)
married	0.227***	0.223***	0.147***	0.132***
	(0.022)	(0.022)	(0.023)	(0.024)

divorced	−0.137***	−0.135***	−0.074*	−0.070**
	(0.031)	(0.031)	(0.031)	(0.031)
widowed	−0.130***	−0.128***	−0.021	−0.031
	(0.034)	(0.034)	(0.035)	(0.035)
secondary_edu		0.073**		0.062*
		(0.027)		(0.027)
tertiary_edu		0.105***		0.105***
		(0.030)		(0.030)
unemployed		−0.171***		−0.330***
		(0.030)		(0.033)
unable		−0.371***		−0.389***
		(0.056)		(0.062)
retired		0.020		0.081**
		(0.028)		(0.028)
homemaker		−0.010		0.036
		(0.031)		(0.032)
student		0.091**		0.059
		(0.042)		(0.042)
otheremployment		0.069		−0.029
		(0.064)		(0.064)
Belgium	−0.009	0.033	−0.089	−0.044
	(0.054)	(0.053)	(0.051)	(0.051)
Bulgaria	−0.438***	−0.451***	−0.613***	−0.625***
	(0.059)	(0.060)	(0.058)	(0.058)
Croatia	−0.042	−0.040	−0.196**	−0.193**
	(0.061)	(0.061)	(0.060)	(0.060)
Cyprus	−0.013	0.005	−0.155*	−0.132*
	(0.061)	(0.064)	(0.065)	(0.065)
Czech Republic	−0.159**	−0.174**	−0.408***	−0.429***
	(0.055)	(0.054)	(0.056)	(0.056)
Denmark	0.310***	0.310***	0.370***	0.374***
	(0.054)	(0.054)	(0.050)	(0.051)
Estonia	−0.247**	−0.243**	−0.407***	−0.403***
	(0.059)	(0.059)	(0.055)	(0.055)
Finland	0.254***	0.252***	0.211***	0.207***
	(0.053)	(0.053)	(0.050)	(0.050)
France	−0.153**	−0.135**	−0.187***	−0.162***
	(0.049)	(0.049)	(0.047)	(0.047)
Germany	−0.024	−0.024	−0.087	−0.080
	(0.049)	(0.048)	(0.047)	(0.047)
Greece	−0.412***	−0.402***	−0.496***	−0.483***
	(0.057)	(0.058)	(0.056)	(0.056)
Hungary	−0.129*	−0.145*	−0.508***	−0.529***
	(0.061)	(0.061)	(0.060)	(0.060)
Iceland	0.292***	0.301***	0.301***	0.317***
	(0.055)	(0.055)	(0.054)	(0.054)
Ireland	0.015	0.045	−0.056	−0.014
	(0.058)	(0.059)	(0.054)	(0.055)

Italy	−0.280***	−0.273***	−0.320***	−0.313***
	(0.050)	(0.050)	(0.048)	(0.048)
Kosovo	−0.662***	−0.692***	−0.505***	−0.549***
	(0.067)	(0.067)	(0.066)	(0.066)
Latvia	−0.336***	−0.337***	−0.403***	−0.399***
	(0.058)	(0.058)	(0.056)	(0.056)
Lithuania	−0.171**	−0.173**	−0.208***	−0.208***
	(0.057)	(0.057)	(0.055)	(0.055)
Luxembourg	0.002	0.021	−0.018	0.010
	(0.055)	(0.056)	(0.053)	(0.054)
F.Y.R. Macedonia	−0.192**	−0.206***	−0.297***	−0.306***
	(0.061)	(0.061)	(0.057)	(0.057)
Malta	−0.222***	−0.211**	−0.173**	−0.176**
	(0.066)	(0.067)	(0.062)	(0.063)
Montenegro	0.134*	0.136*	−0.137*	−0.120
	(0.063)	(0.063)	(0.064)	(0.064)
Netherlands	0.056	0.070	0.064	0.077
	(0.051)	(0.051)	(0.048)	(0.049)
Poland	−0.032	−0.010	−0.039	−0.013
	(0.053)	(0.053)	(0.050)	(0.050)
Portugal	−0.167**	−0.132*	−0.261***	−0.222***
	(0.062)	(0.063)	(0.056)	(0.057)
Romania	−0.156**	−0.183**	−0.132**	−0.183***
	(0.056)	(0.055)	(0.055)	(0.055)
Serbia	−0.135*	−0.144*	−0.411***	−0.413***
	(0.069)	(0.068)	(0.063)	(0.063)
Slovakia	−0.171**	−0.179**	−0.320***	−0.329***
	(0.060)	(0.060)	(0.067)	(0.057)
Slovenia	−0.097	−0.106	−0.050	−0.053
	(0.056)	(0.056)	(0.055)	(0.056)
Spain	0.101	0.140**	0.013	0.069
	(0.052)	(0.052)	(0.050)	(0.050)
Sweden	0.119*	0.123*	0.226***	0.231***
	(0.054)	(0.054)	(0.051)	(0.051)
Turkey	−0.252***	−0.234***	−0.235***	−0.246***
	(0.054)	(0.056)	(0.053)	(0.055)
UK	0.036	0.052	−0.070	−0.052
	(0.051)	(0.052)	(0.049)	(0.049)
Constant	0.074	0.013	−0.235*	−0.198
	(0.106)	(0.083)	(0.076)	(0.120)
Observations	32,065	31,883	32,135	31,953
Adjusted R^2	0.175	0.182	0.177	0.189

Notes: *p<0.1; **p<0.05; ***p<0.01

†Dummies for Austria, city, and employed omitted and taken as references.

Table 12: Relative Income

	Everyone (1)	Men (2)	Women (3)	Everyone (4)	Men (5)	Women (6)
ln_inc	0.009 (0.019)	0.016 (0.029)	−0.002 (0.024)			
REP$_1$	−0.266*** (0.030)	−0.272*** (0.048)	−0.267*** (0.039)	−0.245*** (0.021)	−0.270*** (0.034)	−0.226*** (0.027)
REP$_2$	−0.104*** (0.023)	−0.084* (0.036)	−0.124*** (0.030)	−0.081*** (0.019)	−0.077* (0.032)	−0.086*** (0.025)
REP$_3$	0.076*** (0.023)	0.096** (0.034)	0.054 (0.030)	0.102*** (0.019)	0.108*** (0.029)	0.092*** (0.025)
REP$_4$	0.167*** (0.027)	0.175*** (0.040)	0.165*** (0.035)	0.198*** (0.019)	0.193*** (0.029)	0.208*** (0.024)
Observations	32,282	13,972	18,310	33,276	14,407	18,869
Adjusted R^2	0.130	0.144	0.121	0.129	0.144	0.120

Dependent variable: Happiness (standardised)

Note: *p<0.1; **p<0.05; ***p<0.01

Table 13: Relative Income and Perceived Position

	Everyone (1)	Men (2)	Women (3)
ln_inc	0.0003 (0.08)	0.009 (0.017)	−0.010 (0.025)
REP$_1$	−0.134*** (0.030)	−0.131** (0.047)	−0.142*** (0.039)
REP$_2$	−0.050** (0.023)	−0.029 (0.036)	−0.071** (0.030)
REP$_3$	0.029 (0.022)	0.045 (0.033)	0.011 (0.030)
REP$_4$	0.083** (0.026)	0.084* (0.040)	0.088* (0.036)
PEP$_1$	−0.860*** (0.045)	−0.810*** (0.070)	−0.894*** (0.058)
PEP$_2$	−0.383*** (0.022)	−0.436*** (0.036)	−0.343*** (0.028)
PEP$_3$	0.133*** (0.017)	0.159*** (0.025)	0.102*** (0.024)
PEP$_4$	0.233*** (0.033)	0.267*** (0.047)	0.192*** (0.049)
Observations	31,883	13,825	18,058
Adjusted R^2	0.183	0.197	0.174

Dependent variable: Happiness (standardised)

Note: *p<0.1; **p<0.05; ***p<0.01

Table 14: Results by country

	Austria	Belgium	Bulgaria	Croatia	Cyprus	Czech Republic
			Dependent variable:			
			SWL (standardised)			
	(1)	(2)	(3)	(4)	(5)	(6)
ln_inc	0.093	0.011	0.051	−0.062	−0.149	−0.012
	(0.178)	(0.075)	(0.174)	(0.144)	(0.182)	(0.039)
PEP_1	−0.729***	0.502	−0.745***	−0.461***	−0.865***	−0.631***
	(0.263)	(0.442)	(0.104)	(0.134)	(0.166)	(0.186)
PEP_2	−0.208*	−0.733***	−0.476***	−0.319***	−0.340***	−0.551***
	(0.118)	(0.107)	(0.087)	(0.107)	(0.128)	(0.091)
PEP_3	0.125	0.206**	0.339***	0.256***	0.050	0.240**
	(0.093)	(0.082)	(0.118)	(0.097)	(0.105)	(0.102)
PEP_4	0.399**	0.262	0.902***	0.244	0.132	0.174
	(0.168)	(0.193)	(0.314)	(0.239)	(0.225)	(0.195)
REP_1	−0.014	−0.165	−0.045	−0.272	0.038	−0.153
	(0.172)	(0.127)	(0.177)	(0.178)	(0.192)	(0.139)
REP_2	0.056	−0.170	0.084	0.074	0.246*	0.102
	(0.123)	(0.114)	(0.117)	(0.123)	(0.145)	(0.117)
REP_3	−0.319***	0.073	−0.006	0.131	0.405***	0.269**
	(0.122)	(0.108)	(0.117)	(0.119)	(0.146)	(0.119)
REP_4	−0.114	−0.056	0.208	0.212	0.416*	0.309**
	(0.158)	(0.125)	(0.168)	(0.155)	(0.223)	(0.131)
Observations	751	732	758	713	628	729
Adjusted R^2	0.061	0.226	0.243	0.131	0.117	0.153

	Denmark	Estonia	Finland	France	Germany	Greece
	(1)	(2)	(3)	(4)	(5)	(6)
ln_inc	0.004	−0.098	−0.029	0.113	0.111*	0.060
	(0.191)	(0.107)	(0.100)	(0.070)	(0.059)	(0.094)
PEP_1	−0.046	−0.644***	−0.866***	−1.155***	−0.712***	−0.806***
	(0.280)	(0.129)	(0.194)	(0.155)	(0.089)	(0.126)
PEP_2	−0.098	−0.143*	−0.318***	−0.417***	−0.288***	−0.384***
	(0.106)	(0.087)	(0.110)	(0.082)	(0.058)	(0.102)
PEP_3	−0.022	0.319***	0.164**	0.181***	−0.013	0.330***
	(0.079)	(0.087)	(0.078)	(0.053)	(0.052)	(0.117)
PEP_4	0.120	0.549***	0.306*	0.385***	0.153*	0.204
	(0.119)	(0.187)	(0.159)	(0.089)	(0.086)	(0.261)
REP_1	0.057	−0.268**	−0.093	−0.048	−0.067	−0.178
	(0.175)	(0.135)	(0.137)	(0.091)	(0.083)	(0.145)
REP_2	−0.214*	−0.182	0.055	0.062	−0.009	−0.043
	(0.115)	(0.114)	(0.112)	(0.067)	(0.065)	(0.121)
REP_3	−0.009	0.124	0.112	−0.007	0.071	0.103
	(0.114)	(0.111)	(0.112)	(0.088)	(0.064)	(0.121)
REP_4	0.005	0.381***	0.243*	−0.073	0.033	0.197
	(0.151)	(0.143)	(0.132)	(0.082)	(0.077)	(0.152)
Observations	865	762	868	1,937	2,386	685
Adjusted R^2	0.090	0.234	0.117	0.137	0.166	0.196

Note:					*p<0.1; **p<0.05; ***p<0.01

Table 15: Results by country, continued

	Hungary	Iceland	Ireland	Italy	Kosovo	Latvia
	(1)	(2)	(3)	(4)	(5)	(6)
ln_inc	0.030	0.077	0.144**	−0.175***	0.261**	0.004
	(0.034)	(0.133)	(0.060)	(0.067)	(0.130)	(0.095)
PEP_1	−0.869***	−0.058	−0.660***	−0.513***	−0.331**	−0.621***
	(0.143)	(0.234)	(0.148)	(0.152)	(0.147)	(0.127)
PEP_2	−0.547***	−0.314**	−0.387***	−0.595***	−0.081	−0.574***
	(0.084)	(0.125)	(0.103)	(0.073)	(0.134)	(0.091)
PEP_3	0.207*	0.121	0.132	0.210***	0.644***	0.026
	(0.116)	(0.080)	(0.084)	(0.062)	(0.097)	(0.087)
PEP_4	0.811***	0.205	0.116	0.185	0.383**	0.133
	(0.308)	(0.175)	(0.134)	(0.195)	(0.165)	(0.182)
REP_1	−0.059	0.018	0.075	−0.523***	−0.062	−0.176
	(0.155)	(0.143)	(0.127)	(0.098)	(0.183)	(0.133)
REP_2	−0.273**	−0.115	−0.168	−0.239***	−0.159	−0.182*
	(0.115)	(0.117)	(0.113)	(0.078)	(0.128)	(0.105)
REP_3	0.217*	0.213*	−0.044	0.014	−0.103	0.042
	(0.113)	(0.114)	(0.113)	(0.077)	(0.126)	(0.102)
REP_4	0.108	0.219	−0.132	0.194*	−0.195	0.286**
	(0.121)	(0.149)	(0.140)	(0.100)	(0.157)	(0.129)
Observations	710	813	832	1,466	613	864
Adjusted R^2	0.240	0.108	0.142	0.158	0.274	0.178

	Lithuania	Luxembourg	F.Y.R. Macedonia	Malta	Montenegro	Netherlands
	(1)	(2)	(3)	(4)	(5)	(6)
ln_inc	0.083	−0.087	0.025	0.046	0.468***	−0.254**
	(0.106)	(0.234)	(0.050)	(0.219)	(0.151)	(0.110)
PEP_1	−0.591***	−0.315	−0.873***	−0.911***	−0.538***	−0.678***
	(0.137)	(0.328)	(0.132)	(0.240)	(0.166)	(0.165)
PEP_2	−0.437***	−0.368**	−0.519***	−0.306**	−0.484***	−0.240**
	(0.088)	(0.151)	(0.093)	(0.143)	(0.125)	(0.101)
PEP_3	0.151*	0.180*	0.193**	0.029	0.258**	0.131
	(0.078)	(0.092)	(0.096)	(0.118)	(0.104)	(0.083)
PEP_4	0.166	0.445***	0.601***	0.568	0.332	0.342***
	(0.182)	(0.146)	(0.185)	(0.381)	(0.349)	(0.117)
REP_1	−0.072	0.046	−0.274*	−0.175	0.043	−0.274*
	(0.130)	(0.202)	(0.145)	(0.201)	(0.202)	(0.144)
REP_2	−0.256**	0.015	0.045	0.211	−0.107	−0.095
	(0.104)	(0.133)	(0.107)	(0.151)	(0.136)	(0.110)
REP_3	−0.068	0.152	0.056	−0.161	−0.073	−0.046
	(0.102)	(0.134)	(0.108)	(0.154)	(0.128)	(0.103)
REP_4	0.140	0.153	0.130	0.054	−0.446***	0.073
	(0.134)	(0.217)	(0.128)	(0.219)	(0.169)	(0.135)
Observations	998	613	680	521	673	827
Adjusted R^2	0.170	0.149	0.244	0.125	0.214	0.132

Dependent variable: SWL (standardised)

Note: *p<0.1; **p<0.05; ***p<0.01

Table 16: Results by country, continued

			Dependent variable:			
			SWL (standardised)			
	Poland	Portugal	Romania	Serbia	Slovakia	Slovenia
	(1)	(2)	(3)	(4)	(5)	(6)
ln_inc	−0.020	−0.143	0.061	0.174	0.784***	0.223
	(0.073)	(0.100)	(0.067)	(0.165)	(0.170)	(0.205)
PEP$_1$	−0.905***	−0.804***	−0.544***	−0.886***	−0.951***	−0.786***
	(0.086)	(0.184)	(0.100)	(0.160)	(0.121)	(0.132)
PEP$_2$	−0.584***	−0.336***	−0.353***	−0.436***	−0.202**	−0.423***
	(0.060)	(0.102)	(0.076)	(0.115)	(0.084)	(0.094)
PEP$_3$	0.029	0.144	0.341***	0.317***	0.088	−0.054
	(0.069)	(0.111)	(0.067)	(0.121)	(0.110)	(0.103)
PEP$_4$	0.478***	−0.019	0.596***	0.027	−0.628	−0.009
	(0.122)	(0.368)	(0.169)	(0.317)	(0.503)	(0.356)
REP$_1$	−0.132	−0.492***	−0.201*	0.171	0.069	−0.006
	(0.100)	(0.158)	(0.122)	(0.200)	(0.145)	(0.194)
REP$_2$	−0.106	−0.111	−0.220**	−0.074	0.013	0.003
	(0.073)	(0.133)	(0.086)	(0.137)	(0.115)	(0.127)
REP$_3$	0.091	0.072	−0.019	0.160	−0.117	0.129
	(0.074)	(0.127)	(0.087)	(0.135)	(0.111)	(0.128)
REP$_4$	0.211**	0.262	−0.0001	0.141	−0.427***	0.164
	(0.091)	(0.159)	(0.105)	(0.195)	(0.154)	(0.175)
Observations	1,743	575	1,264	597	675	655
Adjusted R^2	0.206	0.168	0.173	0.187	0.278	0.185

	Spain	Sweden	Turkey	UK
	(1)	(2)	(3)	(4)
ln_inc	−0.020	0.064	0.061	0.071
	(0.083)	(0.104)	(0.071)	(0.048)
PEP$_1$	−1.275***	−0.551***	−0.560***	−0.933***
	(0.170)	(0.170)	(0.102)	(0.112)
PEP$_2$	−0.349***	−0.174	−0.488***	−0.347***
	(0.093)	(0.108)	(0.075)	(0.063)
PEP$_3$	−0.019	0.076	0.314***	0.135**
	(0.083)	(0.079)	(0.064)	(0.055)
PEP$_4$	0.431***	0.076	0.225	0.132
	(0.160)	(0.126)	(0.166)	(0.092)
REP$_1$	−0.081	−0.025	−0.135	−0.048
	(0.126)	(0.139)	(0.107)	(0.095)
REP$_2$	−0.034	0.089	0.008	0.120
	(0.103)	(0.106)	(0.081)	(0.076)
REP$_3$	0.072	0.009	0.113	−0.014
	(0.105)	(0.108)	(0.081)	(0.072)
REP$_4$	0.185	0.070	0.104	−0.046
	(0.132)	(0.129)	(0.104)	(0.091)
Observations	933	848	1,615	1,624
Adjusted R^2	0.158	0.175	0.124	0.224

Note: *p<0.1; **p<0.05; ***p<0.01