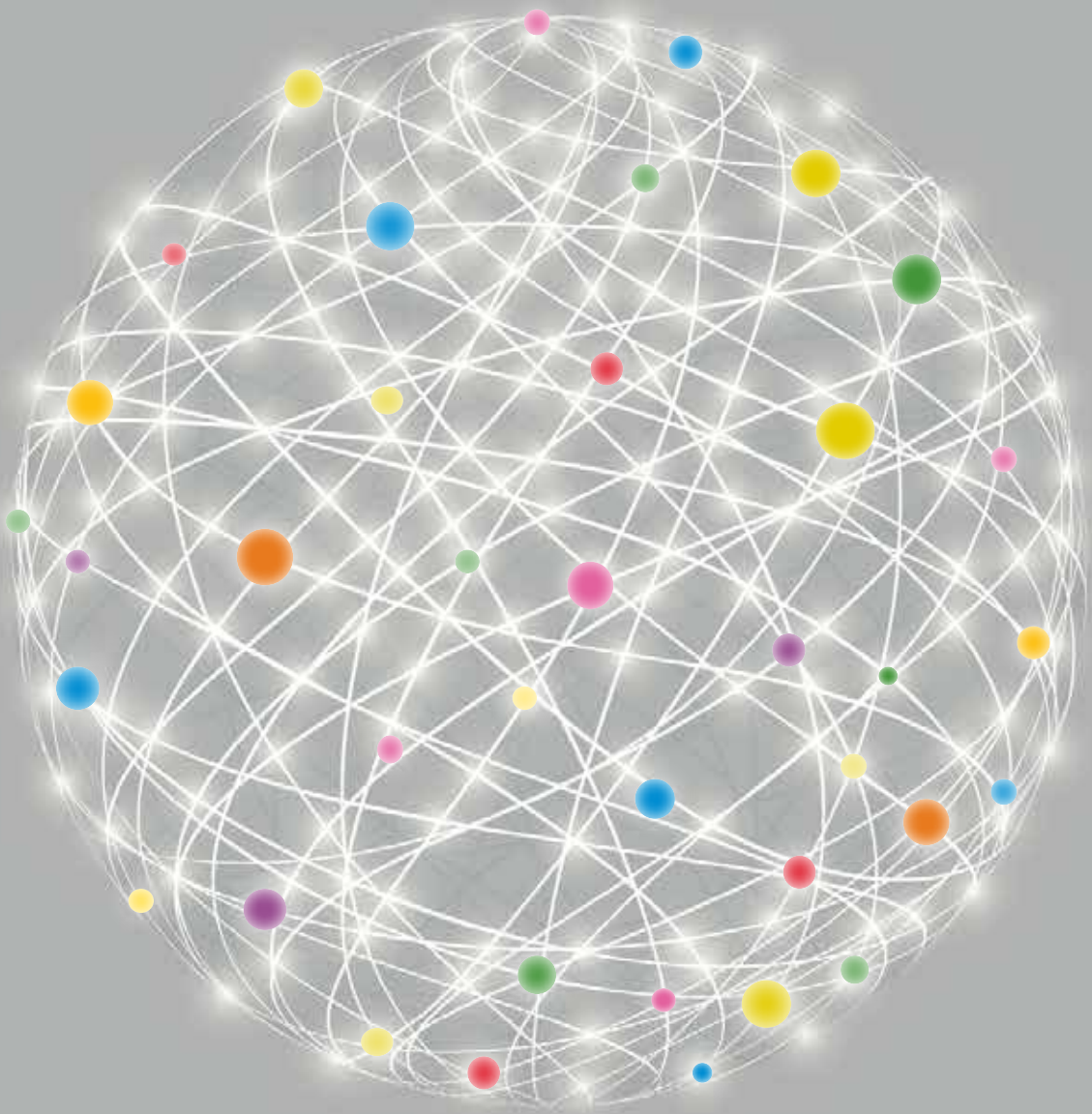


Special Rome Edition

WORLD HAPPINESS REPORT 2016 | VOLUME II



Edited by Jeffrey Sachs, Leonardo Becchetti and Anthony Annett

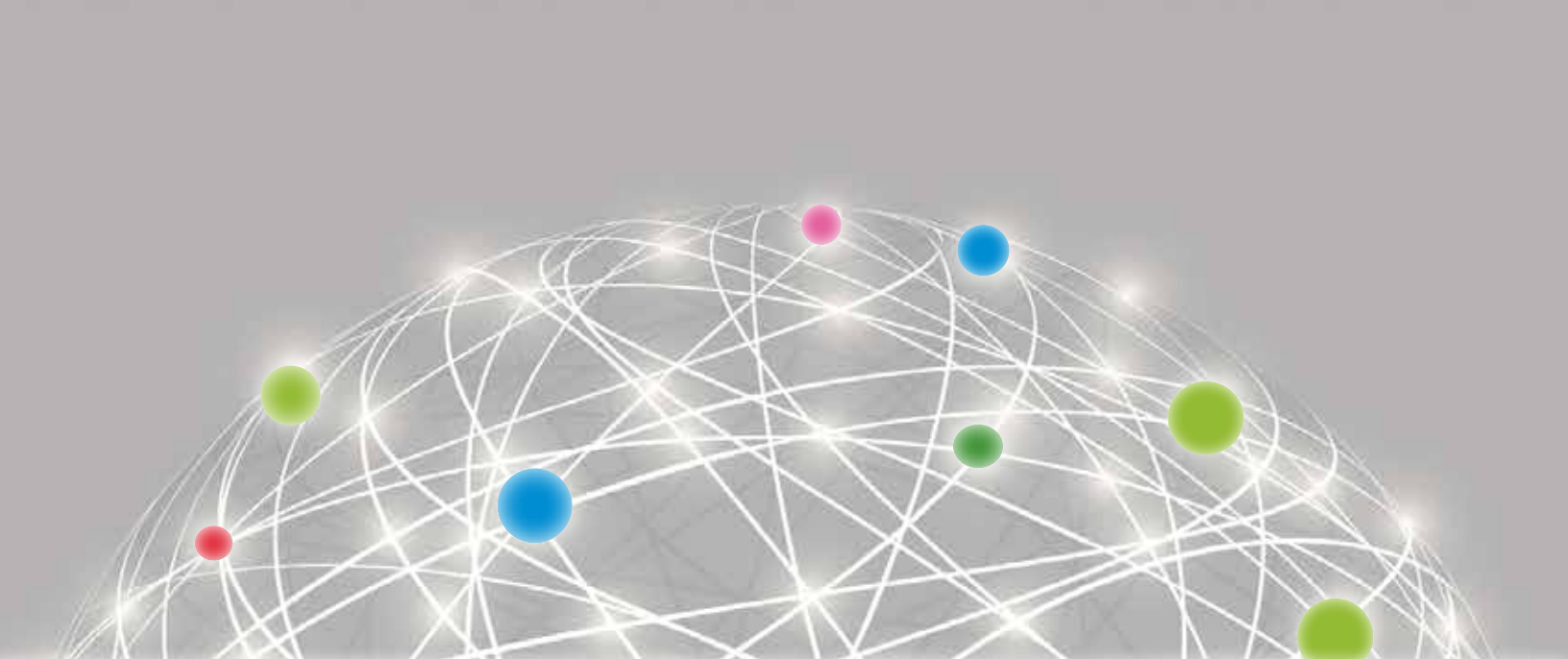


WORLD HAPPINESS REPORT 2016

Edited by Jeffrey Sachs, Leonardo Becchetti and Anthony Annett

TABLE OF CONTENTS

1. Inside the Life Satisfaction Blackbox Leonardo Becchetti, Luisa Corrado and Paola Samà	2
2. Human Flourishing, the Common Good, and Catholic Social Teaching Anthony Annett	38
3. The Challenges of Public Happiness: An Historical-Methodological Reconstruction Luigino Bruni and Stefano Zamagni	66
4. The Geography of Parenthood and Well-Being: Do Children Make Us Happy, Where and Why? Luca Stanca	88
5. Multidimensional well-being in contemporary Europe: An analysis of the use of a Self-Organizing Map applied to SHARE data. Luca Crivelli, Sara Della Bella and Mario Lucchini	104



Chapter 1

INSIDE THE LIFE SATISFACTION BLACKBOX

LEONARDO BECCHETTI, LUISA CORRADO AND PAOLA SAMÀ



Leonardo Becchetti, Department of Economics, Law and Institutions (DEDI), University of Rome Tor Vergata (Italy). E-mail: becchetti@economia.uniroma2.it

Luisa Corrado, Department of Economics, Law and Institutions (DEDI), University of Rome Tor Vergata (Italy) and University of Cambridge (UK). E-mail: luisa.corrado@uniroma2.it; lc242@econ.cam.ac.uk

Paola Samà, Department of Economics, Law and Institutions (DEDI), University of Rome Tor Vergata (Italy). E-mail: paola.sama@uniroma2.it

Executive summary

We propose an alternative measure of life satisfaction to the standard, synthetic cognitive well-being question, based on the specific contribution of 11 life-satisfaction sub-components (including satisfaction about the past, life opportunities, hope for the future, vitality, control over one's life, meaning of life). The alternative measure is either estimated as a latent factor, obtained as a simple unweighted average from the above mentioned sub-components, or extracted with principal component analysis. We document that the new dependent variable fits much better standard socio-demographic controls and corrects the “Danish life satisfaction bias” in the direction suggested by the vignette approach. These findings do not reject our theoretical assumption that the alternative measures derived from the life satisfaction sub-components are less noisy and less culturally biased and therefore perform better than the standard self-reported life satisfaction. The straightforward policy advice of the paper is to introduce the above-mentioned sub-components (similarly to what happens with sub-questions used to calculate the General Health Questionnaire score) in an additional question to measure more effectively subjective well-being.

Introduction

Investigation into the determinants of life satisfaction has boomed in recent years due to the availability of worldwide information on subjective well-being at the individual level in many well-known surveys (such as the German Socioeconomic Panel, the British Household Panel Survey, and the Gallup World Poll). The topic is of particular importance for at least four reasons. First, it provides an alternative independent source (beyond experimental evidence) for testing previously undemonstrated assumptions about the human preferences (or social norms) affecting subjective well-being, which are at the basis of all theoretical economic models. Second, it provides valuable evidence of a widening range of factors affecting life satisfaction, beyond the dimension of observed choices. This helps us to understand the importance of, among other factors, relative comparisons, hedonic adaptation, experienced utility, and the relationship between expectations and realizations.¹ Third, it sheds lights on as-yet-unexplored and important aspects of economic reality (i.e. the measurement of the shadow value of non-market goods²) with relevant policy insights. Fourth, it provides information and evidence for the debate on reforming well-being indicators: If straightforwardly maximising happiness is not a good idea for various reasons, happiness studies may provide stimulating insights on what the well-being indicators that have been currently adopted may have left behind.

In spite of the great potential of the findings of life-satisfaction literature, many methodological problems challenge its validity. These problems are related to the interpersonal and inter-country comparability of the standard measure, self-declared subjective well-being, which lacks of cardinality. The vignette approach is a recent attempt to overcome the problem.³ The approach corrects for individual heterogeneity by using differences across individuals to evaluate a common situation (the vignette), with the same

response categories as the self-assessment question. However, as is well known, even this approach has limits, since the two hypotheses on which it hinges (vignette equivalence and response consistency⁴) are often rejected by empirical tests.⁵

Our paper's contribution is to define a theoretical framework which aims to improve upon standard subjective well-being measures, and predicts that three alternative measures of life satisfaction will be superior in terms of their capacity to reduce the dependent variable noise and cultural biases captured by country dummies. The approach is based on the measuring of 11 life-satisfaction sub-components.

Our main argument is that, when asked to formulate their life-satisfaction score, individuals intuitively weight different sub-components (evaluation of past life, opportunities for the future, overall meaning of their own life, vitality, etc.). Since the operation is not easy, the general, abstract life-satisfaction question incorporates much more noise and measurement error than a latent variable, which may be extracted by using direct answers to each of the abovementioned, implicit sub-components.

A second argument supporting our main assumption is that the sub-component questions are much more straightforward and easy to answer when they are formulated on a 1–4 range (as in the SHARE database we use in this paper), in which any number is associated with an adjective whose meaning can be grasped immediately. On the contrary, in the standard 0–10 life-satisfaction questions, there is no verbal correspondence for each of the scale's numerical values. Finally, we postulate that the sub-component approach also offers an additional advantage: Country-specific cultural biases (also due to the different nuances of the translation of the term “life satisfaction” in different languages) tend to be much larger on the general questions than when averaging sub-components, or

extracting from them the error-free, latent life-satisfaction factor.

We test our hypothesis on data from the SHARE database where, to the standard life-satisfaction question, “How satisfied are you with your life, all things considered?” with responses on a scale from 0 (completely dissatisfied) to 10 (completely satisfied), we add an additional question on the life-satisfaction sub-component. The question relates to 11 items:

1. How often do you think your age prevents you from doing the things you would like to do?
2. How often do you feel that what happens to you is out of your control?
3. How often do you feel left out of things?
4. How often do you feel that you can do the things that you want to do?
5. How often do you feel that family responsibilities prevent you from doing what you want to do?
6. How often do you feel that a shortage of money stops you from doing the things that you want to do?
7. How often do you look forward to another day?
8. How often do you feel that your life has meaning?
9. How often, on balance, do you look back to your life with a sense of happiness?
10. How often do you feel full of energy these days?
11. How often do you feel that life is full of opportunities?

For each item, answers are given on a 1–4 scale with an adjective (often, sometimes, rarely, never) being matched to any value.⁶

Our findings document that the three alternative approaches (estimated latent life-satisfaction regressing the standard 0–10 answer on the 11 life-satisfaction sub-components, unweighted average of the 11 life-satisfaction sub-components, extraction of the first principal component from principal component analysis on the sub-components) greatly improve the goodness-of-fit of our baseline life-satisfaction estimate, with respect to the use of the standard life-satisfaction question. The adjusted *R*-squared grows by around 15 points (20 points when sub-components interact with socio-demographic controls and country dummies to calculate predicted life satisfaction), and the AIC and BIC scores confirm the improvement.

These findings support our theoretical hypothesis that the three alternative measures reduce the dependent variable noise. We further document that our three approaches correct the well-known Danish cultural bias in life satisfaction answers,⁷ which we find in our data as well.⁸ Our approaches therefore provide, in this respect, results similar to the vignette approach, without requiring the two limiting assumptions of vignette equivalence and response consistency.

The straightforward policy advice stemming from our paper is that to obtain a better measure of subjective well-being, surveys should introduce additional questions, including the above mentioned sub-components. Since one additional question with the 11 sub-points is enough to achieve the goal, our results indicate that the trade-off between improving the quality of data and enriching surveys with more precise questions on different well-being dimensions bears clearly in favor of such a decision. We also note that what we propose for life satisfaction is akin to the approach used to construct another well-being index (the General Health Question-

naire⁹ score in the BHPS), used to measure emotional prosperity; it is the average of 12 mental distress sub-questions.

The paper is divided into five sections (including Introduction and Conclusions), organized as follows. In the second section, we illustrate our theoretical framework and the two hypotheses to be tested. In the third section, we discuss descriptive findings and present our econometric specifications. In the fourth section, we present and discuss econometric findings and illustrate several robustness checks. The fifth section presents our conclusion.

Theoretical Framework

We conceive of the “true” cognitive measure of subjective well-being for the *i*-th individual as a latent variable which is a weighted average of *J* different components (vitality, evaluation over past life, outlook at the future, money and leisure satisfaction, being in control over one’s own life, meaning of life, etc.):

$$E(LS_i^*) = \omega_i Z_i^* \quad (1)$$

where $E(LS_i^*)$ is the expected value of true overall life satisfaction for the *i*-th individual, while $Z_i^* = \{Z_{ij}^*\}$ is a $J \times 1$ column vector in which sub-components have ω – weights – $\omega_i = \{\omega_{ij}\}$ is a $J \times 1$ vector of parameters - measuring their specific impact on the synthetic life satisfaction evaluation.¹⁰

Our assumption is that, when individuals are directly asked the standard life satisfaction question (*LS*), the random component is larger due to the higher difficulty of i) understanding the more general question (in itself and comparatively across countries due to the different language nuances); ii) matching a different, more intuitive verbal evaluation to any numerical value of the response scale, and iii) averaging its different components without explicitly mentioning them.¹¹ We therefore consider our

dependent variable,¹² the standard life-satisfaction question, as characterised by measurement error within the classical errors-in-variables framework, and by a fully observed, continuous dependent variable.¹³ Hence, when the standard question is formulated, surveys capture the following variable:

$$LS_i = LS_i^* + v_i \quad (2)$$

where v_i represents the measurement error and $E(v_i) \neq 0$. More specifically, we assume that v_i has a country specific (v_c) and an individual specific (ε_i) bias.

$$v_i = v_c + \varepsilon_i \quad (3)$$

Conversely, when individual i -th is asked about the j -th components we obtain:

$$Z_{ij} = Z_i^* + \tilde{v}_{ij} \quad (4)$$

where

$$\tilde{v}_{ij} = \tilde{v}_{cj} + \tilde{\varepsilon}_{ij}$$

is also a measurement error which captures individual bias $\tilde{\varepsilon}_{ij}$ (i.e. due to a misunderstanding of the specific Z question or to a difficulty of the individuals in evaluating correctly his/her situation) and country-specific bias \tilde{v}_{cj} (i.e. due to cultural and linguistic differences in the way the life satisfaction sub-component question is understood in different countries or to strategic answering that is a social/cultural tendency to overestimate or underestimate own levels of life satisfaction for each sub-component).

We assume, however, that the bias disappears when using individual components as far as the number of components increases and the number of interviewed individuals grows so that $EZ_i \approx EZ_i^*$ where $Z_i = \{Z_{ij}\}$. As stressed by Bound et al.,¹⁴ in the presence of exogenous determi-

nants of the error ridden variables,¹⁵ or, in some cases, multiple indicators of the same outcome, it is possible to use them as instruments to infer the “true” value of life satisfaction. Hence, using Z_i as the set of instruments for LS_i^* we assume that $E(LS_i^* | Z_i^*)$ is a strict linear function of Z_i^* so that these multiple indicators are orthogonal to the error implying $Cov(Z_i^*, \tilde{v}_i) = 0$ and there is no measurement error, hence $E(\tilde{v}_i) = 0$.

The measurement error term of the synthetic question LS_i does not go to zero as far as the number of interviewed individuals grows, implying $E(v_i) \neq 0$ for at least three reasons. First, the life satisfaction term is more abstract than a straightforward question on its components (vitality, evaluation of part life, etc.). Second, it requires a quick calculus of (1) and of the weights of the individual Z_i components which is not easy and intuitive. It is for instance highly likely that cultural differences affect the more abstract life satisfaction question, while they cancel out when using the more straightforward set of Z_i questions. Finally, the sub-component questions are much more straightforward and easy to answer when they are formulated on a 1–4 range since in this instance any number is associated to an adjective whose meaning can be grasped immediately. On the contrary, in the 1–10 scale life-satisfaction question there is no verbal correspondence for each of the scale values. This is why the conditional expectation of the error term, v_i , may be significantly different from zero when we adopt the synthetic question on life satisfaction. Hence, a more articulated set of questions on the set of Z_i components may produce a much richer and accurate measure of cognitive subjective well-being.

To understand the implications of measurement errors when we adopt a synthetic answer on life satisfaction, suppose that we estimate the following relationship for life satisfaction:

$$LS_i^* = \beta_0 + \Theta' d_i + \beta' X_i + \xi_i \quad (5)$$

$$i = 1, \dots, N \quad c = 1, \dots, C - 1 \quad (6)$$

where β_o denotes a constant, $d_i = \{d_{ic}\}$ is a $(C-1) \times 1$ vector of country dummies, with $d_{ic} = 1$ if individual i is resident in country c and Θ is the corresponding $(C-1) \times 1$ vector of coefficients. $X_i = \{X_{ik}\}$ with $k=1, \dots, K$ denotes a $(K-1) \times 1$ vector of controls and β is the corresponding $K \times 1$ vector of coefficients. Finally, ξ_i is an individual error term which is normally distributed with $E(\xi_i) = 0$.

If the synthetic answer for life satisfaction is observed with error we get:

$$LS_i = \beta_o + \Theta' d_i + \beta' X_i + e_i \quad (7)$$

Notice that the error term is now $e_i = \xi_i + v_i$. This means that if we estimate the model, we would see the error in measurement appearing in the new error term. If the measurement error is correlated with the independent variables, this also implies a violation of the assumption that the conditional expectation of the error should be zero.

By the OLS assumptions, ξ_i should be uncorrelated with the covariates and consequently should not present any problem.¹⁶ Looking at the measurement error, v_i , if it is independent from the regressors $Cov(X_i, v_i) = 0$ and $E(v_i) \neq 0$, the estimate of the coefficients will still be unbiased but measured with less precision. However, if both $E(v_i) \neq 0$ and $Cov(X_i, v_i) \neq 0$, the endogeneity between v_i and X_i induced by the measurement error implies that the estimates of the coefficients may also be biased.

The other main problem comes from inference since $var(\xi_i + v_i) = \sigma_\xi^2 + \sigma_v^2 > \sigma_\xi^2$. The last inequality means that the estimated variance is larger than when using the true life satisfaction measure, which means that inference is liable to type I error. Collecting more data in the form of multiple components for the dependent

variable could be a solution also to this problem, since more observations imply a better estimator of variance, and consequently reduce errors in inferences.

In this instance, the SHARE questions allow us to measure some fundamental components of the life-satisfaction evaluation such as: vitality, a negative evaluation of the past life, a positive look at the future, absence of monetary constraints, sensation that life is meaningless, feeling in control of one's own life, sense of not being left out, perception of having time beyond family duties, and freedom of choice. As it is clear from these attributes, the components of life satisfaction in the survey include an outlook on the past and on the future, money and leisure satisfaction, vitality and control over one's own life, plus an eudaemonic definition of life satisfaction (meaning of life). This is why they can be considered a good deal richer than the simple, standard cognitive synthetic question. An additional advantage of the question on sub-components is that a unique and different verbal modality is attached to each numerical value of the ordinal scale. This makes the answer easier and more intuitive and may help to counteract the measurement error, v_i .

What we propose is the use of the estimated latent life satisfaction:

$$LS_i^* = \alpha_o + \alpha' Z_i + \eta_i \quad (8)$$

where α is a $J \times 1$ vector of coefficients. Here, the use of multiple components allows the counteraction of the measurement error in the sub-components as defined in (4) implying $E(\eta_i) = 0$. We use the predicted value of life satisfaction:

$$\widehat{LS}_i^* = \hat{\alpha}_o + \hat{\alpha}' Z_i \quad (9)$$

as the dependent variable of our benchmark estimate in (5) which is a more correct measure of LS_i^* than the observed synthetic question

$LS_i = LS_i^* + v_i$ under the assumption that the weights in (7) are correctly estimated i.e. $\hat{\alpha}_{ij} = \omega_{ij} \forall i, j$.

Alternatively, our second approach consists of simply averaging the sub-components to obtain:

$$\overline{LS}_i = \frac{\sum_{j=1}^J Z_{ij}}{J}$$

which is equal to the previous measure under the assumption that $\omega_{ij} = 1$. The limit of this second approach is that it is contradicted by empirical evidence in case the ω -weights are different from one. The advantage is that it has less noise if, for some reasons (i.e. endogeneity), we think that the estimated weights do not coincide with actual weights ($\hat{\alpha}_{ij} \neq \omega_{ij}$).

A third approach which may overcome the problem of overlaps and correlations among the different components of life satisfaction is the principal component approach. On the basis of the approach, we will extract the first orthogonal factor accounting for the higher share of the variance and use such a variable as dependent variable in our estimate (see section 3).

Hypothesis Testing

Given our assumptions, a first testable hypothesis is that the goodness-of-fit of the model using the latent variable LS_i^* is better than that of the model using the declared life satisfaction LS_i . In fact, in the presence of measurement error in a model for declared life satisfaction, LS_i , the variance of residual grows, implying that both the Akaike Information Criterion (AIC) and the Bayesian Information Criterion (BIC) will be higher, while the adjusted R^2 will be lower, indicating a poorer performance.¹⁷

A second testable hypothesis related to country dummies is that our approach should be effective in reducing country bias (measured by the significance of country dummies in vignette responses) in the expected direction.

Descriptive Finding and Benchmark Model Specification

We use data from the second wave of SHARE (which covers only European citizens over 50) including interviews run between 2006 and 2007,¹⁸ which is the only wave including the crucial information on the 11 happiness sub-components. Table 1 provides the list of variables and Figure 1 reports the histogram of self-reported life satisfaction, while Table 2 illustrates some descriptive findings of our sample.

Self-reported life satisfaction has the usual right-skewed distribution, with a mean of 7.54 and about 60 percent of respondents declaring a self-reported life satisfaction above 6 (Figure 1). All answers to the 11 life satisfaction sub-questions have averages between 2.5 and 3.5 (the range is 1–4) with the lowest average for the sub-components related to age-preventing activities, and lack of money (items 1 and 5 of the 11 sub-questions, see introduction) (Table 2). The sample is almost perfectly balanced in terms of gender characteristics (females are 49.9 percent), while the average years of education are 10.5. Half of the sample is between 50 and 60 years old. Average household size is 2.25 (Table 2).

Our baseline estimate of life satisfaction is

$$LS_i = \beta_0 + \Theta' d_i + \beta' X_i + e_i \quad (10)$$

As is well known, the dependent variable (self-reported life satisfaction) is ordinal, so its estimation would require something like an ordered logit or probit. However, as Ferrer-i-Carbonell and Frijters¹⁹ (2004) argue, cardinal

estimation seems to perform just as well as ordinal estimation in this context.²⁰

Regressors used are those standard in this literature and include a gender dummy (taking value one if the respondent is male), years of education, household size, the number of children, and the number of grandchildren. Marital status is measured by five dummies (married, divorced, separated, widowed, living with regular partner) with single status as the reference category. Age is controlled for with six age class dummies with age 50–55 as the reference category. Four dummies (big city, large town, small town, and suburbs, with rural as the reference category) capture characteristics of the place of residence.

The SHARE database gives us the opportunity to control for a large number of health factors, such as various physical disabilities and a number of reported illnesses. We measure them synthetically with three variables, which sum many specific single items in the three domains (see Table 1 for details). We finally add a set of variables measuring voluntary work, religious attendance, participation in sports and social activity, helping in families, and leaving an inheritance.

As is well known, the SHARE database has a very large number of individuals who refuse to report income, and many missing values for other important variables. We therefore follow an approach that is standard in previous empirical studies on this dataset by using Christelis' data on imputed gross total household income included in the Share database,²¹ and calculated following the Fully Conditional Specification methods (FCS) of Van Buuren et al.²² The imputations²³ are country-specific in the sense that they are made separately for each country,²⁴ and the sample is representative of the population aged 50 and above. The main scope of this procedure is to generate the distribution of the missing value of a specific variable, conditional

on the value of the observed values of other non-missing variables in the dataset. The SHARE database provides data obtained with this procedure by creating five imputed datasets. We therefore end up having five different values (one for each iteration) of the imputed variables. In what follows, we propose estimates using just one of them, while performing robustness checks using the other four iterated values. Variables with imputed variables in our specification are the log of household income, and a number of other variables characterised by item non-response: number of children; number of grandchildren; number of rooms in the main residence; and whether the respondent lives in a big city, suburbs/outskirts of a big city, large town, small town, or rural area or village.²⁵

Econometric Findings

In the benchmark estimate where the dependent variable is the 0–10 standard life-satisfaction question, the adjusted *R*-squared is .217 and the AIC and BIC criteria are equal to 112,824.6 and 112,924.4 respectively (Table 3, column 1). The model includes many controls, but the Variance Inflation Factor (VIF) shows that there are no significant problems of multicollinearity.²⁶ The log of imputed household income and education years are positive and significant as expected. Consistent with the empirical literature, we find that being married and living with a partner significantly increase life satisfaction compared to being single. The household size has a negative sign, presumably a proxy for the impact of household size on the individual portion of gross total household income. Living in big cities impacts positively, while the age-dummy effects grow with age.²⁷ The number of grandchildren positively affects self-declared life satisfaction, while the number of children does not. All three variables indicating health problems are negative and significant, while those measuring social life (participation in sports, helping members of the family, doing volunteer work) are mostly positive and significant. Inheri-

tance transmission during life is also positively associated to our dependent variable. Most country dummies are significant and are expected to include two components: country-specific omitted variables affecting life satisfaction (such as climate, institutions, and cultural effects) and heterogeneity in life satisfaction scales (country bias). We will try to identify country bias in what follows by testing whether country dummies are significant when the dependent variable is the respondents' evaluation of the same vignette.

To produce estimates from the first alternative approach, we estimate the latent life satisfaction factor with the following specification

$$LS_i^* = \alpha_o + \alpha' Z_i + \eta_i \quad (11)$$

in which the standard life satisfaction variable is regressed on the 11 life satisfaction sub-components (the Z -variables) described in the introduction and $\alpha = \{\alpha_j\}$ with $j = 1, \dots, 11$ denotes the corresponding 11×1 vector of coefficients. Note that the correlation matrix of the different happiness components displays a maximum correlation between the future good and opportunities variables (around .63). Other strong correlations are between vitality and, respectively, future good (around .54) and opportunities (56 percent) (Table 4).

All the regressors are strongly significant as expected and the adjusted R -squared is around 39 percent (Table 5, column 1). The VIF shows that there are no multicollinearity problems in this estimate. The most important component is future perspectives (future good), but the evaluation of the past (past good) is also strongly significant, confirming that life satisfaction is the product of a weighted average of different sub-components including an evaluation of the present, the past, and the perspective on one's future life (future perspectives). For an idea of the magnitude of these effects, when the model is re-estimated as an ordered logit, a unit increase in future perspectives adds 3.3 percent to

the likelihood of declaring the highest level of life satisfaction, while positive evaluation of the past only adds 2.4 percent (Table 5, column 3).

The predicted value of the regression in (2):

$$\hat{LS}_i^* = \hat{\alpha}_o + \hat{\alpha}' Z_i \quad (12)$$

is then used as dependent variable in the baseline model in (1) which becomes

$$\hat{LS}_i^* = \beta_o + \Theta' d_i + \beta' X_i + \tilde{e}_i \quad (13)$$

The baseline model with the modified dependent variable has a much better goodness-of-fit (from .217 to .342). The AIC and BIC (76,647.54 and 76,747.01) are also considerably improved (Table 3, column 2).

When comparing the sign and significance of the regressors between standard and alternative models we find that: i) life satisfaction is not increasing with age anymore; ii) the magnitude of income and the significant marital status variables (married and with regular partner) is reduced, even though the regressors remain significant; iii) house size becomes significant; iv) the significance of geographical dummies changes. Magnitudes and signs of all the other variables remain remarkably stable.

The first alternative method has several limits. First, it still uses in the first stage the dependent variable whose limit we want to overcome. Second, the estimated coefficients in the regression used to calculate the predicted latent life satisfaction variable may be biased by omitted variables, endogeneity or multicollinearity (even though we documented that the last problem is not severe).

We therefore test the robustness of our theoretical hypotheses with two other alternatives. The first is a simple unweighted average of the life-satisfaction sub-components. We are aware

that, in this way, we overcome the limit of the latent life satisfaction estimate even though, by using an unweighted average, we assume quite restrictively that the different sub-components have unit weights.

The estimate of the baseline model with the sub-components unweighted average dependent variable provides a goodness-of-fit which is very close to that of our benchmark alternative approach in terms of *R*-squared (34.2 percent), while improving further in terms of AIC and BIC (35,813.61 and 35,813.49 respectively) (Table 3, column 3).

The other alternative which avoids the arbitrary choice of equal weights is the extraction of a principal component from the life-satisfaction sub-components. The approach has the additional advantage of correcting for correlation and potential multicollinearity among different life-satisfaction sub-components (i.e. the answer to the meaning of one's own life may be correlated with feeling in control, not feeling left out, having a good perspective on the future, etc.). The principal component analysis documents that the first extracted component accounts for 37 percent of the variability of the selected variable. The first component has its strongest correlation with the sub-questions about future perspectives (.38), life opportunities (.37) and vitality (.36) (Tables 6 and 7). The Kaiser-Meyer-Olin measure of sampling adequacy (.76)²⁸ rejects the hypothesis that the selected variables have too little in common to implement a factor analysis.

When using the first principal component as dependent variable (our third alternative method), we find that the goodness-of-fit is around .35 (Table 3, column 4) with significance and signs of regressors very close to those of the two previous approaches.

The comparison of the goodness-of-fit among the standard model and our three alternatives, in terms of AIC and BIC values, tells us that the best model is the one in which the dependent variable is the unweighted average of sub-components followed by the one in which we use the predicted life satisfaction estimated on the 11 sub-components. The ranking of the models in terms of adjusted *R*-squared is, however, different—since all three models are very close, and outperform by far the standard one, with the unweighted average doing slightly worse. The reason for the different ranking is that the unweighted average model has, by far, the smallest residual sum of squares (which is the crucial factor for AIC and BIC), but also a much smaller total sum of squares (which is the factor on which progress in goodness-of-fit is scaled for when using adjusted *R*-squared).

Finally, we aim to check whether our approach can correct for country bias. We tackle this issue in the most conservative and simple way. We first average the values of the two life-satisfaction vignettes included in the SHARE,²⁹ and then regress the variable on the country dummies with/without socio-demographic controls. France is the omitted reference country. The Danish dummy is the highest in magnitude and significance (around .627, *t*-stat 14.08), followed by the Czech dummy (.474, *t*-stat 10.50) and the German dummy (.332, *t*-stat 8.42), indicating that respondents from these three countries overevaluate the common vignette situations in terms of life satisfaction vis à vis the French, who are the reference category. The Danish dummy result is consistent with what is found in the vignette literature as noted in the introduction.³⁰ This gives us confidence in the fact that a cultural bias exists, at least for this country.

We therefore check whether our three approaches correct country biases in the expected direction. The inspection of the country dummies in the first column of Table 3 (standard life-satisfaction estimate) compared with those in the other three columns of the same Table 3 (our three

alternative approaches) documents that all of the three approaches correct the Danish effect in the desired direction. The Danish dummy is, in fact, .798 in the standard life-satisfaction estimate. It falls to .321 under our first alternative method (life satisfaction predicted on the 11 sub-components), to .135 when using the second alternative method (unweighted average of sub-components), and to .454 when using the third alternative method (principal component analysis). Confidence intervals of the Danish dummy from the three alternative methods do not overlap with those of the standard life satisfaction estimate. Note as well that both the Czech and German dummies are corrected in the expected direction (reduction of the positive magnitude) in five out of six cases by the three alternative approaches.

Robustness Check and Discussion

We perform several robustness checks to control whether our main findings are robust to perturbations of the benchmark model. First of all we want to control their sensitivity to the imputation variables. We therefore report, for simplicity, only goodness-of-fit statistics (and not full regression estimates), considering imputed variable values from the other four iterations. The results are very close to those of the first iteration, consistent with what is found in the literature using the same data (Table 8).

Since the number of observations in the second model is slightly lower than that in the first model, due to some missing values on the life-satisfaction sub-component questions which do not match with missing values on baseline regressors (21,680 against 22,494), we repeat the first estimate with exactly the same valid observations of the second. We find that our conclusions remain unchanged (Table 9).

In a third robustness check of our first approach, we re-estimate the latent life-satisfaction factor by assuming that the impact of the 11 sub-com-

ponents is not the same according to different countries or crucial sociodemographic factors. More specifically, we interact the sub-components with all country dummies, age classes, and gender according to the following specification.

$$LS_i^* = \alpha_0 + \sum_{c=1}^C d_{ic} \alpha_c' Z_i + \sum_{a=1}^A d_{ia} \alpha_a' Z_i + d_{ig} \alpha_g' Z_i + \tilde{\eta}_i \quad (14)$$

where d_{ic} ($c = 1, \dots, C$) denote the country dummies, d_{ia} ($a = 1, \dots, A$) denote the age dummies and d_{ig} denotes the gender dummy. The goodness-of-fit of the estimate jumps to .40 (highest among all models) even though the AIC is almost unchanged with respect to Table 3, column 2 where we use predicted life satisfaction from (2) (Table 11). This indicates that there is a clear trade-off with the capacity of correcting country dummies in the right direction. The result is consistent with the fact that overparametrization improves goodness-of-fit (as it generally does) at the cost of creating noise on the coefficient values, since the values of the predicted life-satisfaction component used as dependent variable are affected by many insignificant interacted variables (while the 11 sub-components in the simple model in Table 5 are all significant).

In another robustness check, we re-estimate the benchmark model from Table 3, excluding the health variables which may be suspected of endogeneity. Last, we eliminate from our specification all the variables imputed with the Christelis et al. (2011) approach,³¹ to check whether our findings are sensitive to such imputation. Our main findings are robust to these changes (Tables 12 and 13).

Consider, finally, that a peculiarity of our work is that we are comparing models in terms of alternative dependent variables and not, as usually occurs, nested or non-nested models on the basis of differences in the considered set of regressors. An observationally equivalent interpretation of our findings could therefore be

that the selected regressors are spurious and that the “true” set of life-satisfaction determinants could, in principle, yield a superior goodness-of-fit when using the standard life-satisfaction dependent variable. In such a case, the superior goodness-of-fit of the alternative model does not demonstrate, per se, that our alternative dependent variables capture better factors affecting life satisfaction.

What might be argued against this interpretation is that we use regressors (marital status, income, gender, education, etc.) which are standard in the life-satisfaction literature. Furthermore, their sign and magnitude does not vary much between the standard and the alternative models. Hence, it is much more reasonable to assume that the considered regressors are the true observable determinants of life satisfaction, and that our alternative dependent variable can be measured with less bias and noise than the standard one, as we assume in our theoretical framework. Last but not least, we demonstrate that the superior goodness-of-fit of the alternative models is robust to several changes in the set of regressors. On such basis, it is hard to imagine an alternative set of observable and “true” life-satisfaction determinants that we did not consider which could justify the observationally equivalent interpretation of our result which we mention above.

Conclusion

The standard life-satisfaction question used in surveys is likely to suffer from serious problems of abstraction, complexity of calculus, and cultural bias. Abstraction depends on the fact that its 0–10 scale prevents intuitive correspondence with verbal modalities. Complexity of calculus originates from the problem that the overall life-satisfaction evaluation is implicitly derived from a weighted sum of sub-components affecting it (i.e. money satisfaction, sense of life, outlook at the past, perspectives on the future, vitality, etc.). Cultural bias depends on

the fact that different linguistic nuances in the meaning of the term may enhance differences in answers across individuals from different countries which do not depend on true differences in life satisfaction.

The point we raise in our paper is that the richness of direct and simpler information on the life-satisfaction sub-questions (answers on 1–4 scale on each item with correspondence between an adjective and each numerical value) may significantly reduce these three problems, thereby improving goodness-of-fit and reducing the noise component of country dummies. We articulate our alternative strategy under three different approaches (estimation of the latent life satisfaction regressing the standard life satisfaction variable on the above-mentioned sub-components, simple unweighted average of the subcomponents, extraction of the first principal component among the subcomponents with principal component analysis).

Our findings do not reject the above-mentioned hypotheses. The goodness-of-fit is greatly enhanced under all of the three alternative approaches. The well known Danish cultural bias, which we find also in our data consistently with similar findings in the vignette literature, is corrected in the desired direction by all of our three approaches.

What our results suggest is that the use of a small set of less-abstract and comprehensive life satisfaction sub-questions increases the share of subjective well-being accounted for by observable life events. Since this improvement can be obtained by merely adding one demand to standard surveys (hence a reasonable cost more than compensated by the documented benefits), our straightforward political advice is that new life-satisfaction surveys should all contain such sub-questions. The suggestion we make is very close to what is currently done to calculate a (mental) health index (the General Health Questionnaire score), which has been used as an

alternative to self-declared life-satisfaction as a proxy for subjective well-being.³² The index is the unweighted average of 12 mental distress questions and therefore closely follows one of our alternative approaches.

An important element which should be taken into account is that our findings are obtained on a database (SHARE) which includes only individuals aged 50 and above. Future research

should verify whether our findings are equally valid when younger age cohorts are included. This will, however, not be possible until the additional question on life-satisfaction sub-components is added. We also suggest additional reflection on whether the range of questions applied to the 50+ sample are also applicable to the younger cohorts, or whether a different set of questions should be considered.

Table 1: Variable Legend

VARIABLE	DESCRIPTION
Female	Dummy var. =1 if respondent is female; =0 otherwise.
Log income	Log of household total gross income. Its value is equal to the sum over all household members of the individual-level values of: annual net income from employment and self-employment (in the previous year); Annual public old age/early or pre-retirement/disability pension (or sickness benefits); Annual public unemployment benefit or insurance, public survivor pension from partner; Annual war pension, private (occupational) old age/early retirement/disability pension, private(occupational) survivor pension from partner's job, public old age supplementary pension/public old age/public disability second pension, secondary public survivor pension from spouse or partner, occupational old age pension from a second and third job; Annual public and private long-term insurance payments; Annual life insurance payment, private annuity or private personal pension, private health insurance payment, alimony, payments from charities received; Income from rent. Values of the following household level variables are added: Annual other hhd members' net income; Annual other hhd members' net income from other sources; Household bank accounts, government and corporate bonds, stocks/shares; mutual funds (imputed as in Christelis, 2011).
Education years	Years the respondent has been in full time education.
Household size	Household size.
Age class	Respondent's age class: = 1 if respondent's age < 55; = 2 if resp.'s age = [55,59]; = 3 if resp.'s age = [60,64]; = 4 if resp.'s age = [64,69]; = 5 if resp.'s age = [69,74]; = 6 if resp.'s age = [74,79]; = 7 if age > 79.
Leaving inheritance	Respondent's answer to the question: including property and other valuables, what are the chances that you or your husband/wife/partner will leave an inheritance totaling 50,000 euro or more? The possible answers range from 0 to 100.
Married	Dummy =1 if the respondent lives with spouse.
Registered partnership	Dummy =1 if the respondent lives with a partner.
Widowed	Dummy =1 if the spouse is died.
Divorced	Dummy =1 if respondent is divorced.
Separated	Dummy =1 if the respondent lives separated from spouse.
Single	Dummy =1 if the respondent lives as a single.
N.of children	Respondent's number of children (imputed as in Christelis, 2011).
N.of grandchildren	Respondent's number of grandchildren (imputed as in Christelis, 2011).
Hrooms	Number of rooms in the main residence (imputed as in Christelis, 2011).
Big city	Dummy =1 if the respondent lives in a big city (imputed as in Christelis, 2011).
Suburbs	Dummy =1 if the respondent lives in suburbs/outskirts of a big city (imputed as in Christelis, 2011).
Large town	Dummy var.=1 if the respondent lives in a large town (imputed as in Christelis, 2011).
Small town	Dummy =1 if the respondent lives in a small town (imputed as in Christelis, 2011).
Rural area	Dummy =1 if the respondent lives in a rural area or village (imputed as in Christelis, 2011).

Table 1: Variable Legend (*continued*)

Long-term illness	<p>Dummy =1 if the respondent declares any long-term health problems, illness, disability or infirmity.</p> <p>Survey question: some people suffer from chronic or long-term health problems. By long-term we mean it has troubled you over a period of time or is likely to affect you over a period of time.</p> <p>Do you have any long-term health problems, illness, disability or infirmity?</p>
No limited activities	Dummy =1 if the respondent has not been limited because of a health problem in activities people usually do. Survey question: for the past six months at least, to what extent have you been limited because of a health problem in activities people usually do?
Numb illnesses	It is the sum of illnesses the respondent is currently being treated for or bothered (A heart attack including myocardial infarction or coronary thrombosis or any other heart problem including congestive heart failure; high blood pressure or hypertension; high blood cholesterol; a stroke or cerebral vascular disease diabetes or high blood sugar; chronic lung disease such as chronic bronchitis or emphysema; asthma; arthritis, including osteoarthritis, or rheumatism; osteoporosis; cancer or malignant tumor, including leukaemia or lymphoma, but excluding minor skin cancer; stomach or duodenal ulcer, peptic ulcer; Parkinson disease; cataracts; hip fracture or femoral fracture; Alzheimer disease, dementia, organic brain syndrome, senility or any other serious memory impairment; benign tumor).
Life satisfaction	Respondent degree of life satisfaction. Survey question: On a scale from 0 to 10 where 0 means completely dissatisfied and 10 means completely satisfied, how satisfied are you with your life?
Age no prevent	Respondent degree of statements that have used to describe their lives or how they feel. Survey question: How often do you think your age prevents from doing the things you would like to do? For each item answers are given on a 1-4 scale where an adjective (often, sometimes, rarely, never) is matched to any value.
No out control	Respondent degree of statements that have used to describe their lives or how they feel. Survey question: How often do you feel that what happens to you is out of control? For each item answers are given on a 1-4 scale where an adjective (often, sometimes, rarely, never) is matched to any value.
No feel left out	Respondent degree of statements that have used to describe their lives or how they feel. Survey question: How often do you feel left out of things? For each item answers are given on a 1-4 scale where an adjective (often, sometimes, rarely, never) is matched to any value.
Fred. choice	Respondent degree of statements that have used to describe their lives or how they feel. Survey question: How often do you feel that you can do the things that you want to do? For each item answers are given on a 1-4 scale where an adjective (often, sometimes, rarely, never) is matched to any value.
No fam.responsibility	Respondent degree of statements that have used to describe their lives or how they feel. Survey question: How often do you feel that family responsibilities prevent you from doing what you want to do?. For each item answers are given on a 1-4 scale where an adjective (often, sometimes, rarely, never) is matched to any value.
No lack money	Respondent degree of statements that have used to describe their lives or how they feel. Survey question: How often do you feel that shortage of money stops you from doing the things that you want to do?. For each item answers are given on a 1-4 scale where an adjective (often, sometimes, rarely, never) is matched to any value.
Life meaningful	Respondent degree of statements that have used to describe their lives or how they feel. Survey question: How often do you feel that your life has meaning? For each item answers are given on a 1-4 scale where an adjective (often, sometimes, rarely, never) is matched to any value.
Past good	Respondent degree of statements that have used to describe their lives or how they feel. Survey question: How often on balance, do you look back to your life with a sense of happiness? For each item answers are given on a 1-4 scale where an adjective (often, sometimes, rarely, never) is matched to any value.
Vitality	Respondent degree of statements that have used to describe their lives or how they feel. Survey question: How often do you feel full of energies these days? For each item answers are given on a 1-4 scale where an adjective (often, sometimes, rarely, never) is matched to any value.
Opportunities	Respondent degree of statements that have used to describe their lives or how they feel. Survey question: How often do you feel that life is full of opportunities? For each item answers are given on a 1-4 scale where an adjective (often, sometimes, rarely, never) is matched to any value.
Voluntary	Dummy =1 if respondent has done voluntary or charity work in the last month.

Table 1: Variable Legend (*continued*)

Religion attendance	Dummy =1 if respondent has taken part in activities of a religious organization (church, synagogue, mosque etc.) in the last month.
Political participation	Dummy =1 if the respondent has taken part in a political or community-related organization in the last month.
Help to family	Dummy =1 if the respondent has provided help to family,friends or neighbors in the last month.
Cared for sick	Dummy =1 if the respondent has cared for a sick or disabled adult in the last month.
Attended education	Dummy =1 if the respondent has attended an educational or training course in the last month.
Sport social	Dummy =1 if the respondent has gone to a sport, social or other kind of club in the last month.

Figure 1. Distribution of Self Reported Life Satisfaction

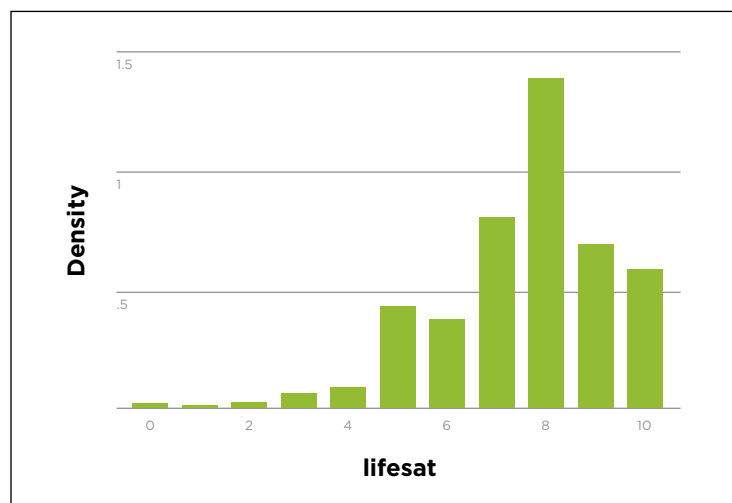


Table 2: Descriptive Statistics

VARIABLE	Imputation n.1				
	Mean	Max	Min	S.dev.	N.
Life satisfaction	7.54	10.00	0.00	1.78	32412
Female	0.49	1.00	0.00	0.50	33280
Married	0.71	1.00	0.00	0.45	33254
Log income	10.60	15.32	3.00	1.42	32957
Education years	10.50	25.00	0.00	4.28	32712
Household size	2.25	14.00	1.00	1.08	33280
Age class	3.64	7.00	1.00	1.91	33271
Leaving inheritance	0.58	1.00	0.00	0.43	31428
Married	0.71	1.00	0.00	0.45	33254
Widowed	0.15	1.00	0.00	0.35	33254
Divorced	0.07	1.00	0.00	0.25	33254
Separated	0.01	1.00	0.00	0.11	33280
Registered partner	0.01	1.00	0.00	0.12	33254
Sociability	0.10	0.88	0.00	0.13	32517
Voluntary	0.12	1.00	0.00	0.33	32517
Religion attendance	0.11	1.00	0.00	0.31	32517
Political participation	0.04	1.00	0.00	0.20	32517
Help to family	0.17	1.00	0.00	0.38	32517
Cared for sick	0.07	1.00	0.00	0.26	32517
Attended education	0.07	1.00	0.00	0.26	32517
Sport social	0.20	1.00	0.00	0.40	32517
Age no prevent	2.63	4.00	1.00	1.03	32504
No out control	2.84	4.00	1.00	0.96	32339
No feelleftout	3.05	4.00	1.00	0.96	32400
Fred choice	3.23	4.00	1.00	0.89	32458
No fam. Resp. prevent	3.03	4.00	1.00	0.97	32458
No lack money	2.56	4.00	1.00	1.10	32467
Life meaningful	3.55	4.00	1.00	0.72	32265
Past good	3.38	4.00	1.00	0.76	32172
Vitality	3.15	4.00	1.00	0.86	32486
Opportunities	3.09	4.00	1.00	0.87	32290
Future good	3.07	4.00	1.00	0.88	32077
Long-term illness	0.48	1.00	0.00	0.50	33166
Limitedactivities	0.43	1.00	0.00	0.50	33166
Numbillnesses	1.41	13.00	0.00	1.44	33280

Table 3: The Determinants of Life Satisfaction Under Standard and Alternative Dependent Variables

VARIABLES	Self reported latent life satisfaction	Predicted life satisfaction	Life satisfaction average 11 subcomponents	Principal component: 11 subcomponents
Female	0.022 (0.021)	-0.033 (0.027)	-0.016 (0.013)	-0.066 (0.049)
Log income	0.113*** (0.022)	0.086*** (0.013)	0.037*** (0.006)	0.131*** (0.022)
Education years	0.024*** (0.008)	0.027*** (0.006)	0.012*** (0.003)	0.048*** (0.011)
Household size	-0.037** (0.014)	-0.025*** (0.007)	-0.016*** (0.004)	-0.034** (0.013)
Age class 55-59	0.058** (0.022)	0.079*** (0.015)	0.033*** (0.008)	0.100*** (0.028)
Age class 60-64	0.092* (0.047)	0.118*** (0.033)	0.048** (0.017)	0.149** (0.065)
Age class 65-69	0.150*** (0.045)	0.118*** (0.036)	0.053** (0.018)	0.124* (0.069)
Age class 70-74	0.191** (0.068)	0.095* (0.050)	0.034 (0.025)	0.028 (0.092)
Age class 75-79	0.204*** (0.063)	0.052 (0.048)	0.010 (0.025)	-0.110 (0.086)
Age class above 79	0.211** (0.073)	-0.058 (0.057)	-0.056* (0.028)	-0.417*** (0.101)
Leaving inheritance	0.317*** (0.045)	0.262*** (0.025)	0.119*** (0.011)	0.431*** (0.042)
Married	0.479*** (0.079)	0.185*** (0.034)	0.067*** (0.016)	0.309*** (0.060)
Widowed	0.079 (0.065)	0.034 (0.040)	0.016 (0.019)	0.049 (0.072)
Divorced	-0.010 (0.082)	-0.060 (0.058)	-0.025 (0.026)	-0.048 (0.100)
Separated	-0.104 (0.099)	-0.029 (0.071)	-0.017 (0.033)	-0.011 (0.121)
Registered partner	0.533*** (0.080)	0.201*** (0.042)	0.078*** (0.019)	0.354*** (0.071)
N. of children	0.014 (0.009)	-0.011 (0.007)	-0.008** (0.004)	-0.010 (0.013)
N.of grandchildren	0.011** (0.005)	0.006** (0.002)	0.003** (0.001)	0.008* (0.004)

Table 3: The Determinants of Life Satisfaction Under Standard and Alternative Dependent Variables *(continued)*

Hrooms	0.020	0.026**	0.009**	0.037**
	(0.012)	(0.008)	(0.004)	(0.014)
Big city	0.105**	0.041	0.016	0.080
	(0.047)	(0.031)	(0.016)	(0.058)
Suburbs	0.021	0.055**	0.024*	0.100**
	(0.066)	(0.023)	(0.011)	(0.041)
Large town	0.121**	0.084**	0.041**	0.147**
	(0.055)	(0.035)	(0.016)	(0.063)
Town	0.123*	0.106*	0.053*	0.185**
	(0.058)	(0.049)	(0.024)	(0.085)
Long-term illness	-0.206***	-0.142***	-0.068***	-0.267***
	(0.029)	(0.020)	(0.010)	(0.036)
Limited activities	-0.543***	-0.434***	-0.232***	-0.882***
	(0.048)	(0.036)	(0.018)	(0.068)
Numb. Illnesses	-0.133***	-0.100***	-0.051***	-0.196***
	(0.010)	(0.009)	(0.005)	(0.016)
Voluntary	0.103***	0.103***	0.057***	0.212***
	(0.029)	(0.020)	(0.008)	(0.032)
Religion attendance	0.157**	0.110***	0.044**	0.182**
	(0.053)	(0.034)	(0.019)	(0.062)
Political participation	0.152***	0.087**	0.040**	0.173**
	(0.044)	(0.036)	(0.015)	(0.062)
Help to family	0.103***	0.087***	0.037***	0.197***
	(0.029)	(0.016)	(0.009)	(0.032)
Cared for sick	-0.053*	-0.039*	-0.043***	-0.059
	(0.028)	(0.020)	(0.010)	(0.039)
Attended education	0.023	0.027	-0.001	0.057
	(0.038)	(0.025)	(0.013)	(0.045)
Sport social	0.115***	0.122***	0.061***	0.251***
	(0.030)	(0.024)	(0.012)	(0.043)
Austria	0.490***	0.291***	0.116***	0.388***
	(0.033)	(0.027)	(0.012)	(0.047)
Belgium	0.226***	0.042***	-0.008**	-0.040***
	(0.011)	(0.007)	(0.003)	(0.013)
Czech Rep.	-0.346***	-0.443***	-0.226***	-0.796***
	(0.035)	(0.033)	(0.015)	(0.055)
Switzerland	0.846***	0.419***	0.173***	0.678***
	(0.028)	(0.015)	(0.007)	(0.024)

Table 3: The Determinants of Life Satisfaction Under Standard and Alternative Dependent Variables *(continued)*

Spain	0.245*** (0.041)	-0.010 (0.032)	-0.024 (0.015)	-0.093 (0.057)
Germany	0.340*** (0.016)	0.236*** (0.007)	0.104*** (0.003)	0.310*** (0.012)
Greece	-0.216*** (0.037)	-0.386*** (0.027)	-0.253*** (0.013)	-0.787*** (0.046)
Denmark	0.798*** (0.046)	0.321*** (0.028)	0.135*** (0.013)	0.454*** (0.048)
Italy	0.059 (0.035)	-0.209*** (0.030)	-0.161*** (0.015)	-0.511*** (0.054)
Netherlands	0.553*** (0.012)	0.582*** (0.006)	0.251*** (0.003)	0.876*** (0.010)
Poland	-0.316*** (0.053)	-0.078** (0.032)	-0.053*** (0.015)	-0.135** (0.058)
Sweden	0.590*** (0.059)	0.064* (0.036)	0.016 (0.016)	0.049 (0.060)
Constant	5.54*** (0.26)	6.22*** (0.17)	2.57*** (0.07)	-1.84*** (0.29)
Observations	30325.000	29414.000	30427.00	29414.000
R-squared	0.217	0.342	0.342	0.353
Log-Likelihood	-56400.000	-38312.000	-17895.00	-55924.000
AIC	112824.600	76647.540	35813.610	111871.800
BIC	112924.400	76747.010	35913.490	111971.300

Robust standard errors in parentheses *** p<0.01, ** p<0.05, *p<0.1

Reference Categories: Age class: 50-54; Marital Status: Single; Urban area: Rural; Country: France.

Table 4: Correlation Matrix

	Life-sat	Age no prev	No out control	No fel-leftout	Fred of choice	No fam resp.	No lack money	Life meaningful	Past good	Vitality	Opportunity	Future good
Lifesat	1.00											
Age no prev	0.33	1.00										
No out control	0.33	0.43	1.00									
No felleft out	0.38	0.39	0.53	1.00								
Fred of choice	0.31	0.25	0.21	0.25	1.00							
No fam resp.	0.16	0.14	0.19	0.21	0.07	1.00						
No lack money	0.33	0.23	0.21	0.26	0.18	0.28	1.00					
Life meaningful	0.42	0.25	0.26	0.32	0.33	0.06	0.17	1.00				
Past good	0.37	0.17	0.18	0.24	0.23	0.09	0.20	0.44	1.00			
Vitality	0.42	0.40	0.34	0.35	0.36	0.06	0.17	0.44	0.33	1.00		
Opportunity	0.45	0.34	0.28	0.32	0.37	0.08	0.25	0.46	0.38	0.56	1.00	
Future good	0.50	0.36	0.31	0.35	0.37	0.09	0.29	0.49	0.40	0.54	0.63	1.00

Table 5: The Impact of Subjective Well-Being Sub-Components on Self-Declared Life Satisfaction

	OLS	Ordered LOGIT	Ordered LOGIT (marginal effects)*
VARIABLES	Life satisfaction	Life satisfaction	Life satisfaction
Life satisfaction			
Age no prevent	0.080*** (0.012)	0.134*** (0.013)	0.009*** (0.015)
No out control	0.104*** (0.019)	0.145*** (0.027)	0.102*** (0.175)
No felleftout	0.189*** (0.022)	0.232*** (0.028)	0.016*** (0.028)
Fred of choice	0.089** (0.033)	0.117** (0.047)	0.008** (0.004)
No fam resp.prevent	0.072*** (0.012)	0.110*** (0.017)	0.008*** (0.002)
No lack money	0.223*** (0.028)	0.303*** (0.032)	0.021*** (0.004)
Life has meaning	0.285*** (0.048)	0.321*** (0.051)	0.023*** (0.005)
Past good	0.255*** (0.044)	0.338*** (0.050)	0.024*** (0.005)
Vitality	0.167*** (0.029)	0.216*** (0.037)	0.015*** (0.003)

Table 5: The Impact of Subjective Well-Being Sub-Components on Self-Declared Life Satisfaction (*continued*)

Opportunity	0.157*** (0.026)	0.210*** (0.034)	0.015*** (0.003)
Future good	0.367*** (0.030)	0.472*** (0.031)	0.033*** (0.006)
Constant	1.38*** (0.37)	-	-
Observations	31185.000	31185.000	31185.000
R-squared	0.388	-	-
Pseudo R-squared	-	0.127	-
Log-Likelihood	-54388.000	-50699.000	-
AIC	108799.700	101421.400	101421.400
BIC	108899.900	101521.500	101521.500

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Reference Categories: Age class: 50-54; Marital Status: Single; Urban area: Rural; Country: France.

Table 6: Principal Component Analysis (PCA)

Component	Eigenvalue	Difference	Proportion	Cumulative
Comp1	4.10	2.78	0.37	0.37
Comp2	1.32	0.31	0.12	0.49
Comp3	1.01	0.22	0.09	0.59
Comp4	0.80	0.08	0.07	0.66
Comp5	0.72	0.04	0.07	0.72
Comp6	0.68	0.09	0.06	0.78
Comp7	0.58	0.06	0.05	0.84
Comp8	0.52	0.06	0.05	0.88
Comp9	0.46	0.02	0.04	0.93
Comp10	0.44	0.08	0.04	0.97
Comp11	0.37	-	0.03	1.00

Table 7: Correlations with the First Five Principal Components

Variable	Comp1	Comp2	Comp3	Comp4	Comp5
Age no prevent	0.30	0.23	-0.36	0.19	-0.27
No out control	0.29	0.38	-0.39	-0.23	0.08
No feel left out	0.31	0.33	-0.25	-0.26	0.14
Fred. choice	0.27	-0.15	0.00	0.57	0.68
No fam. resp.	0.12	0.55	0.48	-0.05	0.36
No lack money	0.22	0.34	0.50	0.31	-0.44
Life has meaning	0.33	-0.27	0.11	-0.31	0.18
Past good	0.28	-0.23	0.36	-0.53	0.03
Vitality	0.36	-0.18	-0.16	0.11	-0.10
Opportunity	0.37	-0.24	0.07	0.13	-0.19
Future good	0.38	-0.20	0.08	0.09	-0.20

Table 8: The Determinants of Differences in Evaluating Vignettes

Variables	OLS	OLOGIT	
	Average-vignettes	Vignette 1	Vignette 2
Female	0.017 (0.016)	0.026 (0.047)	0.046 (0.047)
Log income	-0.028*** (0.009)	-0.076*** (0.029)	-0.051* (0.028)
Education years	-0.002 (0.002)	-0.015** (0.007)	0.009 (0.007)
Household size	-0.003 (0.009)	-0.011 (0.027)	0.001 (0.028)
Age class 55-59	-0.072*** (0.025)	-0.068 (0.076)	-0.243*** (0.077)
Age class 60-64	-0.044* (0.026)	-0.010 (0.078)	-0.183** (0.080)
Age class 65-69	-0.121*** (0.029)	-0.232*** (0.086)	-0.312*** (0.088)
Age class 70-74	-0.155*** (0.032)	-0.241** (0.095)	-0.423*** (0.097)
Age class 75-79	-0.154*** (0.036)	-0.244** (0.108)	-0.441*** (0.110)
Age class above 79	-0.124*** (0.036)	-0.163 (0.109)	-0.389*** (0.110)

Table 8: The Determinants of Differences in Evaluating Vignettes *(continued)*

Leaving inheritance	0.016 (0.019)	0.047 (0.056)	0.048 (0.057)
Married	-0.067* (0.040)	-0.235* (0.121)	-0.140 (0.123)
Widowed	-0.089** (0.045)	-0.235* (0.135)	-0.223 (0.137)
Divorced	-0.107** (0.047)	-0.397*** (0.143)	-0.111 (0.147)
Separated	-0.075 (0.084)	-0.212 (0.258)	-0.168 (0.260)
Registered partner	-0.041 (0.074)	-0.210 (0.225)	-0.010 (0.225)
N. of children	0.012 (0.008)	0.044* (0.023)	0.011 (0.024)
N. of grandchildren	-0.005 (0.004)	-0.000 (0.011)	-0.020* (0.011)
Hrooms	0.003 (0.006)	0.016 (0.016)	-0.006 (0.017)
Big city	-0.019 (0.026)	-0.077 (0.079)	-0.025 (0.078)
Suburbs	-0.000 (0.024)	-0.117 (0.073)	0.120 (0.073)
Large town	0.006 (0.023)	0.018 (0.068)	0.030 (0.070)
Small town	0.041* (0.022)	0.021 (0.065)	0.165** (0.065)
Long-term illness	-0.068*** (0.019)	-0.212*** (0.057)	-0.089 (0.057)
Limited activities	0.039** (0.019)	0.111* (0.057)	0.058 (0.058)
Numb illnesses	-0.012** (0.006)	-0.014 (0.019)	-0.041** (0.019)
Voluntary	-0.010 (0.024)	-0.061 (0.071)	-0.018 (0.072)
Religion attendance	0.017 (0.025)	0.094 (0.076)	0.009 (0.076)
Political participation	-0.018 (0.037)	-0.039 (0.111)	0.019 (0.114)

Table 8: The Determinants of Differences in Evaluating Vignettes *(continued)*

Help to family	-0.029 (0.021)	-0.109* (0.061)	-0.018 (0.063)
Cared for sick	-0.007 (0.029)	0.023 (0.085)	-0.013 (0.087)
Attended education	0.057* (0.030)	0.065 (0.089)	0.166* (0.091)
Sport social	-0.010 (0.019)	-0.122** (0.058)	0.051 (0.059)
Belgium	0.213*** (0.041)	0.032 (0.124)	0.920*** (0.122)
Czech Rep.	0.474*** (0.045)	1.064*** (0.136)	1.101*** (0.134)
Spain	0.075 (0.049)	-0.220 (0.150)	0.512*** (0.144)
Germany	0.332*** (0.039)	1.045*** (0.119)	0.506*** (0.115)
Greece	0.137*** (0.048)	0.384*** (0.147)	0.137 (0.142)
Denmark	0.627*** (0.045)	1.402*** (0.135)	1.540*** (0.133)
Italy	-0.040 (0.044)	-0.431*** (0.135)	0.260** (0.128)
Netherlands	0.135*** (0.045)	0.528*** (0.135)	0.221* (0.134)
Poland	0.257*** (0.046)	0.338** (0.140)	0.794*** (0.138)
Sweden	0.147*** (0.051)	0.071 (0.153)	0.556*** (0.149)
Constant	3.30*** (0.05)	- -	- -
Observations	7154.000	7134.000	7131.000
R-squared	0.090	-	-
Pseudo R-squared	-	0.035	0.027
Log-Likelihood	-6747.000	-8406.000	-8438.000

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Reference Categories: Age class:50-54; Marital Status:Single; Urban area:Rural; Country:France.

Table 9: Robustness Check of Table 3 Estimates with the Four Alternative Imputations (goodness of fit only)

VARIABLES	Self reported latent life satisfaction	Predicted life satisfaction	Life satisfaction average 11 subcomponents	Principal component: 11 subcomponents
Imputation 2				
Observations	30325	29411	30427	29411
R-squared	0.216	0.342	0.342	0.353
AIC	112843	76645.56	35823.81	111860.7
BIC	112942.8	76745.03	35923.69	111960.1
Imputation 3				
Observations	30328	29414	30430	29414
R-squared	0.217	0.342	0.341	0.353
AIC	112826.2	76666.37	35836.53	111890.9
BIC	112926	76765.84	35936.41	111990.4
Imputation 4				
Observations	30316	29404	30418	29404
R-squared	0.217	0.342	0.342	0.353
AIC	112809.2	76626.13	35807.17	111842.6
BIC	112909.1	76725.6	35907.04	111942.1
Imputation 5				
Observations	30330	29416	30432	29416
R-squared	0.216	0.342	0.342	0.353
AIC	112856.5	76644.37	35819.32	111875
BIC	112956.3	76743.84	35919.2	111974.5

Table 10: Robustness Check of Table 3 with the Same Number of Observations (goodness of fit only)

VARIABLES	Self reported latent life satisfaction	Predicted life satisfaction	Life satisfaction average 11 subcomponents	Principal component: 11 subcomponents
Imputation 1				
Observations	29354	29354	29354	29354
R-squared	0.218	0.341	0.342	0.352
Log-Likelihood	-54462	-38221	-17149	-55796
AIC	108947.2	76466.86	34321.46	111616
BIC	109046.7	76566.31	34420.91	111715.4

Table 11: Benchmark Model Estimated With Extended Predicted Life Satisfaction (11 sub-components interacted with country, gender, age and education dummies)

VARIABLES	Happypred	VARIABLES	Happypred
Female	-0.053* (0.027)	Number grandchildren	0.007** (0.003)
Log income	0.083*** (0.015)	Hrooms	0.025** (0.008)
Education years	0.025*** (0.006)	Big city	0.042 (0.026)
Household size	-0.027*** (0.006)	Suburbs	0.055** (0.019)
Age class 55-59	0.089*** (0.017)	Large town	0.081** (0.035)
Age class 60-64	0.126*** (0.036)	Small town	0.091** (0.041)
Age class 65-69	0.125*** (0.038)	Voluntary	0.102*** (0.023)
Age class 70-74	0.097* (0.046)	Religion attendance	0.107*** (0.032)
Age class 75-79	0.045 (0.044)	Political participation	0.063* (0.032)
Age class above 79	-0.055 (0.051)	Help to family	0.081*** (0.016)
Leaving inheritance	0.250*** (0.032)	Austria	0.502*** (0.029)
Married	0.201*** (0.044)	Belgium	0.280*** (0.008)
Widowed	0.041 (0.040)	Czech Rep.	-0.316*** (0.033)
Divorced	-0.028 (0.055)	Switzerland	0.881*** (0.020)
Separated	-0.005 (0.072)	Spain	0.241** (0.039)
Registered partner	0.220*** (0.046)	Germany	0.352*** (0.007)
N. of children	-0.012 (0.008)	Greece	-0.172*** (0.029)
Long-term illness	-0.140*** (0.021)	Denmark	0.879*** (0.037)

Table 11: Benchmark Model Estimated With Extended Predicted Life Satisfaction (11 sub-components interacted with country, gender, age and education dummies) (continued)

Limited activities	-0.427*** (0.044)	Italy	0.811** (0.033)
Numb. illnesses	-0.096*** (0.010)	Netherlands	0.583*** (0.006)
Cared for sick	-0.036 (0.021)	Poland	-0.359*** (0.042)
Attended education	0.029 (0.025)	Sweden	0.715*** (0.041)
Sport social	0.121*** (0.027)		
Constant	6.068*** (0.219)		
Observations	-		29414.000
R-squared	-		0.404
AIC	-		76365.050
BIC	-		76464.520
Log-Likelihood	-		-38171.520

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Reference Categories: Age class: 50-54; Marital Status: Single; Urban area: Rural; Country: France.

Table 12: The Determinants of Life Satisfaction Under Standard and Alternative Dependent Variables (base model from table 3 estimated without health variables)

VARIABLES	Self reported latent life satisfaction	Predicted life satisfaction	Life satisfaction average 11 subcomponents	Principal component: 11 subcomponents
Female	-0.019 (0.023)	-0.064* (0.030)	-0.031** (0.014)	-0.127** (0.055)
Log income	0.126*** (0.026)	0.097*** (0.016)	0.042*** (0.007)	0.152*** (0.026)
Education years	0.034*** (0.009)	0.034*** (0.008)	0.016*** (0.004)	0.061*** (0.013)
Household size	-0.033* (0.015)	-0.021*** (0.007)	-0.014*** (0.004)	-0.027** (0.011)
Age class 55-59	0.004 (0.024)	0.039* (0.018)	0.012 (0.009)	0.021 (0.035)
Age class 60-64	-0.005 (0.049)	0.042 (0.037)	0.010 (0.019)	-0.001 (0.073)

Table 12: The Determinants of Life Satisfaction Under Standard and Alternative Dependent Variables (base model from table 3 estimated without health variables) (continued)

Age class 65-69	-0.005 (0.057)	0.001 (0.045)	-0.008 (0.023)	-0.107 (0.089)
Age class 70-74	-0.029 (0.082)	-0.072 (0.060)	-0.053 (0.031)	-0.303** (0.115)
Age class 75-79	-0.067 (0.078)	-0.154** (0.058)	-0.097*** (0.031)	-0.518*** (0.111)
Age class above 79	-0.111 (0.084)	-0.308*** (0.060)	-0.185*** (0.032)	-0.913*** (0.110)
Leaving inheritance	0.367*** (0.051)	0.299*** (0.029)	0.139*** (0.013)	0.505*** (0.050)
Married	0.451*** (0.079)	0.162*** (0.035)	0.055*** (0.016)	0.262*** (0.059)
Widowed	0.020 (0.064)	-0.013 (0.042)	-0.007 (0.020)	-0.044 (0.076)
Divorced	-0.064 (0.078)	-0.099* (0.054)	-0.047* (0.023)	-0.125 (0.092)
Separated	-0.123 (0.092)	-0.038 (0.068)	-0.024 (0.032)	-0.028 (0.114)
Registered partner	0.521*** (0.089)	0.187*** (0.051)	0.073** (0.025)	0.325*** (0.088)
N. of children	0.018* (0.009)	-0.008 (0.007)	-0.006 (0.004)	-0.005 (0.013)
N. of grandchildren	0.003 (0.004)	0.000 (0.002)	-0.000 (0.001)	-0.003 (0.005)
Hrooms	0.029** (0.013)	0.033*** (0.010)	0.013** (0.005)	0.051*** (0.017)
Big city	0.150** (0.050)	0.077** (0.032)	0.034* (0.017)	0.152** (0.059)
Suburbs	0.053 (0.069)	0.078** (0.027)	0.037** (0.013)	0.147** (0.050)
Large town	0.142** (0.061)	0.100** (0.041)	0.050** (0.019)	0.180** (0.073)
Small town	0.150* (0.070)	0.126* (0.059)	0.063** (0.029)	0.226** (0.103)
Voluntary	0.131*** (0.031)	0.123*** (0.024)	0.068*** (0.010)	0.251*** (0.039)
Religion attendance	0.147** (0.055)	0.102** (0.035)	0.041* (0.019)	0.166** (0.065)

Table 12: The Determinants of Life Satisfaction Under Standard and Alternative Dependent Variables (base model from table 3 estimated without health variables) (continued)

Political participation	0.147*** (0.047)	0.083** (0.038)	0.039** (0.016)	0.165** (0.065)
Help to family	0.108*** (0.029)	0.089*** (0.017)	0.039*** (0.009)	0.200*** (0.034)
Cared for sick	-0.071* (0.034)	-0.054** (0.023)	-0.050*** (0.012)	-0.089* (0.043)
Attended education	0.038 (0.034)	0.038 (0.026)	0.006 (0.014)	0.079 (0.048)
Sport social	0.157*** (0.028)	0.156*** (0.023)	0.078*** (0.011)	0.320*** (0.039)
Austria	0.486*** (0.036)	0.284*** (0.029)	0.112*** (0.013)	0.369*** (0.051)
Belgium	0.197*** (0.011)	0.018* (0.008)	-0.022*** (0.004)	-0.089*** (0.015)
Czech Rep.	-0.499*** (0.039)	-0.562*** (0.033)	-0.290*** (0.015)	-1.035*** (0.054)
Switzerland	0.937*** (0.029)	0.487*** (0.016)	0.208*** (0.007)	0.812*** (0.026)
Spain	0.267*** (0.046)	0.004 (0.036)	-0.015 (0.017)	-0.063 (0.065)
Germany	0.270*** (0.019)	0.184*** (0.011)	0.075*** (0.005)	0.205*** (0.018)
Greece	-0.092* (0.042)	-0.293*** (0.030)	-0.205*** (0.014)	-0.605*** (0.052)
Denmark	0.721*** (0.055)	0.264*** (0.032)	0.104*** (0.015)	0.340*** (0.056)
Italy	0.053 (0.037)	-0.215*** (0.031)	-0.164*** (0.015)	-0.524*** (0.055)
Netherlands	0.526*** (0.013)	0.559*** (0.008)	0.237*** (0.005)	0.824*** (0.014)
Poland	-0.486*** (0.046)	-0.211*** (0.027)	-0.121*** (0.013)	-0.400*** (0.048)
Sweden	0.536*** (0.068)	0.021 (0.041)	-0.007 (0.018)	-0.037 (0.070)
Constant	4.910*** (0.284)	5.746*** (0.187)	2.325*** (0.083)	-2.782*** (0.318)
Observations	30334.000	29422.000	30436.000	29422.000
R-squared	0.159	0.256	0.245	0.252

Table 12: The Determinants of Life Satisfaction Under Standard and Alternative Dependent Variables (base model from table 3 estimated without health variables) (continued)

AIC	115002.200	80282.000	39996.020	116151.900
BIC	115102.000	80381.480	40095.900	116251.400
Log-Likelihood	-57489.000	-40129.000	-19986.000	-58064.000

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Reference Categories: Age class: 50-54; Marital Status: Single; Urban area: Rural; Country: France.

Table 13: The Determinants of Life Satisfaction Under Standard and Alternative Dependent Variables (base model from Table 3 estimated without health and social activity variables)

VARIABLES	Self reported latent life satisfaction	Predicted life satisfaction	Life satisfaction average II subcomponents	Principal component: II subcomponents
Female	-0.016 (0.024)	-0.062* (0.030)	-0.031* (0.014)	-0.125** (0.057)
Log income	0.131*** (0.026)	0.102*** (0.017)	0.044*** (0.007)	0.161*** (0.027)
Education years	0.037*** (0.009)	0.037*** (0.008)	0.017*** (0.004)	0.068*** (0.013)
Household size	-0.034** (0.014)	-0.024*** (0.007)	-0.015*** (0.004)	-0.032** (0.011)
Age class 55-59	0.005 (0.025)	0.036* (0.019)	0.011 (0.010)	0.014 (0.036)
Age class 60-64	0.003 (0.049)	0.045 (0.037)	0.012 (0.019)	0.003 (0.073)
Age class 65-69	0.007 (0.056)	0.008 (0.043)	-0.004 (0.023)	-0.098 (0.087)
Age class 70-74	-0.020 (0.080)	-0.069 (0.059)	-0.050 (0.030)	-0.300** (0.112)
Age class 75-79	-0.073 (0.075)	-0.162** (0.056)	-0.100*** (0.030)	-0.540*** (0.107)
Age class above 79	-0.143* (0.079)	-0.339*** (0.057)	-0.199*** (0.030)	-0.983*** (0.101)
Leaving inheritance	0.379*** (0.052)	0.312*** (0.031)	0.144*** (0.015)	0.531*** (0.054)
Married	0.443*** (0.079)	0.163*** (0.033)	0.055*** (0.016)	0.267*** (0.059)
Widowed	0.022 (0.069)	-0.008 (0.043)	-0.006 (0.021)	-0.033 (0.079)

Table 13: The Determinants of Life Satisfaction Under Standard and Alternative Dependent Variables (base model from Table 3 estimated without health and social activity variables) (continued)

Divorced	-0.073 (0.080)	-0.094 (0.055)	-0.045* (0.024)	-0.113 (0.094)
Separated	-0.125 (0.087)	-0.030 (0.069)	-0.022 (0.032)	-0.016 (0.114)
Registered partner	0.512*** (0.093)	0.184*** (0.052)	0.072** (0.026)	0.322*** (0.092)
N. of children	0.018* (0.009)	-0.007 (0.007)	-0.006 (0.004)	-0.004 (0.013)
N. of grandchildren	0.003 (0.003)	0.000 (0.002)	-0.000 (0.001)	-0.002 (0.005)
Hrooms	0.034** (0.013)	0.038*** (0.010)	0.015*** (0.005)	0.062*** (0.017)
Big city	0.145** (0.053)	0.068** (0.031)	0.030 (0.017)	0.136** (0.058)
Suburbs	0.046 (0.071)	0.068** (0.029)	0.032** (0.014)	0.132** (0.055)
Large town	0.138** (0.063)	0.097** (0.042)	0.049** (0.020)	0.175** (0.074)
Small town	0.151* (0.073)	0.126* (0.061)	0.063* (0.030)	0.225* (0.107)
Austria	0.479*** (0.034)	0.281*** (0.026)	0.109*** (0.012)	0.363*** (0.046)
Belgium	0.202*** (0.011)	0.024*** (0.007)	-0.021*** (0.003)	-0.077*** (0.012)
Czech Rep.	-0.553*** (0.042)	-0.608*** (0.034)	-0.312*** (0.016)	-1.130*** (0.058)
Switzerland	0.965*** (0.031)	0.515*** (0.017)	0.219*** (0.008)	0.866*** (0.028)
Spain	0.223*** (0.044)	-0.031 (0.032)	-0.032* (0.015)	-0.140** (0.059)
Germany	0.260*** (0.017)	0.180*** (0.010)	0.072*** (0.005)	0.195*** (0.017)
Greece	-0.105** (0.041)	-0.310*** (0.027)	-0.214*** (0.012)	-0.647*** (0.045)
Denmark	0.746*** (0.057)	0.286*** (0.034)	0.114*** (0.015)	0.385*** (0.059)
Italy	0.010 (0.035)	-0.251*** (0.028)	-0.181*** (0.013)	-0.599*** (0.050)

Table 13: The Determinants of Life Satisfaction Under Standard and Alternative Dependent Variables (base model from Table 3 estimated without health and social activity variables) (continued)

Netherlands	0.563*** (0.011)	0.593*** (0.008)	0.252*** (0.004)	0.894*** (0.013)
Poland	-0.545*** (0.044)	-0.256*** (0.021)	-0.142*** (0.010)	-0.494*** (0.038)
Sweden	0.569*** (0.064)	0.051 (0.040)	0.005 (0.018)	0.025 (0.068)
Constant	4.898*** (0.288)	5.725*** (0.197)	2.317*** (0.086)	-2.824*** (0.339)
Observations	30519.000	29593.000	30624.000	29593.000
R-squared	0.154	0.247	0.236	0.242
AIC	116016.800	81147.490	40658.840	117308.600
BIC	116116.800	81247.030	40758.790	117408.100
Log-Likelihood	-57996.000	-40561.740	-20317.000	-58642.000

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Reference Categories: Age class: 50-54; Marital Status: Single; Urban area: Rural; Country: France.

1. Frey and Stutzer (2002a, 2002b).
2. The main contributions in this field are those valuing air pollution (Welsch, 2002), terrorist activity (Frey et al., 2009), noise nuisance (van Praag & Baarsma, 2005) and flood disasters (Luechinger & Raschky, 2009).
3. King and Wand (2007); Corrado and Weeks (2010).
4. Vignette equivalence requires that the scenarios in the vignettes are perceived with no systematic differences across respondents. Response consistency requires that individuals use the response category in the self-assessment question in the same way as when they evaluate hypothetical scenarios in the vignettes.
5. Bago d'Uva et al. (2011); Ferrer-i-Carbonell et al. (2010); Corrado and Weeks (2010).
6. In order to harmonize the response scale of the 11 sub-components with the response scale of the synthetic question on life satisfaction we have re-ordered the response scale of the five sub-components denoting positive dimensions of well-being (questions 4 and 7-11) as follows: never=1, rarely=2, sometimes=3, often=4. For the five sub-components denoting negative dimensions of well-being (questions 1-3 and 5-6) the response scale are left unchanged: 1=often, 2=sometimes, 3=rarely, 4=never.
7. Inglehart and Klingemann (2000); Eurobarometer (2002); Corrado and Weeks (2010); Kapteyn, Smith, & Soest (2007).
8. Corrado and Weeks (2010) examine the use of vignettes to correct for the different use of response scales when rating life satisfaction. They show that these additional questions can, under certain conditions, be used to correct for the resultant biases in model parameters. The bias is found especially for top ranked countries such as Denmark thereby confirming that country rankings reflect not just the true variation in life satisfaction but a different use of the response scales and more optimistic evaluations of life of certain countries and cultures (see also Kapteyn, Smith, and Soest, 2007).
9. See Golderberg and Williams (1988).
10. For simplicity and without lack of generality we assume that the weights are common to each individual. The idea of happiness fundamentals that are common to all individuals in different countries is, in some way, supported by the empirical literature showing that determinants of subjective wellbeing are quite similar across different countries and time periods (Becchetti et al., 2010).
11. In the context of attitudinal surveys where observed responses are often discrete, the disjunction between what is observed and the underlying latent measurement error in the dependent variable is generally understood as arising from an error in either recording or reporting of a response. Corrado and Weeks (2010) analyse different solution methods to correct for response scale heterogeneity when responses are discrete.
12. If measurement error affects one or more explanatory variables, this will generate biased and inconsistent parameter estimates, with a general tendency towards attenuation. Kreider (1999) discusses the problem of measurement error for self-reported health and in particular work disability in the context of models of labour force participation. However, the focus here is the impact of likely overreporting of disability on parameter estimates associated with one or more explanatory variables whereas our focus is on measurement error affecting the dependent variable.
13. Life satisfaction is ordinal, so that its panel estimation would require something like a ordered probit or conditional fixed effect logit (as in Clark, 2003). However, as Ferrer-i-Carbonell and Frijters (2004) argue, Cardinal estimation seems to perform just as well as ordinal estimation when life satisfaction is measured on the 0-10 scale (Ferrer-i-Carbonell & Frijters, 2004).
14. See Bound, J., Brown, C., & Mathiowetz, N. (2001).
15. All the above-mentioned methods involve introducing external information. A number of authors have suggested instrumental variable estimators that use third or higher moments of the variables as instruments for or (Cragg, 1997; Dagenais & Dagenais, 1997; Lewbel, 1997). Alternatively, Wald (1940) suggested an estimator which involves grouping the data. However, unless some external information can be used to form groups (i.e. an instrument) is available, the resulting estimator will typically be no less biased than OLS (Pakes, 1982).
16. In a non-linear regression model, such as a probit model, the effects of measurement error are more severe. If the dependent variable is binary, measurement error takes the form of misclassification errors; some observations where the variable is truly a 1 will be misclassified as a 0 and vice versa. In this case the measurement error is negatively correlated with the true variable. This can lead to coefficient estimates that are biased and inconsistent.
17. The Akaike Information Criterion (AIC) is defined as $AIC = -2 \ln(L)$ and the Bayesian Information Criterion (BIC) as $BIC = -2 \ln(L) + \frac{k \ln(n)}{n}$ where n denotes the number of observations, k is the number of parameters and L denotes the Residual Sum of Squares. In presence of measurement error the Residual Sum of Squares will be higher, hence both the AIC and BIC will be higher indicating a poorer fit of the model. The adjusted R^2 defined as $\bar{R}^2 = 1 - \frac{k}{n-k}$ will be, instead, lower.
18. Last Release 2.5.0: May 24, 2011 available at http://cdat8.uvt.nl/sharedatadissemation/releases/show/w2_250/All+CAPI+modules/stata.

19. See Ferrer-i-Carbonell, A., & Frijters, P. (2004).
20. See also Ferrer-i-Carbonell (2004, 2008) on this point.
21. The dataset used is “sharew2_rel2-5-o_imputations”.
22. Van Buuren, S., Brand, J.P.L., Groothuis-Oudshoorn, C.G.M., & Rubin, D.B. (2006).
23. A key aspect of the FCS method is that it operates under the missing at random (MAR) assumption where the missing-ness of each variable depends only on other variables in the system and not on the values of the variable itself. In the iteration process, the initial conditions of the first iteration are derived by imputing the first variable in the system based only on the variables that are never missing (age, gender and geographic location), then the variables in the second iteration are calculated based on the first and the non-missing variables, in order to achieve a complete set of values for these initial conditions. In this calculation the fully imputed demographic variables are used as predictors for the economic variables; in the imputation of a specific wave, large part of information that comes from other waves is taken into account. The imputation in SHARE also allows an initial burn-in period in order to decrease the dependence of the chain on the initial values. Five burn-in iterations are used by evaluating the Gelman-Rubin criterion from the seventh iteration on. For more details see Christelis (2011).
24. Ireland is excluded from this procedure.
25. The imputed datasets are available from SHARE at <http://cdata8.uvt.nl/sharedatadissemiation/releases/show/>.
26. w2_250/Generated+Variables/Imputations/stata.
27. As it is well known the VIF (variance inflation factor) formula is $\frac{1}{1 - R^2}$ where R^2 is the R -squared obtained by regressing each independent variable on all other independent variables (Marquardt, 1970). If R^2 is low (tends to zero) the VIF test is low (equal to one).
28. Since our sample is made by people aged above 50, this apparently surprising result may capture the ascending part of the U-shaped relationship between age and happiness (see among others Clark et al., 1996 and Frijters and Beaton, 2008).
29. See Kaiser, H., & Rice J. (1974).
30. The first vignette is “John is 63 years old. His wife died 2 years ago and he still spends a lot of time thinking of her. He has 4 children and 14 grandchildren who visit him regularly. John can make ends meet but cannot make for extra such as expensive gifts for his grandchildren. He has had to stop working recently due to heart problems. He gets tired easily. Otherwise he has not serious health conditions.” The second vignette is “Carry is 72 years old and a widow. Her total after tax income is about 1,100 per month. She owns the house she lives in and has a large circle of friends. She plays bridge twice a week and goes on vacation regularly with some friends. Lately she has been suffering from arthritis, which makes working in the house and garden painful.”
31. See Inglehart and Klingemann (2000); Eurobarometer (2002); Corrado and Weeks (2010) Kapteyn, Smith, & Soest (2007).
32. See Christelis, D. (2011).
33. See Goldberg, D., & Williams, P. (1988).

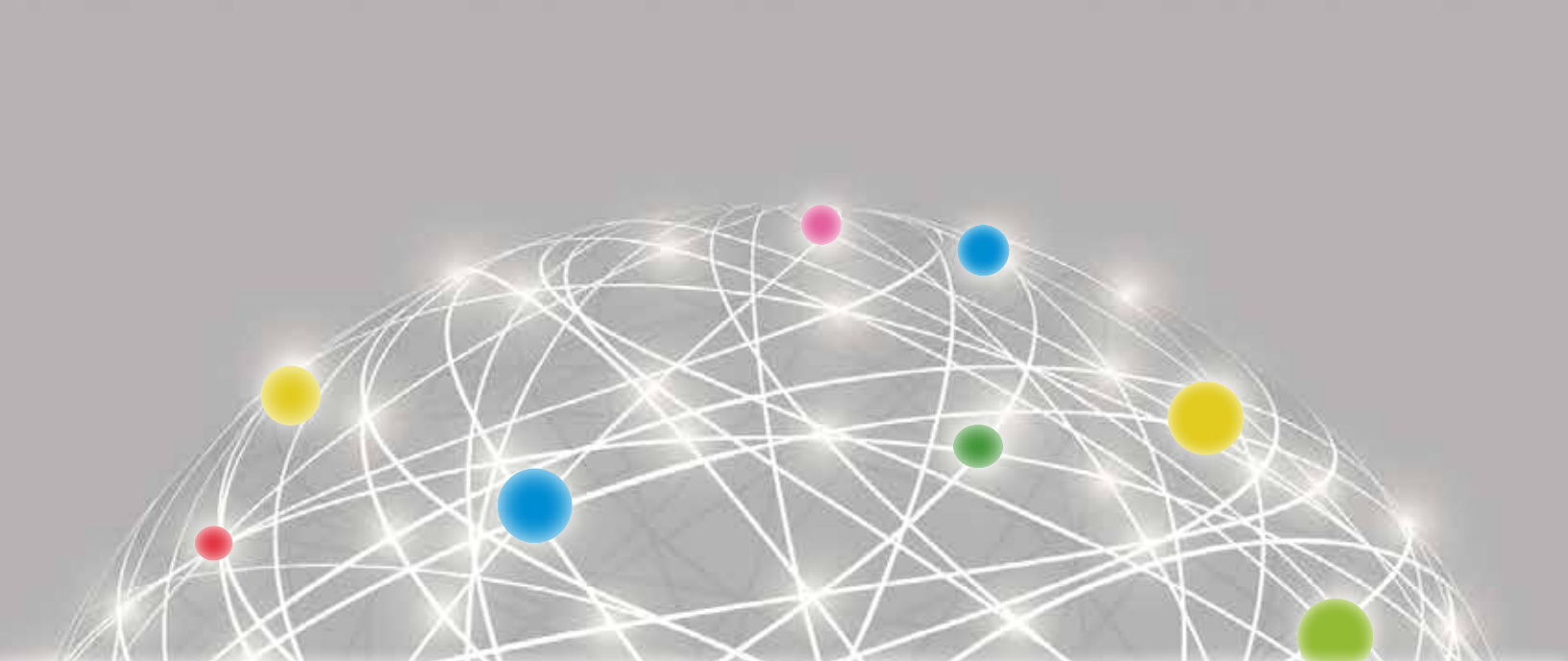
References

- Bago D'Uva, T., Lindeboom, M., O'Donnell, O., & Van Doorslaer, E. (2011). Slipping anchor? Testing the vignettes approach to identification and correction of reporting heterogeneity, *Journal of Human Resources*, 46(4).
- Leonardo, B., Riccardo, M., & Naticchioni, P. (2014). The drivers of happiness inequality: suggestions for promoting social cohesion. *Oxford Economic Papers*, 66(2), 419–42.
- Bound, J., Brown, C., & Mathiowetz, N. (2001). Measurement error in survey data. In Heckman, J. & Leamer, E. (Eds.). *Handbook of Econometrics*, 5.
- Clark, A. E., Oswald, A.J., & P.B. Warr (1996). Is job satisfaction u-shaped in age?, *Journal of Occupational and Organizational Psychology*, 69, pp. 57–81.
- Corrado, L., & Weeks, M. (2010). Identification strategies in survey response using vignettes (Working Paper in Economics No. 1031). Cambridge: Faculty of Economics, University of Cambridge.
- Christelis, D., (2011). Imputation of missing data in waves 1 and 2 of SHARE (Working Paper Series 01, 2011). Survey of Health, Aging, and Retirement in Europe.
- Cragg, J. G., (1997). Using higher moments to estimate the simple errors-in-variables model. *RAND Journal of Economics*, 28, pp. 571–91.
- Dagenais, M. G., & Dagenais, D. L. (1997). Higher moment estimators for linear regression models with errors in the variables. *Journal of Econometrics*, 76, pp. 193–221.
- Eurobarometer. (2002). Public opinion in the European Union. Retrieved from <http://europa.eu.int/comm/publicopinion/archives/eb/eb57/eb57en.pdf>.
- Frey, B. S., & Stutzer, A. (2000). Happiness, economy and institutions. *The Economic Journal*, 110, pp. 918–938.
- Frey, B., & Stutzer, A. (2002a). What can economists learn from happiness research. *Journal of Economic Literature*, 40, pp. 402–435.
- Frey, B., & Stutzer, A. (2002b). *Happiness and economics. How the economy and institutions affect well-being*. Princeton, NJ: Princeton University Press.
- Frey, B. S., Luechinger, S., & Stutzer, A. (2009). The life satisfaction approach to the value of public goods: The case of terrorism. *Public Choice*, 138, pp. 317–345.
- Ferrer-i-Carbonell, A., & Frijters, P. (2004). How important is methodology for the estimates of the determinants of happiness? *The Economic Journal*, 114, pp. 641–659.
- Ferrer-i-Carbonell, A., Van Praag, B. M. S., & Theodossiou, I. (2011). Vignette equivalence and response consistency: The case of job satisfaction (IZA Discussion Paper No. 6174).
- Frijters, P., & Beaton, T. (2008). The mystery of the u-shaped relationship between happiness and age (NCER Working Paper Series 26). National Centre for Econometric Research.
- Goldberg, D., & Williams, P. (1988). A user's guide to the general health questionnaire. Windsor, UK: NFER-Nelson.
- Hu, Y. J., Stewart-Brown, S., Twig, L., & Weich, S. (2007). Can the 12-item general health questionnaire be used to measure positive mental health? *Psychological Medicine*, 37(7), pp. 1005–1013.
- Inglehart, R. F., & Klingemann, H. D. (2000). Subjective Well-Being Across Cultures. In *Genes, Culture, Democracy and Happiness*, pp. 165–184. MIT Press.
- Kapteyn, A., J.P. Smith, & Van Soest, A. (2007). Vignettes and self-reports of work disability in the United States and the Netherlands. *American Economic Review*, 97(1), 461–472.
- Kaiser, H., & Rice, J. (1974). Little Jiffy, Mark IV. *Journal of Educational and Psychological Measurement*, 34, pp. 111–117.
- King, G., & Wand, J. (2007). Comparing incomparable survey responses: New tools for anchoring vignettes. *Political Analysis*, 15, pp. 46–66.
- Lewbel, A. (1997). Constructing instruments for regressions with measurement error when no additional data are available, with an application to patents and R&D. *Econometrica*, 65, pp. 1201–1213.
- Luechinger, S., & Raschky, P. (2009). Valuing flood disasters using the life satisfaction approach. *Journal of Public Economics*, 93(3-4), pp. 620–633.
- Marquardt, D. W. (1970). Generalized inverses, ridge regression, biased linear estimation, and nonlinear estimation. *Technometrics*, 12, pp. 591–612.
- Pakes, A. (1982). On the asymptotic bias of wald-type estimators of a straight line when both variables are subject to error. *International Economic Review*, 23, pp. 491–497.
- SHARE (2011). *Survey of health, ageing and retirement in europe, guide to release 2.5.0 waves 1 and 2*. Mannheim Research Institute for the Economics of Aging.
- Van Buuren, S., Brand, J.P.L., Groothuis-Oudshoorn, C.G.M., & Rubin, D.B. (2006). Fully conditional specification in multivariate imputation. *Journal of Statistical Computation and Simulation*, 76(12), pp. 1049–1064.

Van Praag, B.M.S. & Baarsma, B.E. (2005). Using happiness surveys to value intangibles: The case of airport noise. *The Economic Journal*, 115, pp. 224–246.

Wald, A. (1940). The fitting of straight lines if both variables are subject to error. *Annals of Mathematical Statistics*. 11, pp. 284–300.

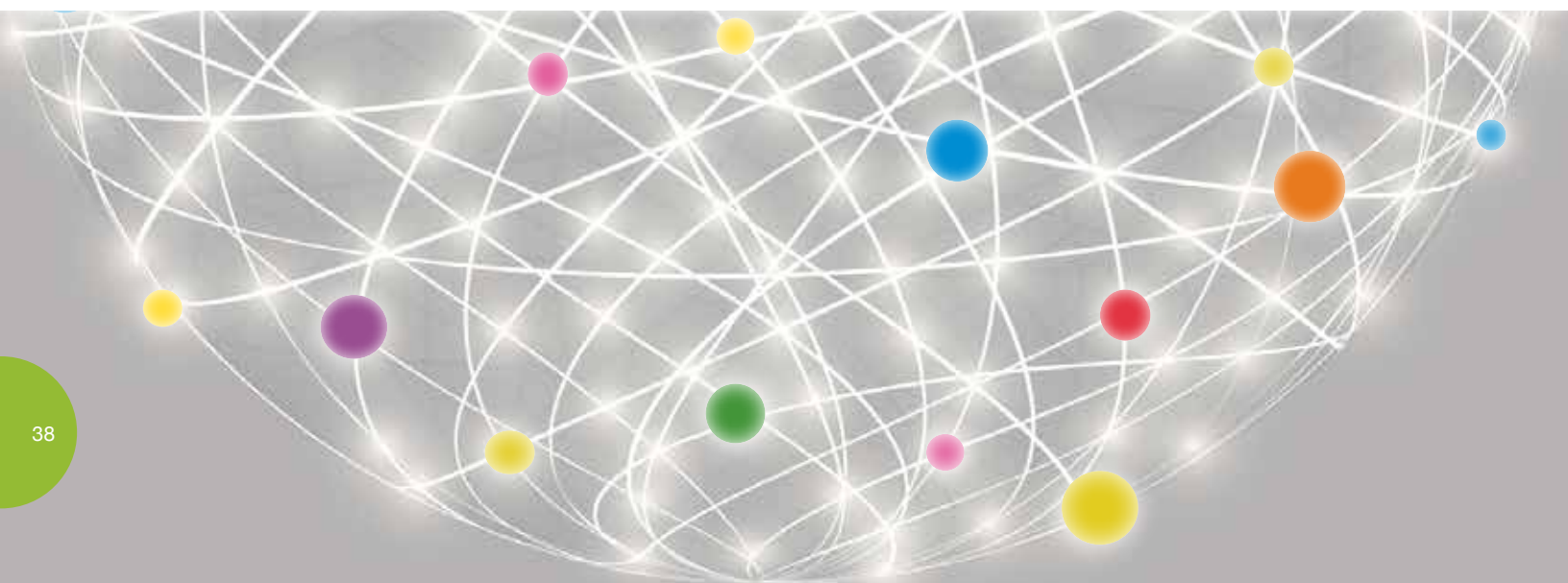
Welsch, H. (2002). Preferences over prosperity and pollution: Environmental valuation based on happiness surveys. *Kyklos*, 55(4), pp. 473–494.



Chapter 2

HUMAN FLOURISHING, THE COMMON GOOD, AND CATHOLIC SOCIAL TEACHING

ANTHONY ANNETT



Anthony M. Annett, Climate Change and Sustainable Development Advisor, Earth Institute, Columbia University; and Religions for Peace.

Something is profoundly wrong with the way we live today. For 30 years we have made a virtue out of the pursuit of material self-interest: Indeed, this pursuit now constitutes whatever remains of our sense of collective purpose. We know what things cost but have no idea what they are worth. We no longer ask of a judicial ruling or a legislative act: Is it good? Is it fair? Is it just? Is it right? Will it help to bring about a better society or a better world? Those used to be the political questions, even if they invited no easy answers. We must learn once again to pose them.

Tony Judt, *Ill Fares the Land*

This chapter's title betrays its intention. It makes three claims. First, that human beings are by their nature oriented toward eudaimonistic notions of happiness, and this is intimately tied to the common good. Second, that with the post-Enlightenment turn toward the individual, political and economic developments have stripped the common good of all substantive content. Third, that by restoring the centrality of the common good, Catholic social teaching offers a path toward authentic human flourishing in the context of the modern global economy.

Eudaimonia and The Common Good

It is our contention that human beings are inclined to seek a deeper sense of happiness than mere hedonistic notions of pleasure and the absence of pain. This is the eudaimonistic notion of happiness, and it centers on human flourishing, prioritizing living well and actualizing one's potentials through personal development. Eudaimonia focuses on living in accord with what is intrinsically worthwhile to human beings—purpose, meaningful relationships, good health, and contribution to the community.² Martha Nussbaum defines it as “a kind of living that is active, inclusive of all that has

intrinsic value, and complete, meaning lacking in nothing that would make it richer or better.”³ Alasdair MacIntyre is more succinct: eudaimonia is “the state of being well and doing well in being well.”⁴

To fully appreciate eudaimonia, we must understand its roots in Aristotle's virtue ethics—centered on his teleological worldview whereby all things have a telos or a purpose. And since human beings are distinguished by their capacity for reason, their purpose is to successfully exercise reason embodied in the virtues, both intellectual and moral. Exercising the virtues in accordance with excellence is a necessary condition for achieving eudaimonia, for a life well lived, which Aristotle conceived of as a lifelong quest.⁵ Clearly, this cannot be equated with wealth—as Aristotle himself said, “Wealth is obviously not the good that we are seeking, because it serves only as a means; i.e. for getting something else.”⁶

A teleological view of human nature is inherently dynamic. In the words of moral and political philosopher Alasdair MacIntyre, this teleological view maps out the journey between “man-as-he-happens-to-be” and “man-as-he-could-be-if-he-realized-his-essential-nature.”⁷ Aristotelian virtue ethics is about transitioning from the former to the latter—to help people become who they are meant to be. This presupposes that we are not born virtuous. The virtues can only be achieved through education or habitual exercise.

Another key aspect of the Aristotelian view of happiness is that the good life is a life of relationships. Human beings seek not only the good life *for* themselves, but the good life *with* others. This sense of mutual flourishing is embedded in the notion of the common good, which Jesuit theologian David Hollenbach defines as “the good realized in the mutual relationships in and through which human beings achieve their well-being.”⁸ Thus the individual and the common good are inseparable, and the whole is

greater than the parts. And while the common good is distinguished from the good of the individual, furthering the common good in turn furthers the good of the individual.⁹

Accordingly, the good life is the telos not only of the individual but of the political community, too.¹⁰ And this actually is the highest good—as Aristotle put it, “If all communities aim at some good, the state or political community, which is the highest of all, and which embraces all the rest, aims at good in a greater degree than any other, and at the highest good.”¹¹ This is an expansive vision of a “good society”—the *sum-mum bonum*—and social institutions are called upon to support and direct themselves toward this good.

In recent times, Alasdair MacIntyre sought to ground the Aristotelian framework more explicitly in a teleological view of human psychology.¹² To this end, he defines the all-important concept of a practice as “any coherent and complex form of socially established cooperative human activity through which goods internal to that activity are realized.” In MacIntyre’s view, human beings seek to excel in practices, which means subordinating themselves to their norms and expectations, and acquiring the virtues that enable them to achieve the goods internal to practices. This approach reflects a basic psychological need in human beings to seek intrinsic rewards within the social context. It is a conception by which the self is situated in particular social worlds, and in which the goods intrinsic to the practice feed into the common good of society.

Is this relational and teleological view of human nature convincing? Some would argue that it is naïve and out of date, having been superseded many times over. Yet in a very real sense, the old is new again, especially in light of the burgeoning interest in happiness and well-being, combined with an increasing realization that something has gone dramatically wrong with our social and economic interactions.

The empirical evidence from happiness studies offers some support for this view. The *World Happiness Report* itself shows that differences in happiness across countries can be accounted for by six key variables—income per capita, healthy life expectancy, social support, freedom to make life choices, generosity, and the absence of corruption. This evidence tallies with the Aristotelian idea that money cannot buy happiness, and that happiness makes little sense outside of our human interactions. While the results are based on subjective well-being—measured as both immediate emotional satisfaction and overall sense of life satisfaction—they nonetheless point toward broader eudaimonistic notions of happiness in the sense that: (i) human beings are social and relational; (ii) human beings are purposeful and teleological.

Other supportive evidence comes from the psychological literature, affirming the strong pro-social tendencies of human beings, including through empathy and compassion.¹³ Empathy is the ability to put oneself in another’s shoes, to enter into resonance with the other in a way that dissolves interpersonal differences. Some claim that humans are hardwired to link empathically with others.¹⁴ Compassion runs deeper. It involves not only being sensitive to the emotions of others, but actually caring about them, being motivated to help them when they are in need. Compassion does not require empathy, but empathy can spark compassion. Furthermore, while it is possible to reach “empathy fatigue,” this is never the case with compassion.¹⁵ This is closely related to Amartya Sen’s distinction between “sympathy” and “commitment.”¹⁶ For Sen, “sympathy” plays the role of empathic connection, and the response can actually correspond to self-interest. Not so with commitment, which is less about empathic connection and more about an other-regarding response to rectify a wrong—and which prompts the person to act in a way that leads to lower personal welfare than an alternative option.

One conclusion, therefore, is that human beings have strong tendencies toward altruism—even toward strangers or in large groups.¹⁷ Matthieu Ricard lists two essential components of altruism—valuing the other and being concerned about his or her situation.¹⁸ This altruistic attitude manifests itself as benevolence toward others and a willingness to take care of them. Altruism does not necessarily require sacrifice, although it frequently rises to heroic dimensions. Adam Smith summed up this innate tendency toward altruism well when he wrote that “how selfish soever man may be supposed, there are evidently some principles in his nature, which interest him in the fortune of others, and render their happiness necessary to him, though he derives nothing from it except the pleasure of seeing it.”¹⁹

There is copious evidence for the deeply relational nature of human beings.²⁰ Studies tend to confirm that of the determinants of happiness, relatedness is nearly always near the top of the list. Quite simply, social engagement makes people happy. For example, studies have shown that a sense of belonging to community has the same effect on life satisfaction as trebling of household income.²¹ Some would actually argue that the very idea of happiness makes little sense in an atomistic context. “It takes (at least) two to be happy” as Stefano Zamagni put it.²² Relationship is so central to well-being that researchers are paying increased attention to so-called “relational goods,” long neglected in modern economics.²³ These are goods that can only be enjoyed if shared reciprocally, are characterized by gratuitousness, and where the source of the good lies in the relationship itself. And as intrinsically worthwhile, possession of these goods contributes to eudaimonia.

A lot of the evidence that human beings act on pro-social inclinations comes from studies of economic games that typically involve a division of resources.²⁴ These games suggest at least three conclusions. First, people value fairness. Even when there is no possibility of retaliation,

they will share rather than seek maximal gain for themselves.²⁵ Second, when there is a possibility of retaliation, people tend to split the pile evenly and reject offers perceived as unfair, even if this entails a personal loss.²⁶ Third, people trust and reward trust—pro-social behavior has a “multiplier effect.”²⁷

These results point to strong social norms surrounding altruism, fairness and reciprocity. People reward trust and kindness, and they punish cheating and callousness. Samuel Bowles and Herbert Gintis argue that human beings are motivated by “strong reciprocity,” which they define as a “propensity to cooperate and share with others similarly disposed, even at a personal cost, and a willingness to punish those who violate cooperative and other social norms, even when punishing is personally costly and cannot be expected to result in net personal gains in the future.”²⁸ This implies that humans desire cooperation for mutual benefit—and this can often mean foregoing the maximum personal benefit to give something to others, trusting that such a blessing will be returned.²⁹ This is the way social capital is generated and nurtured.³⁰ Indeed, strong reciprocity has the potential to lead almost universal cooperation, but this depends crucially on the enforcement of social norms.³¹

The question remains: what explains these other-regarding tendencies? A common answer is evolution. The hypothesis is that elements of altruism proved useful in the early development of the human species, and so natural selection endows us with certain “altruistic genes.” The starting point is the importance of parental nurture, and humans experience a longer childhood than other animals. One dominant theory is “kin selection”—the idea that a gene survives and reproduces when others who bear that same gene survive and reproduce.³² Others have stressed “reciprocal altruism”—the idea being that the repeated nature of interpersonal interaction gives rise to mechanisms for rewarding cooperation and punishing cheating or free riding.³³

But others still think “group selection” is a more likely candidate, as the other theories have difficulties explaining the evolution of altruism in large groups.³⁴ This is the idea that human groups excelling at cooperating and upholding moral norms gained an advantage over other groups—as E.O. Wilson puts it, “selfish members win within groups, but groups of altruists best groups of selfish members.”³⁵ The proponents of this view argue that early humanity was characterized by inter-group conflict and faced severe environmental challenges. This predominance of inter-group conflict therefore gives rise to something like strong reciprocity.³⁶ It suggests that ethical behavior is hardwired, and is not merely a means toward personal gain.³⁷

In further support of the evolutionary approach, there is a lot of evidence that animals and babies can exhibit altruistic tendencies.³⁸ And young children tend to have a strong “equality bias.” But there are limits. Animals are far less inclined to show benevolence toward strangers. Children only start to really hone their pro-social instincts, through sharing for example, when they grow older—suggesting that socialization plays a key role.

So while the evolutionary basis for altruism has its merits, it also has its limitations. And our evolutionary inheritance comes with a dark side. Humans have a strong tendency to separate into “in” and “out” groups, and experiments show that the thresholds for group loyalty can be very low. This can lead to demonizing the other, which in extreme cases leads to denying their humanity. For example, the emotion of disgust, which many think evolved to protect us from parasites and pests, can be perverted and turned against people in the out group.³⁹

It is clear, then, that nature endows us with both pro-social and anti-social instincts. Human beings are capable of the heights of kindness and the depths of brutality.⁴⁰ They are capable of being “primed” to act in certain ways. This

demonstrates the limits of basing moral decisions on mere sentiments or gut feelings. Sentiment must be tempered by the exercise of reason. This, after all, was the insight of Aristotle, whose theory of flourishing is founded on the notion that the exercise of reason is proper to humans, what distinguishes us from animals, and from untutored children, too.⁴¹ Stephen Pinker argues persuasively that reason alone can extend the reach of empathy beyond favored groups to the whole of humanity.⁴²

We have argued so far that the relational dimension of eudaimonia coheres with human nature. But what about its other pillar—purpose, meaning, self-actualization? Here too, the evidence is supportive. Studies have shown that people exhibit a “teleological bias,” or a “general cognitive bias to view the world in terms of agency, purpose, and design.”⁴³ Martin Seligman, one of the leaders of the “positive psychology” movement, argues that human flourishing is related to five distinct factors: (i) positive emotion, which is mainly genetic, but can be boosted by training; (ii) engagement, which happens when a person’s highest strengths match the highest challenges that come his or her way; (iii) relationships; (iv) meaning and purpose in life; and (v) accomplishment and achievements.⁴⁴ Three of these five core factors support a teleological view of the structure of human psychology. Similarly, “self-determination theory” posits that three basic psychological needs are fundamental to eudaimonia—autonomy, competence, and relatedness.⁴⁵ Again, these tally with our two building blocks of human flourishing: a sense of purpose and a sense of community.

The loss of the common good

We have argued that since the flourishing of the individual and the flourishing of the community are interlinked, then eudaimonia points toward the common good. This is a “good” that we all strive for, and it is a good that we hold in “common.” Yet with the emergence of modernity, this

understanding broke down. Why did this happen? A full and thorough answer to this question is beyond the scope of this chapter. Yet it is worth highlighting some of the broad trends that led to the great turn away from the common good.

There is no clean consensus on this. Some trace it to the Enlightenment directly, others to the Reformation or the fall of Renaissance-era civic humanism.⁴⁶ But others go back before that, and point to the so-called nominalist revolution in the 14th century. Until that point, the teleological framework inherited from the Greeks remained largely intact. Thomas Aquinas, the greatest of the medieval Christian theologians, followed Aristotle's eudaimonistic conception of happiness, but gave it a two-fold structure, proper to the ends of human beings—the natural end, attained by exercising the moral and intellectual virtues, and the supernatural end, requiring divine assistance through the theological virtues.⁴⁷

This worldview was upended by the nominalist revolution.⁴⁸ What nominalism did was deny the reality of universals. For the followers of Aristotle, universals were real, and individual beings were particular instances of these universals. But for the nominalists, reality consisted of individual or particular things. This seemingly arcane philosophical point had enormous practical implications. It meant that the natural order was now seen as comprised of individuals and particulars, and hence could no longer be conceived in teleological terms. Human beings therefore had no telos. They were no longer oriented toward the good, a good held in common, because without universals there could be no universal ends. Instead, every human being was now seen as radically individual, sustained only by the will of an omnipotent God who is himself unbound by any natural laws. And like God, human beings were seen as motivated by the will.

This radical shift, in turn, provided fertile ground for the Enlightenment. Breaking it

down, the Enlightenment has two key tenets.⁴⁹ The first is the emphasis on using science to gain knowledge and control over the natural world—and in doing so, attain progress and better the lives of people. The second is the focus on the autonomous individual, which displaced the common good as the *summum bonum*. This new worldview was epitomized by Rene Descartes, who saw the human being as a self-defining individual. For Descartes, the task of humanity was to become “masters and possessors of nature.”

This metaphysical account of the birth of the Enlightenment is not the sole account. Brad Gregory, for example, superimposes a political dimension, arguing that the real turning point came with the Reformation.⁵⁰ His point is that because the Reformation made it impossible to reach doctrinal agreement, the eventual solution was to privatize religion and shift toward “objective reason”—which, in turn, spurred the advent of science and a political and economic system predicated on individual rights. In Gregory's account, the nominalist revolution might have facilitated this shift, but politics was clearly in the driver's seat. But whatever path is emphasized, the end point is still the abandonment of a shared conviction about the good life.

This quickly starts to show up in the leading political theories of the day. Thomas Hobbes, for example, was vigorously opposed to Aristotle's conception of the good life. His starting point was a world of autonomous individuals who, instead of cooperating for common good, were inclined toward conflict—leading to a “war of all against all” in which life was “solitary, poor, nasty, brutish, and short.” In other words, rather than Aristotle's *summum bonum*, the social life was for Hobbes a *summum malum*, the supreme evil, and the only escape was for autonomous individuals to voluntarily cede their power to an absolutist sovereign. In short, Hobbes might be regarded as the “anti-Aristotle,” an extreme case of what can happen when individuals are disconnected from a common purpose.

Yet this is a particularly dark view, no doubt informed by Hobbes' experience of living through a period of major political and climatic upheaval. The ideas of his contemporary John Locke proved sunnier. Locke argued that cooperation should be governed by a social contract, which he saw as a voluntary agreement between autonomous individuals. He also honed the idea of individual freedom, defined in a negative sense as freedom from coercion. Importantly, Locke's theory of individual rights flowed directly from the voluntarism that is a natural consequence of a nominalist worldview. For just as God "owns" human beings because he created them, so human beings can "own" whatever they create, so long as they do not violate God's will as embedded in the natural law. This notion of the "free" individual who is the author of a voluntary social contract proved enduring. The Aristotelian conception of natural sociability is replaced with the idea that society is held together by an artificial pact.

This turn toward the individual was also reflected by the Utilitarians. While utilitarianism was a teleological philosophy, identifying the good with the greatest happiness of the greatest number, it nonetheless viewed society as an agglomeration of individuals, rejecting the notion of the common good. As Jeremy Bentham said with his trademark bluntness: "The community is a fictitious body, composed of the individual persons who are considered as constituting as it were its members. The interest of the community then is, what?—the sum of the interests of the several members who compose it."⁵¹ Utilitarianism also delivered a mortal blow to eudaimonistic notion of happiness, by turning toward a crude form of hedonism.

From an early stage, utilitarianism was criticized for failing to adequately respect the differences between people, and for its seeming willingness to ride roughshod over individual rights to achieve the general happiness. For this reason, John Stuart Mill sought to make utilitarianism compatible with individual rights—he argued

that freedom from coercion, provided one's actions do not harm another, was the surest route to happiness, at least in the long run. This melding of (negative) freedom with utility would prove enduring, influencing in particular the development of modern economics.

A defining feature of this post-Enlightenment settlement was the dethroning of the (common) good in favor of the (individual) right. This was given even greater force with the advent of Immanuel Kant's deontological framework. This framework was predicated on the notion that people are free and independent agents who must choose their own ends. To insist on some particular conception of the good would be to impinge upon their autonomy. A direct implication of this is that "the right is prior to the good," meaning that individual rights should not be sacrificed for the common good, and—even more than this—that the very principles of justice animating these rights should not presuppose any particular conception of the good life.⁵² Otherwise, it would fail to give due respect to the individual as an end in himself.

This elevation of the right over the good is deeply embedded in the modern worldview, and it transcends the right/left divide. Modern egalitarianisms, for example, tend to stress individual autonomy over altruism. John Rawls, the major proponent of this kind of egalitarianism, was a Kantian through and through. His egalitarianism stems from his views on the moral desert of market outcomes. By claiming that differences in assets and talents among people boil down to mere luck, he concludes that they are not attached to any moral desert. From this, he asks what autonomous individuals would choose under fair conditions (conceptualized by the famous veil of ignorance in the original position). His answer is that justice would lean egalitarian, permitting social and economic inequality only to the extent that it benefits the least-advantaged person.⁵³ This is not altruistic—it is based on each person choosing out of self-interest, on the understanding

that they themselves might be the least-advantaged person.

Of course, libertarians dispute these conclusions, but they do so on the same terrain. Robert Nozick, for example, argued that anything more than a minimal state “violates persons’ rights not to be forced to do certain things, and is unjustified.”⁵⁴ Thus Nozick contends that the libertarians are the true heirs of Kant, as they are the ones refusing to treat individuals as merely a means rather than an end. At the crux of the libertarian idea is the radically individualistic notion of self-ownership—and if people own themselves, they are entitled to the fruits of their labor.⁵⁵

In this sense, both Rawlsian egalitarianism and Nozickian libertarianism stem from the same individualistic root. As Alasdair MacIntyre put it, “It is, from both standpoints, as though we had been shipwrecked on an uninhabited island with a group of other individuals, each of whom is a stranger to me and to all the others.”⁵⁶ Yet even so, it is not hard to see that libertarianism is far more socially destructive, far more antithetical to the common good, than is Rawlsian egalitarianism. For while Rawls rejects the idea of a common good, his conclusions nonetheless mimics aspects of it. Not so with the libertarians. As Nozick himself said, “There is no social entity with a good that undergoes some sacrifice for its own good. There are only individual people, different individual people, with their own individual lives. Using one of these people for the benefit of others, uses him and benefits the others. Nothing more.”⁵⁷ This kind of hyper-individualism reached its degenerative apotheosis with Ayn Rand, who regarded selfishness as the supreme virtue.

In later work, John Rawls recognized the clear limits of the Kantian metaphysical framework.⁵⁸ His mature views held that people differed not only in their conceptions of the good, but also in their motivating moral convictions. For Rawls, the highest virtue was tolerance. When people

enter the public square, they are asked to respect pluralism, to support an “overlapping consensus” whereby people can agree on principles of justice for different reasons. But this is a tall order. It asks the citizen to live a bifurcated life, and is naïve to assume that people can agree on principles that are entirely disconnected from conceptions of the good life.⁵⁹ Rawls also explicitly rejects the idea of a common good, which he argues is “no longer a political possibility for those who accept the constraints of liberty and toleration of democratic institutions.”⁶⁰ For Rawls, with echoes of Hobbes, this could only be accomplished by an oppressive state.

What these worldviews all have in common is the notion of what political philosopher Michael Sandel calls the “unencumbered self”—“a self understood as prior to and independent of its purposes and ends.”⁶¹ Such a person has no ties to the community, and is not bound up in any conception of a common good. In such a context, Margaret Thatcher’s famous quip that “There are individual men and women and there are families...there is no such thing as society” makes perfect sense.

So far, we have attempted to paint, in broad-brush strokes, some of the main developments in political philosophy since the Enlightenment. We will now turn to parallel developments in the field of economics. Modern economics is typically traced to Adam Smith’s proposition that the benefits of market exchange stemmed from self-interest rather than benevolence. Yet Smith’s views were more nuanced than is often appreciated, and were at least partially rooted in older traditions of virtue ethics.⁶² In fact, Smith’s point about self-interest is limited to the narrow question of exchange, rather than broader issues of distribution or production.⁶³ More generally, as noted already, Smith was a major proponent of altruistic motivation in societal interaction, encompassing “generosity, humanity, kindness, compassion, mutual friendship and esteem, all the social and benevolent affection.”⁶⁴

It makes sense to trace the roots of modern economics to utilitarianism, but a particularly crimped form of utilitarianism—one that rules out interpersonal comparisons. Pareto, one of the early pioneers, held that there was simply no objective way to compare utility across different people. He insisted on taking people's tastes and preferences as given, bracketing the question of whether they contributed to human flourishing. For this reason, he was vigorously opposed to the idea of economics "taking morality into account," which he said would be "like accusing the theory of the game of chess of not taking culinary art into account."⁶⁵

Pareto's big breakthrough was to show that the market made interpersonal comparisons of utility redundant. People could now reveal their preferences through market trades—what Pareto referred to as the "measuring rod of money."⁶⁶ The "good" is now simply equated with satisfaction of preferences, and the market is "efficient" in the sense that it exhausts all voluntary trades that can satisfy these preferences.⁶⁷ And following these insights, economists derived the so-called welfare theorems, heralding the virtues of unfettered and competitive markets in leading to the most efficient outcomes.

Neoclassical economics therefore developed as a strange stepchild of utilitarianism and libertarianism. Such a framework is not really compatible with the eudaimonistic notion of happiness rooted in the common good. It is egotistical rather than altruistic, assuming that people are motivated solely by satisfying their own desires and preferences.⁶⁸ It is materialistic, equating happiness with the consumption of goods and services acquired through market transactions, discounting relational, cultural, and spiritual goods. And it takes people as they are—or as they are assumed to be—with regard to their tastes and preferences, with no role for self-improvement brought about by the cultivation of the virtues.⁶⁹

It is our contention that *homo economicus*, this self-centered, utility-maximizing robot, is not only unnatural—or even a "social moron"⁷⁰—but also dangerous. It teaches people to think that the best pro-social behavior is actually anti-social behavior. As Clifford Longley puts it, it is an "alchemy" that aims "to turn bad into good, dross into gold."⁷¹ This matters because the psychological literature confirms that people can be primed to think and act in a certain way. In this case, evidence from economic games shows that economists and economics students differ consistently from everyone else—they are more selfish and less pro-social.⁷² And when bankers are primed to think of themselves as bankers rather than inhabiting other social roles, they are more inclined toward dishonesty.⁷³ Again, this goes back to the insights of Aristotle—vice as well as virtue can become habituated.

Where does all of this lead us? According to Alasdair MacIntyre, it leads to an emotivist culture. By emotivism he means "the doctrine that all evaluative judgments and more specifically all moral judgments are *nothing but* expressions of preference, expressions of attitude or feeling, insofar as they are moral or evaluative in character."⁷⁴ In an emotivist culture, there is an understanding that people will not agree on values. This certainly fits with the idea that rights have priority over the good, and that the state must remain neutral about the ends. It fits with the character of *homo economicus*, who cares only about maximizing his preferences in the narrowest possible sense, and who is unmotivated by all notions of virtue, values, and purpose. It fits with the idea that social relationships become manipulative as people show a preference for extrinsic goods like money, power, and fame over intrinsic goods that are sought for their own sake. It fits with a consumerist mentality without an acquisitive ceiling, where desires can be molded, and where the "goods society" replaces the "good society."⁷⁵ It fits with the reality that public debate is both rancorous and unresolved, obsessed with scandal and celebrity. And it fits with the idea that

the dominant ideology of the age is self-absorbed and unreflective libertarianism.⁷⁶

A key trait of an emotivist culture, according to MacIntyre, is that it separates means from ends, and even turns means into ends. As evidence, consider the premium placed by modern society on “management”—a skill that brackets all questions of purpose and value, and instead focuses exclusively on technical efficiency and effectiveness. This mindset can also explain the divorce between ethics and economics. Famously, Lionel Robbins drew a sharp distinction between “positive” and “normative” economics: “economics deals with ascertainable facts, ethics with valuations and obligations.”⁷⁷ In this view, economics is supposed to be value-neutral, which has the effect once again of turning means—efficiency and economic growth—into ends. Politics, too, becomes about bureaucratic competence rather than the common good.

We have spent a lot of time with MacIntyre, because his 1981 book seems prophetic in light of developments over the past few decades.⁷⁸ MacIntyre sees the emotivist culture as the apotheosis of the Enlightenment project, which he thinks faces a massive self-contradiction. The reason is that the Enlightenment thinkers all began with an investigation of human nature as it is, not as it could be, while at the same time applying moral precepts inherited from an earlier tradition—whose purpose was to “correct, improve, and educate” human nature through the exercise of the virtues.

Gregory’s conclusion is less dark, but also boils down to a contradiction. For him the abandonment of virtue ethics was less a deliberate assault by Enlightenment philosophy than a causality of theological conflict—in an era of hardened theological dispute, the Aristotelian system was tarnished by its association with the Catholic Church. He argues that the only real tie left to bind society together is “consumerist acquisitiveness,” but this in turn cannibalizes

the shared beliefs, norms, and values that inform social cohesion and the vitality of public life.

The Principles of Catholic Social Teaching

So far, we have made the case for a vision of human flourishing rooted in the common good, and argued that such a vision has dimmed since the Enlightenment. But if the current economic and social model is so flawed, what should replace it? Here, many of the critics are on thin ground. MacIntyre, for example, argues that we are living in the new dark ages, and the only response is to effectively drop out—by creating self-sustaining small communities and awaiting the arrival of a new St. Benedict.⁷⁹ This is no answer at all, especially in the era of globalization and sustainable development. And many of these critics tend to dismiss the market altogether, although they do not offer any realistic alternative.⁸⁰ This clearly won’t do.

This kind of critique can also be overly tinged with nostalgia for an idealized past. This won’t do either. We must be honest about the failures of the pre-Enlightenment world to put noble principles into practice. And we must be honest about the achievements of the Enlightenment—both the scientific and technological advances that have brought enormous improvements in human health and well-being, and the slow but steady advance of universal human rights.

Our main argument is that there is no need to upend the economic system, as that would prove impossible to achieve and disastrous to attempt. Rather, we wish to present Catholic social teaching as a way to break the impasse.⁸¹ It is not our intention to defend the confessional claims of the Catholic faith, even if Catholic social teaching is certainly founded on these claims. Our aim is more modest—to present Catholic social teaching as a way to put humpty dumpty together again in the context of the modern global econo-

my. Of course, Catholic social teaching is not the only valid path. Amartya Sen, for example, makes a persuasive case that the values deriving from the Buddhist tradition have enduring relevance for modern problems.⁸² And the dominance of the Nordic countries in the happiness rankings surely suggests the viability of a more secular conception of the common good.

What appeals about Catholic social teaching, though, is that it has inherited and internalized the older Aristotelian tradition, seasoning it with centuries of Christian insight. It offers a coherent and internally consistent framework that applies universal principles to particular situations and circumstances. And its two foundational pillars are the dignity of the human person and the supremacy of the common good.

In this sense, Catholic social teaching takes direct aim at some of the sacred cows of the Enlightenment—the use of science to achieve mastery over the natural world, and the supremacy of the individual. Pope Francis, for example, criticizes an unsustainable economic model based on the “technocratic paradigm”—assessing interventions in nature solely on grounds of utility and efficiency, always in the service of the self.⁸³ In this, he echoes MacIntyre’s criticism of how modern society prizes managerial competence without reference to the good.

The first pillar of Catholic social teaching is the dignity of each individual. This is predicated on the theological notion that every human being is made in the image and likeness of God, and therefore possesses innate worth and dignity. Christianity holds that because God became a human being, the human being has been forever “divinized” in the sense that he or she receives a personal call to share in the life of God himself.⁸⁴ Accordingly, human beings are called asked to see Christ in the face of the other, and to treat the other as another self.⁸⁵

The second pillar of Catholic social teaching is the familiar notion of the common good, defined as “the sum of those conditions of social life which allow social groups and their individual members relatively thorough and ready access to their own fulfillment.”⁸⁶ Eudaimonia is therefore alive and well—the common good is the good in and through which all can flourish. While the post-enlightenment tradition reduces the common good to the mere aggregation of individual goods, this restores the old idea that the individual’s own good is intrinsically linked to the good of others. In this sense, it can be better represented as a geometric rather than an algebraic sum.⁸⁷

This also coheres with how Aquinas viewed the *bonum commune*—each person wills the other’s well-being for the other’s sake, which gives rise to a true “common” good, not reducible to the good of either taken separately or summed.⁸⁸ There is an element of sacrifice involved—only by giving up and risking some individual good can we build something in common.⁸⁹ The Christian metaphor of the Body of Christ is useful here. Just as injury to one part of the body injures the whole body, so injury to one person or one part of society injures the whole of society.

As with human dignity, the common good is deeply rooted in Christian notions of the person. It goes beyond Aristotelian notions of human beings as social creatures. Rather, it reflects the conception of the Trinity as a communion of persons understood as “pure relationality.” Therefore *imago dei* also implies *imago trinitatis*—the human person is called upon to model the communion of persons in the Trinity by living a communal life based on mutual, reciprocal love and equality.⁹⁰ This does not entail loss of individual identity, but rather a “profound interpenetration.”⁹¹ The distinction between the individual and the person is useful here. While an “individual” is defined by his or her autonomy, a “person” is always a “being in relation.” The person, therefore, is intrinsically linked to the common good. As Jacques Maritain put it,

“The common good is common because is received in persons, each of whom is a mirror of the whole.”⁹²

There is a profound reciprocity at play here. Just as each is called to contribute to the common good, each, in turn, is supported by it. When people are able to flourish and live the good life, this builds up social capital. In turn, when these social bonds are strong, individuals are more easily able to flourish. The good of the individual and the good of social institutions nourish each other. This is the great internal dynamic of the common good.

Thinking practically, it is helpful to envisage two dimensions of the common good: “the common conditions of social life” and “the attainment of the good life by all, at least to a minimum degree.”⁹³ The former comprises the conditions that are needed as a basis for flourishing, but which no individual alone can provide—examples include security, economic opportunity, social cohesion, and a sustainable environment. The latter ensures that no one is impeded or prevented from flourishing, including the poor and the marginalized.

A commitment to the common good is a commitment to “integral human development”—defined as the development of the whole person and all people.⁹⁴ This implies the development of the person in all dimensions—cultural, social, economic, political, emotional, intellectual, aesthetic, and religious—and the development of every single person without exception or exclusion. It is a eudaimonistic vision. It recognizes that every person, in line with his or her dignity, is called to flourishing and self-actualization, and it presumes a common duty to make this a reality. It promotes not only access to material goods, but also relational goods, cultural goods, and spiritual goods. It seeks to build up not only physical capital, but also human capital, social capital, and natural capital.

It is clear that this holistic view of human flourishing differs substantively from post-Enlightenment frameworks. Yet once again there are gradations of difference. Furthest away would be libertarianism, with its radical rejection of reciprocity and common purpose, and its purely negative and value-free notion of freedom. For a libertarian, not only is there no common good, but the very exercise of freedom itself must be divorced from any notion of the good. As Friedrich Hayek put it, “freedom granted only when it is known beforehand that its effects will be beneficial is not freedom.”⁹⁵

Rawlsian egalitarianism is closer, as it adopts a more positive notion of freedom—the freedom to pursue a person’s conception of the good. For Rawls, this requires what he calls primary goods, goods that all would want whatever their self-chosen end—goods he identifies with “rights, liberties and opportunities, income and wealth, and the social bases for self-respect.”⁹⁶ Rawls calls this a “thin theory of the good,” based on the principle that people prefer more primary goods to less.

This conception of the good was “thickened” somewhat with the advent of the capabilities approach associated with Amartya Sen and Martha Nussbaum. For Sen, what matters is not so much the primary goods themselves but the “conversion of primary goods into the person’s ability to promote her ends.”⁹⁷ Sen therefore shifts his attention to what he calls “functionings,” defined as the things a person values doing or being. In that sense, “capability” refers to the range of feasible functionings—what people are actually capable of doing and being. With its emphasis on agency and self-actualization, the capability approach has some overlap with eudaimonia. This is most clear with Nussbaum’s idea of capability as a “thick vague theory of the good,” whereby it is possible to identify core elements of human life all that could agree were worthwhile.⁹⁸ Unlike Sen, Nussbaum has produced a list of 10 central capabilities, including eudaimonistic notions like practical reason

and affiliation. In more recent work, however, Nussbaum has edged away from this Aristotelian framing and back toward Rawls—conceiving of her central capabilities less as a “thick vague theory of the good” and more as an expanded and deepened version of Rawls’s primary goods.⁹⁹

So even with the capability approach, the focus is ultimately on the individual, and freedom is detached from the common good. While community is important for individual development, it remains purely instrumental.¹⁰⁰ A more Aristotelian account would seek to demonstrate how relationship and mutuality can help unfold capability.¹⁰¹ The concept of the good in Catholic social teaching is therefore “thicker” than these alternative paradigms. Not only does it embrace a more “positive” conception of freedom, but it shifts the ground from “freedom to pursue your own good” to “freedom to pursue the common good.”

For Catholic social teaching, the path to the common good runs through the principle of solidarity. Solidarity is, in the words of Pope John Paul II, “a firm and persevering determination to commit oneself to the common good; that is to say to the good of all and of each individual, because we are all really responsible for all.”¹⁰² Solidarity is the moral response to an interdependent human society—a response actually in accord with human nature. And as globalization expands, so must solidarity—otherwise globalization turns into a “globalization of indifference.”¹⁰³ The ecological crisis also demands a heightened sense of solidarity—not only with the world’s poor and excluded, but also with future generations and even with creation itself.¹⁰⁴

Solidarity is also linked to the Catholic understanding of rights. Indeed, theologian Meghan Clark argues that as a social virtue, solidarity is habituated by practicing respect for human rights.¹⁰⁵ Unlike conceptions of rights predicated on the autonomous individual, Catholic social teaching instead argues that rights are intimate-

ly linked to duties, and must be exercised within the social context. Rights therefore flow directly from first pillar of Catholic social teaching—the innate dignity of every human being—and are always oriented toward the second pillar—the common good.

The most detailed account of rights in the Catholic tradition can be found in Pope John XXIII’s landmark encyclical, *Pacem in Terris*.¹⁰⁶ He begins with the following basic rights: “Man has the right to live. He has the right to bodily integrity and to the means necessary for the proper development of life, particularly food, clothing, shelter, medical care, rest, and, finally, the necessary social services. In consequence, he has the right to be looked after in the event of illhealth; disability stemming from his work; widowhood; old age; enforced unemployment; or whenever through no fault of his own he is deprived of the means of livelihood.” He goes on to enunciate a wide array of rights, including the right to be respected, to share in the benefits of culture, to religious freedom, to freely choose one’s state in life, to meet and form associations. On the economic front, he recognizes the right to be given the opportunity to work, to take personal initiative, to private property, to just remuneration for work effort, and to emigrate. Taken together, this list of rights linked to reciprocal duties—and cemented together by solidarity—lays out the preconditions for human flourishing.

This is also related to how Catholic social teaching approaches justice, which is a virtue predicated on giving others what is owed to them. In the Catholic tradition, justice is rooted in solidarity and in reciprocal rights and duties. It is exercised through mutuality and reciprocal interdependence; and is always geared toward promoting human dignity and facilitating full participation in the community.¹⁰⁷

In this, Catholic social teaching appeals not only to Aristotle, but also to the store chest of wisdom contained in the Hebrew Scriptures. This tradi-

tion lays great emphasis on the need to stand in right relationship with God, with our fellow human beings, and with the land and measures justice by how the poor and marginalized are treated.¹⁰⁸ In his recent encyclical, *Laudato Si'*, Pope Francis revived the ancient idea that human life is grounded in these three relationships, presenting his idea of integral ecology—meaning that when one of these relationships is ruptured, the others are ruptured too.¹⁰⁹ Catholic notions of justice are also rooted in the New Testament, especially in the Christian notion of love of neighbor, especially the poor.¹¹⁰

Catholic social teaching conceives of three distinct forms of justice, pertaining to the various relationships between individuals and the community.¹¹¹ Commutative justice is the justice between individuals—this is the basic justice of contracts, agreements, and promises. Distributive justice is the justice pertaining to what the community owes each and every individual—how the fruits of the earth and human labor are to be apportioned. And social justice relates to the institutional framework that allows each to participate in the common good and to share in its benefits.¹¹²

These interlinked notions of justice relate to how Catholic social teaching approaches the issue of property. A libertarian would recognize commutative justice only—or argue that the justice of the marketplace presupposes distributive justice, premised on the belief that efficient outcomes are fair outcomes.¹¹³ A Rawlsian would place a high premium on distributive justice. But none would go as far as Catholic social teaching in stressing reciprocal cooperation and participation in the universal common good.

From this encompassing concept of justice flows one of the central principles of Catholic social teaching—the universal destination of goods. This is the principle that the goods of creation are destined for every single person without exception and without exclusion. This ancient teaching

was formalized by Aquinas, who argued that private ownership is never absolute, and must always be subordinated to “common use”—meaning that the goods in one’s possession must be used to benefit others, not just the self. The universal destination of goods implies that the right to own private property is a conditional right, legitimate only to the extent that each person gets what is owed him or her from the world’s resources. In other words, private property always comes with a “social mortgage.”¹¹⁴

Note that this approach to property is antithetical to both socialist collectivism and individualistic libertarianism—what Pope Pius XI referred to as the “twin rocks of shipwreck.”¹¹⁵ The universal destination of goods is a reflection of solidarity;¹¹⁶ specifically, the notion of solidarity as a virtue characterized as the mean between the vices of excess and deficiency—in this case, collectivism and individualism.¹¹⁷ Neither of these extremes respects the dignity of the human person and obligation to the common good. Collectivism suppresses private ownership in favor of common use, while libertarianism suppresses common use in favor of private ownership. Collectivism elevates duties and neglects rights, while libertarianism upholds rights and neglects duties. Collectivism treads on individual dignity, while libertarianism treads on solidarity. Neither is deemed acceptable.

So while the Church has consistently condemned Marxist collectivism, it also condemns the “errors of individualist economic thinking”¹¹⁸ and the idea of “profit as the chief spur to economic progress, free competition as the guiding norm of economics, and private ownership of the means of production as an absolute right.”¹¹⁹ In this vein, Pope Francis has criticized the “magical conception of the market,” arguing that this ideology represents a “crude and naïve trust in the goodness of those wielding economic power and in the sacralized workings of the prevailing economic system.”¹²⁰

The universal destination of goods is also linked to preferential option for the poor. This harks back to the ancient principle that justice is measured by how it treats the poor and the marginalized. And it has a specifically Christian dimension, grounded in a God who identified intimately with the poor, and in whose faces all people are called upon to see the face of Christ. Pope John Paul II referred to the preferential option for the poor as a “special form of primacy in the exercise of Christian charity, to which the whole tradition of the Church bears witness.”¹²¹ And Pope Francis ties this directly to solidarity—“solidarity must be lived as the decision to restore to the poor what belongs to them.”¹²²

There remains an equally important principle of Catholic social teaching not yet discussed—subsidiarity. Subsidiarity calls for decisions to be made at the lowest level possible and the highest level necessary. More formally, it says that higher-order associations should never usurp the authority and freedom of lower-order associations, but should instead help them achieve their ends.¹²³ Subsidiarity presupposes that there are different levels of authorities, each with their own rights and duties with regard to the common good.¹²⁴ The link to eudaimonia is clear, as subsidiarity respects and nurtures the agency of the human person as he or she seeks to become who they are meant to be. In this sense, subsidiarity “fosters freedom and participation through assumption of responsibility.”¹²⁵

Just like solidarity, subsidiarity should be regarded as a bulwark against the dominant individualism of our age. While human beings flourish in social settings, the emergence of the modern economy has gone hand in hand with “the near extinction of the rich social life which was once highly developed through associations of various kinds.”¹²⁶ Ironically, the counterpoint to the Promethean individual turns out to be the exalted state. Subsidiarity seeks to fill the space between the individual and the state with a vibrant civil society and a rich associational life.

Solidarity and subsidiarity are bound together tightly. If solidarity is the principle orienting society toward the common good, subsidiarity is the principle grounding all action in human dignity. Solidarity without subsidiarity can degenerate into paternalism, while subsidiarity without solidarity can lead to privatism. In this sense, a keen attention to subsidiarity can help habituate the virtue of solidarity and avoid the vices of individualism and collectivism.

Putting Principle Into Practice

How can these principles be put into practice? To answer this question, the best place to start is where modern Catholic social teaching started—with the means of governing relationships between workers and employers. From the beginning, Catholic social teaching stressed that participating in the universal common good implied a cooperative relationship between the various social entities and associations.

Behind this lies the notion of vocation. Both workers and business owners are called to live out their vocations, which differ in substance but have common ends. This accords with the teleological nature of human psychology—what MacIntyre would refer to as the orientation toward the goods internal to the various practices.¹²⁷

For Catholic social teaching, work is regarded as a universal calling—through work, says Pope John Paul II, a person “achieves fulfillment as a human being and indeed, in a sense, becomes ‘more a human being.’”¹²⁸ In the words of Pope Francis, “Work is a necessity, part of the meaning of life on this earth, a path to growth, human development and personal fulfillment.”¹²⁹ Work, therefore, is intrinsic to eudaimonistic notions of flourishing. It is the path to self-actualization. There is therefore a duty to work, which means there is a corresponding right to be given the opportunity to work.

It follows that the relationship between employers and workers should be governed by the relationships of justice. But this is not the justice of the marketplace. As far back as 1891, Pope Leo XIII invoked a “more imperious and ancient” concept of justice to call upon employers to pay a just wage, as otherwise workers would be victims of “force and injustice.”¹³⁰ This is a radical critique of the notion that justice lies in the mutual consent of two voluntarist agents. It goes against both the libertarian position, which prioritizes freedom of choice, and the utilitarian underpinning of modern economics, which argues that mutual exchange leads to mutual gain. Rather, the Catholic position makes two points. First, it stresses that consent does not constitute justice when bargaining power is skewed. As Pope Paul VI put it, “when two parties are in very unequal positions, their mutual consent alone does not guarantee a fair contract.”¹³¹ Second, paying workers less than a living wage degrades their dignity, treating them as a mere means—a “factor of production”—rather than an end in themselves. Overall, this kind of imbalance inhibits the flourishing of the worker and violates the mutuality inherent in the common good.

A just remuneration for work is therefore regarded as the best way to achieve the universal destination of goods in practice.¹³² The Catholic tradition also supports other social benefits—including pensions, healthcare, family support, adequate rest, and vacation time, and work environments that do not impede health, safety, or moral integrity.

The social and relational nature of the person also finds expression in the domain of work. This is why the Catholic tradition emphasizes the right to organize and bargain collectively. Unions are regarded as the arenas where solidarity and subsidiarity meet. They demonstrate solidarity because workers are united in common purpose—“to protect their *just rights* vis-à-vis the entrepreneurs and the owners of the means of production.” And they demonstrate

subsidiarity, because they embody the kind of associational life in which civic virtue is habituated—they are an “indispensable element of social life.”¹³³

Business too is regarded by Catholic social teaching as a vocation, a “noble vocation, direct to producing wealth and improving our world.”¹³⁴ It too is a practice, with goods internal to it. But to achieve its end, it must orient its activity toward the common good. That, in turn, means putting the interests of others ahead of self-interest. This is a radical departure from the current business model that emphasizes maximizing profits, typically identified with shareholder value.

In contrast, a virtuous business strives for three dimensions of the good: good goods, good work, and good wealth.¹³⁵ An emphasis on “good goods” means that businesses are called upon to produce goods and services that fulfill real human needs and facilitate real human flourishing, instead of feeding a consumerist mentality of constant novelty, “a whirlwind of needless buying and spending.”¹³⁶

The second dimension is “good work.” Given the primacy of the vocation of work, business is called upon to prioritize the goal of employment. Indeed, ownership of the means of production is considered just and legitimate only to the extent that it serves “useful work.”¹³⁷ To that end, prizing short-term financial return over investment in people—including by viewing human beings as interchangeable with machines—is regarded as a social bad.¹³⁸

The third way business serves the common good is by producing “good wealth.” While the Catholic tradition sees profit as legitimate, this cannot be the exclusive—or even primary—goal of business. To truly serve the common good, business must embrace a wider sense of responsibility—not just to shareholders, but also to workers, suppliers, consumers, the natural

environment, and broader society, too.¹³⁹ Catholic social teaching also advocates for a blurring of borders between profit-making and non-profit entities, so that businesses can simultaneously earn profits and serve a social function.¹⁴⁰

A focus on short-term financial return also works against sustainability. An obsession with profit above all fails to account for the harm done to the environment, to the rhythms of nature, to biodiversity and complex ecosystems—and to the lives of the poor. To truly fulfill its vocation, business is called upon to bear the full social cost of its environmental activity, to use the earth's resources in a sustainable manner, and to invest in sustainable development solutions.¹⁴¹

And with its theme of joint vocation, Catholic social teaching also puts a strong emphasis on cooperation within the business venture itself, breaking down the rigid divide between capital and labor that too often leads to cross-purpose and conflict. It therefore endorses joint ownership of the means of work—letting workers participate in the management of businesses and giving them a share of the profits. In the words of Pope John Paul II, “each person is fully entitled to consider himself a part-owner of the great workbench at which he is working with everyone else.”¹⁴² Indeed, the happiness literature points to the importance of a harmonious relationship between employers and workers. One study suggests that when trust in management is just one point higher (on a 10-point scale), this has the same effect on life satisfaction as a one-third higher salary.¹⁴³

The focus so far has been on the relative rights and duties of the social partners. What role does the state play? Catholic social teaching suggests that its role is both activist and circumscribed—activist because the good achieved by the common life is higher than the good achieved by the individual; circumscribed because human dignity requires that the autonomy and agency of subsidiary associations be respected.

Catholic social teaching repudiates the commonplace belief that the state bears sole responsibility for solidarity, with the economy guided by the law of the market. Pope Benedict XVI made this point explicit. He argued that “authentically human social relationships of friendship, solidarity and reciprocity” should be conducted within economic activity, and not just “outside it” or “after it.”¹⁴⁴ He argues that this “binary model of market-plus-state is corrosive of society.” Since business is a vocation, it must be a domain of virtue. It is therefore a duty of private economic actors to place solidarity and reciprocity ahead of self-interest. It is not the role of government to clean up the mess left behind by *homo economicus*.

But Catholic social teaching clearly has no truck with the minimalist government of the libertarians, either. Indeed, it regards “the whole *raison d’être* of the state” as “the realization of the common good in the temporal order,” which implies that the state cannot “hold aloof from economic matters.”¹⁴⁵ Accordingly, “the right ordering of economic life cannot be left to a free competition of forces.” Instead, it requires “a true and effective directing principle.”¹⁴⁶ All of this suggests a number of core functions that balance solidarity and subsidiarity: ensuring that the basic needs of all are met; fostering a fair distribution of resources and opportunities, including by correcting unbalanced power relationships; and laying down favorable foundations for a virtuous economy, including by intervening in areas where market autonomy could impede human flourishing.

In turn, this yields some specific obligations. First off, the government is called upon to provide basic goods that a market economy would underprovide.¹⁴⁷ It is called upon to ensure that the basic needs of all are met in line with basic human rights—including healthcare,¹⁴⁸ education, housing, nutrition, and some protection against the inevitable fluctuations of a market economy. While the government is not necessarily obliged to

provide these services itself, it is obliged to make sure that they are provided.

Given the centrality of work in Catholic social teaching, the government is also duty bound to prioritize employment. The evidence shows that unemployment is corrosive to human flourishing—not only does it lead to a loss of lifetime earnings, but it also worsens health and mortality, impedes the educational achievement of children, and depletes trust and social capital.¹⁴⁹ Temporary financial help for the unemployed, while vitally important, can never truly substitute for fulfilling work. And if social assistance fails to respect subsidiarity, it can lead to dependency and alienation, which inhibits participation and hurts human dignity.¹⁵⁰ This suggests a preference for program implementation at a lower level.¹⁵¹

Government must therefore prioritize policies that generate and retain jobs. It could do this by creating conditions favorable to the exercise of economic activity;¹⁵² letting monetary policy target employment rather than price stability alone; and implementing active labor market policies such as job search assistance, job training schemes, employment subsidies, and public sector job creation. When economic conditions deteriorate, short-term work programs can prove effective—this is when workers agree to voluntary reductions in hours, employers agree not to lay people off, and governments agree to subsidize the wage bill.¹⁵³ This kind of agreement represents a perfect blend of solidarity and subsidiarity. And by finding a pro-social solution, this kind policy is likely to enhance subjective well-being.¹⁵⁴

Catholic social teaching also advocates for limiting the autonomy of certain sectors and industries, where autonomy of action can impede human flourishing. Protecting the environment presents an obvious case. While it falls within the vocation of business to habituate ecological virtues, it is the responsibility of government to implement appropriate regulato-

ry and carbon pricing mechanisms.¹⁵⁵ Government is also duty-bound to protect the rights of workers, including their right to bargain collectively and to exercise joint ownership of the productive process.

Another key area where restrictions are warranted is the financial sector, where—time and time again—pursuit of short-term financial gain has proven catastrophic for human well-being. This has been a consistent concern of Catholic social teaching. Pope Pius XI made this point after the Great Depression and Pope Benedict XVI reiterated it after the global financial crisis. For too long, the world of finance has been a “virtue-free zone,” the domain of homo economicus on steroids. Recently, Pope Francis urged people to say “no to a financial system which rules rather than serves.”¹⁵⁶ As with the environment, the financial sector itself must pursue the internal goods proper to its practice—and in doing so, serve the common good. But once again, government has a complementary role to play, by laying down the foundations most conducive to ethical practice—including enhanced regulatory oversight, limits on firm size and scale, and taxes on short-term financial transactions. Government might also consider corporate governance reforms to discourage short-term thinking and make corporations accountable to a wider range of stakeholders.

The state also has a defined role when it comes to distributive justice. Of course, part of this entails making sure that the needs of all are met. But it goes beyond that. Catholic social teaching has long stressed fairness in the distribution of the gains from material progress. Pope John XXIII, for example, argued that while productive efficiency is important, it is equally important that “riches produced be distributed fairly among all members of the political community.”¹⁵⁷

When Catholic social teaching reflects on inequality, it often does so through an Aristotelian lens—the idea being that excess inequality undermines the civic virtues and severs the

sense of shared purpose necessary for the common good. Pope Benedict XVI made this point when he argued that inequality depletes social capital and undermines the norms of reciprocity.¹⁵⁸ Similarly, Pope Francis argued that inequality leads to a “throwaway culture” in which the sense of common purpose has become so impoverished that the excluded are no longer even considered part of society. It is for this reason that he calls inequality “the root of social ills.”¹⁵⁹

This coheres with psychological evidence that richer people are less likely to engage in pro-social behavior—they tend to behave less generously, display less empathy, and are more likely to lie or cheat.¹⁶⁰ The purported reason is that they regard selfish and greedy behavior as acceptable. Just like economists haunted by *homo economicus*, or bankers identifying predominantly as bankers, they are primed by the prevailing mindset to behave in anti-social ways.¹⁶¹ This is a textbook case of how the good of the person and the good of the community are inseparable. Inequality not only inhibits the flourishing of the poor; it also inhibits the flourishing of the rich. It creates a true vicious rather than a virtuous circle. And not surprisingly, the evidence also suggests that inequality harms well-being—one study shows that a 1 percent increase in the income share of the top 1 percent has the same effect on life evaluation as a 1.4 percent increase in the unemployment rate.¹⁶²

This presents an Aristotelian argument for raising taxes on the rich, especially on unearned income and wealth, on the grounds that a more equal society is more favorable to the cultivation of virtue and contributes to greater well-being.¹⁶³ Some more radical options floated include a global tax on capital¹⁶⁴ or policies geared toward equalizing the ownership of capital.¹⁶⁵ But this problem cannot be solved by tax policy alone. It is tied to the concentration of economic power in ways that frequently violate the principle of subsidiarity. This tends to undermine the common good, as large and powerful corporations become increasingly distant from the people

they deign to serve, which tempts them to use their power to pursue their own financial interests—thus perpetuating inequality and further undermining that bond that binds the community in common purpose. One antidote to the imbalance caused by a large and powerful corporation structure is a large and powerful government. But this this is an unsatisfactory solution—combined economic and bureaucratic concentration could smother the vibrant associational life that incubates the social virtues and seeds social capital.¹⁶⁶

This also exposes the limits of the viewing the social world as the mere interaction of autonomous individuals, which ignores the reality that peoples’ lives are lived in and through institutions. With the concentration of corporate and bureaucratic power, institutional scale ends up dwarfing the individual, making the good life harder to attain. Institutions are in effect disabled and the common good is corrupted. The solution is greater dispersion of economic power and ownership, which would allow all to participate in the goods of society.¹⁶⁷

Of course, all of this becomes dramatically more complicated in a world where capital—and increasingly, high-income workers—can glide seamlessly across borders. It is well known that globalization has the potential to undermine the common good, as the authority of the state to reduce imbalances is limited a “race to the bottom” in terms of taxation and regulation. As Daniel Bell put it, the nation state is now too big for small problems, and too small for big problems.¹⁶⁸ It is for this reason that subsidiarity operates upwards as well as downwards. In some areas, the proper level is the supranational level. In tandem with subsidiarity, solidarity in a more interdependent world must also take on a more global dimension—a globalization of solidarity rather than indifference.¹⁶⁹

This has been yet another consistent theme of Catholic social teaching, especially following

Pope John XXIII's call for a political authority of the world community to address issues affecting the global common good.¹⁷⁰ And in the aftermath of the global financial crisis, Pope Benedict XVI resurrected this call for a world political authority to support the development of peoples in this era of globalization.¹⁷¹ What areas are proper to the supranational dimension? One obvious candidate is financial sector regulation. Another is global development, especially since inequality is more prominent by location (between-country inequality) than class (within-country inequality).¹⁷² Clearly, the implementation of the sustainable development agenda and the Paris agreement to limit carbon emissions require global commitment and cooperation.¹⁷³ As Pope Francis puts it, "interdependence obliges us to think of one world with a common plan."¹⁷⁴

To apply Aristotle's logic, the good of the global community is a higher good than the good of the nation state.¹⁷⁵ This is not a call for a new cosmopolitanism to take precedence over other communities, local and national. Rather, it is about recognizing the common humanity of all inhabitants of our common home, sharing a common human dignity, and bonded together in common purpose. It is about making sure that all can participate in the interdependent good of an interdependent world.

Conclusion

This chapter has made the case for Catholic social teaching as a framework for happiness—specifically, happiness in the eudaimonistic sense of living a life of purpose, meaning, sociality, and mutuality. This vision of happiness is intrinsically linked with the common good, but this vision of the common good has been dismembered by the post-Enlightenment turn to the atomistic individual. Catholic social teaching offers a concrete and practical way to restore the best aspects of this vision in the context of the global market economy, without in any way diminishing any of the true gains of modernity.

Fundamentally, Catholic social teaching is grounded in the reciprocal cooperation between different sectors and social partners in the service of the common good. Each entry is called upon to pursue its own internal goods, which is always linked to the common good. As always with the habituation of virtue, this requires leadership, education, role models, positive reinforcement, a vigorous civil society, and quality public discourse and deliberation.

The good news is that government can play a reinforcing role. The role of government is both direct and indirect, in line with the twin pillars of solidarity and subsidiarity. Its direct duties include making sure the needs of all are met. Its indirect role is to help subsidiary entities attain their own ends. Of course, this can only go so far—virtue cannot be legislated. Even so, government policy can help by laying down the foundations most conducive to human flourishing—by giving virtue a nudge, as it were. Modern economics focuses a lot on incentives, but not nearly enough on intrinsic motivation. Yet both are important. And the best kind of policies can, depending on their design, influence not only incentives but also this kind of intrinsic motivation.

Against this backdrop, we have advocated for a broad spectrum of economic policy priorities: reducing income and wealth disparities; protecting labor rights; prioritizing labor market policies; internalizing the social costs of economic activity; curbing the activities of the financial sector; reducing corporate size and scale; and introducing governance reforms to expand the range of stakeholders, encourage the use of profit for social ends, and facilitate shared ownership of the means of production.

These policies should contribute to subjective well-being. More than that, they should contribute to human flourishing. And even more than that, they should serve the common good.

-
- 1 Judt (2010).
 - 2 Deci and Ryan (2008).
 - 3 Nussbaum (2005).
 - 4 MacIntyre (1981).
 - 5 Kraut, (2001).
 - 6 Aristotle (1953).
 - 7 MacIntyre (1981).
 - 8 Hollenbach (2002).
 - 9 Etzioni (2015).
 - 10 Miller (2011).
 - 11 Aristotle, (1885).
 - 12 MacIntyre (1981).
 - 13 See Bloom (2013); Ricard (2015); World Bank (2015).
 - 14 Pfaff (2015).
 - 15 It is no accident that the notion of compassion for all suffering beings is foundational to Buddhism—see Ricard (2015).
 - 16 Sen (1977).
 - 17 Batson (2011), Ricard (2013).
 - 18 Ricard (2015).
 - 19 Smith (1759).
 - 20 See Becchetti, Bruni, and Zamagni (2014).
 - 21 Helliwell (2012).
 - 22 Zamagni (2005).
 - 23 Bruni and Zamagni (2007); Bruni (2012).
 - 24 Miller (2015); Wight (2015); Bloom (2013); Becchetti, Bruni, and Zamagni (2014).
 - 25 In dictator games, people offer an average of 20–30 percent of resources, even there were no consequences to being selfish.
 - 26 In ultimatum games, people offer around 50 percent, and offers less than 20 percent are typically rejected.
 - 27 In trust games, two-thirds trust the other by turning over the decision to them, and two-thirds in turn reward the trust by playing pro-socially. And in public goods games, 60 to 70 percent are willing to contribute to a common pool for the common gain of all, knowing that they would lose out from too many non-cooperative free riders.
 - 28 Bowles (2012).
 - 29 Bruni and Zamagni (2007); Bruni (2012).
 - 30 See Sachs (2015).
 - 31 See Fehr, Fischbacher, and Gaechter (2002).
 - 32 Dawkins (1976).
 - 33 Bloom (2013). Note, however, that reciprocal altruism is rather different from strong reciprocity. A reciprocal altruist is fundamentally self-interested, and is only willing to incur short-term costs in the anticipation of long-term benefits (see Fehr, Fischbacher, & Gaechter, 2002).
 - 34 Bowles and Gintis (2011), Wilson (2014), Wilson (2015).
 - 35 Wilson (2014).
 - 36 See Bowles and Gintis (2011). But Ricard (2013) argues that warfare was rare for most of human prehistory.
 - 37 Gintis et al (2008).
 - 38 Bloom (2013), Ricard (2015).
 - 39 See Haidt (2013) and Bloom (2013).
 - 40 The psychologist Stanley Milgram is famous for two very different types of experiment. In one, designed to assess kindness, he found that over half of the stamped addressed envelopes he deliberately dropped on the street were picked up and mailed. But in another experiment, he found that people would go to extreme lengths to obey authority—over half of his test subjects were willing to administer what they thought was a lethal electronic shock to a subject they could hear but not see. See Bloom (2013).
 - 41 There is also direct evidence that reasoning wisely in itself leads to greater happiness, especially when it helps people overcome social conflict—see Grossman et al (2011).
 - 42 Pinker (2012).
 - 43 Banerjee and Bloom (2014).
 - 44 Seligman (2012).
 - 45 Ryan, Huta, and Deci, (2008).
 - 46 See Zamagni (2008) on the last point.

- 47 This latter consisted in union with God after death, and should be regarded not so much as distinct from the natural end but as “a kind of surpassing perfection” of it (McInerny & O’Callaghan, 2014).
- 48 This account leans heavily on Gillespie (2008).
- 49 See Shapiro (2003).
- 50 Gregory (2012).
- 51 Bentham (1789).
- 52 See Sandel (2005).
- 53 Rawls (1971).
- 54 Nozick (1974).
- 55 See Sandel (2009).
- 56 MacIntyre (1981).
- 57 Nozick (1974).
- 58 Rawls (1993).
- 59 Sandel (2005).
- 60 Rawls (1993).
- 61 Sandel (2005).
- 62 McCloskey (2008).
- 63 Sen (1993).
- 64 Yet Bruni (2012) faults Smith for downplaying the relational nature of the marketplace. In his view, Smith saw the impersonal marketplace as a blessed escape from the hierarchical and exploitative relations of the time. But by taking relationship out of exchange, he is throwing the baby out with the bathwater.
- 65 Pareto (1909).
- 66 See Wight (2015).
- 67 This obliterates the egalitarian instincts of earlier utilitarianism, which came from the combination of interpersonal comparisons of utility and the assumption of diminishing marginal utility.
- 68 Making Sen’s distinction, this might be compatible with sympathy, but never commitment (Sen, 1977).
- 69 See Sachs (2013); Becchetti, Zamagni, and Bruni (2014).
- 70 Sen (1977).
- 71 Longley (2014).
- 72 Etzioni (2016).
- 73 Sachs (2015).
- 74 MacIntyre (1981).
- 75 Gregory (2012).
- 76 Lilla (2014).
- 77 Robbins (1935).
- 78 See also Judt (2010).
- 79 MacIntyre (1981).
- 80 Bruni and Sugden (2013).
- 81 By Catholic social teaching, we mean the body of social encyclicals issued by successive popes that address moral questions related to the functioning of the modern industrial, and increasingly globalized, economy—from Pope Leo XIII’s *Rerum Novarum* in 1891 to Pope Francis’ *Laudato Si’* in 2015. For an excellent overview of (most of) these encyclicals, see Himes (2005).
- 82 Sen (2014).
- 83 Pope Francis (2015).
- 84 As Saint Athanasius put it, “God became man so that we might become God.”
- 85 There is an interesting debate about over the extent to which Catholic conceptions of the person influenced the development of modern human rights. Moyn (2015) argues that it was only in the twentieth century that human rights came to be grounded in the dignity of the person, a development influenced by Catholic intellectuals like Jacques Maritain.
- 86 This definition comes from one of the main documents of the Second Vatican Council, *Gaudium et Spes*—the Pastoral Constitution of the Church in the Modern World—promulgated in 1965.
- 87 Zamagni (2010).
- 88 Finnis (2011).
- 89 Minnerath (2008); Bruni (2012).
- 90 Clark (2014).
- 91 Pope Benedict XVI (2009).
- 92 Maritain (1947).
- 93 Michel (1937); Finn (2013).
- 94 Pope Paul VI (1967).
- 95 Hayek (1960).
- 96 Rawls (1971).
- 97 Sen (1999).

- 98 Nussbaum (1990).
- 99 Nussbaum (2003); Deneulin (2011).
- 100 Clark (2014).
- 101 Deneulin (2011).
- 102 Pope John Paul II (1987).
- 103 Pope Francis (2013).
- 104 Pope Francis (2015).
- 105 Clark (2014).
- 106 Pope John XXIII (1963).
- 107 Hollenbach (1977).
- 108 Donohue (1977).
- 109 Pope Francis (2015).
- 110 Pope Benedict XVI (2009) argued that justice comes prior to charity, and indeed, should be considered the minimal measure of charity. But charity transcends and completes justice. A good society, therefore, needs not only relationships characterized by rights and duties, but also relationships characterized by gratuitousness, mercy and communion.
- 111 See Hollenbach (1977) and Finn (2013) for detailed elaborations of the different modes of justice.
- 112 Hollenbach (2002).
- 113 Hayek, for example, mocked the idea of social justice, calling it a “quasi-religious belief with no context whatsoever”. See Hayek (1973).
- 114 Pope John Paul II (1987).
- 115 Pope Pius XI (1931).
- 116 As Pope Francis puts it, “solidarity is a spontaneous reaction by those who recognize that the social function of property and the universal destination of goods are realities which come before private property” (Pope Francis, 2013).
- 117 See Clark (2014).
- 118 Pope Pius XI (1931).
- 119 Pope Paul VI (1967).
- 120 Pope Francis (2013, 2015).
- 121 Pope John Paul II (1987).
- 122 Pope Francis (2013).
- 123 Subsidiarity received its fullest treatment in Pope Pius XI’s 1931 encyclical, *Quadragesimo Anno*.
- 124 Hittinger (2008).
- 125 Pope Benedict XVI (2009).
- 126 Pope Pius XI (1931).
- 127 MacIntyre (1981). Note, however, that MacIntyre was skeptical of the idea that the kind of work done in the modern economy could be viewed as a practice with goods internal to it.
- 128 Pope John Paul II (1981).
- 129 Pope Francis (2015).
- 130 Pope Leo XIII (1891).
- 131 Pope Paul VI (1967). He argued that this principle governed relations not only between individuals, but between nations too.
- 132 Pope John Paul II (1981).
- 133 See Pope John Paul II (1981).
- 134 Pope Francis (2013).
- 135 See Pontifical Council for Justice and Peace (2014).
- 136 Pope Francis (2015).
- 137 Pope John Paul II (1991).
- 138 Pope Francis (2015).
- 139 Pope Benedict XVI (2009).
- 140 One concrete application of this idea lies in the “economy of communion,” whereby business profits are divided in three ways—re-investment in the business, giving to those in need, and funding the infrastructure to promote a culture of giving and reciprocity—see Gold (2010).
- 141 Pope Francis (2015).
- 142 Pope John Paul II (1981). A good example of this model is the German principle of co-determination, which gives workers the right to participate in management. The German model of industrial relations was heavily influenced by Catholic social teaching—see Daly (2011).
- 143 Helliwell and Huang (2010).
- 144 Pope Benedict XVI (2009).
- 145 Pope John XXIII (1961).
- 146 Pope Pius XI (1931).
- 147 See Sachs (2011).
- 148 The right to healthcare—so central to human flourishing—has been flagged as particularly important—Catholic social teaching calls for it to be provided “cheap or even free of charge”—see Pope John Paul II (1981).

- 149 Dao and Loungani (2010).
- 150 Pope John Paul II (1991).
- 151 Daly (2009) argues that the welfare states inspired by Christian Democratic traditions in postwar Europe showed how to blend solidarity and subsidiarity in practical way. In this model, the public sector authorizes and finances social programs, while private associations take responsibility for delivery of services and benefits. In Germany, for example, social assistance laws require public bodies to enlist churches, religious communities, and “free welfare associations” (some of which are religious in nature, both Catholic and Protestant). The Netherlands instituted a similar model based on a Dutch Calvinist theology.
- 152 Pope John Paul II (1991).
- 153 This kind of scheme prevented the global financial crisis from leading to major job losses in countries like Germany—see Dao and Loungani (2010).
- 154 Helliwell (2012).
- 155 Pope Francis (2015).
- 156 Pope Francis (2013).
- 157 Pope John XXIII (1961).
- 158 Pope Benedict XVI (2009).
- 159 Pope Francis (2013).
- 160 The idea that wealth corrodes virtue is an old idea in Christianity. Pope Francis, for example, is fond of quoting St. Basil’s claim that “money is the devil’s dung.”
- 161 Szalavitz (2012, 2013); Sachs (2015).
- 162 Burkhauser, De Neve, and Powdthavee (2016).
- 163 This is related to Thomas Piketty’s point that progressive taxes in the United States in the early twentieth century were justified not on revenue grounds, but out of fear that oligarchic domination would undermine the democratic foundations of society (Piketty, 2014).
- 164 Piketty (2014).
- 165 Milanovic (2016).
- 166 Sandel (2005).
- 167 See Bellah et al (1992).
- 168 Quoted in Bellah et al. (1992).
- 169 This also touches on self-interest. Wright (2000), for example, argues that as the world becomes more interdependent, benevolence toward strangers becomes more important.
- 170 Pope John XXIII (1963).
- 171 Pope Benedict XVI (2009).
- 172 Milanovic (2016).
- 173 See Sachs (2016) in the companion Volume I, *World Happiness Report 2016 Update*.
- 174 Pope Francis (2015).
- 175 See Hollenbach (2002).

References

- Aristotle. (1885). *The politics* (Jowett, B., Trans.). Oxford: Clarendon Press.
- Aristotle. (1953). *The nichomachean ethics* (Thomson, J.A.K., Trans.). London: Penguin.
- Banerjee, K., & P. Bloom. (2012). Why did this happen to me? Religious believers' and non-believers' teleological reasoning about life events. *Cognition*, 133(1), 27–303.
- Batson, C.D. (2011). *Altruism in humans*. Oxford University Press.
- Becchetti, L., Bruni, L., & Zamagni, S. (2015). Human values, civil economy, and subjective well-being. In J. Helliwell, R. Layard, and J. Sachs (Eds.), *World Happiness Report 2015*. New York: Sustainable Development Solutions Network.
- Bellah, R. N., Madsen, R., Tipton, S. M., Sullivan, W. M., & Swidler, A. (1992). *The Good Society*. New York: Alfred A. Knopf.
- Bentham, J. (1789). *An introduction to the principles of morals and legislation*. Retrieved from <http://socserv2.socsci.mcmaster.ca/econ/ugcm/3ll3/bentham/morals.pdf>.
- Bloom, P. (2013). *Just babies: The origins of good and evil*. New York: Crown.
- Bowles, S. (2012). *The new economics of inequality and redistribution*. Cambridge: Cambridge University Press.
- Bowles, S., & Gintis, H. (2011). *A cooperative species: Human reciprocity and its evolution*. Princeton: Princeton University Press.
- Bruni, L. (2012) *The wound and the blessing*. New York: New City Press.
- Bruni, L., & Sugden, R. (2013). Reclaiming virtue ethics for economics. *Journal of Economic Perspectives*, 27(4), 141–164.
- Bruni, L., & Zamagni, S. (2007) *Civil economy: Efficiency, equity, public happiness*. Bern: Peter Lang AG.
- Burkhauser, R., De Neve, J., & Powdthavee, N. (2016). Top incomes and human well-being around the world (CEPR Discussion Paper No. 1400).
- Clark, M. (2014). *The vision of Catholic social thought: The virtue of solidarity and the praxis of human rights*. Minneapolis: Fortress Press.
- Daly, L. (2009). *God's economy: Faith-based initiatives and the caring state*. Chicago: University of Chicago Press.
- Daly, L. (2011). The church of labor. Retrieved from <http://democracyjournal.org/magazine/22/the-church-of-labor/>
- Dao, M., & Loungani, P. (2010). The human cost of recessions: Assessing it, reducing it. *IMF Staff Position Note*, 10(17).
- Dawkins, R. (1976). *The selfish gene*. Oxford: Oxford University Press.
- Deci, E.L., & Ryan R.M. (2008). Hedonia, eudaimonia, and well-being: An introduction. *Journal of Happiness Studies*, 9, 1–11.
- Deneulin, S. (2011). Recovering Nussbaum's Aristotelian roots. *Revista cultura economica*, XXIX(81/82), 31–37.
- Donoghue, J. R. (1977). Biblical perspectives on justice. In J.C. Haughey (Ed.), *The faith that does justice: Examining the Christian sources for social change*. Eugene: Wipf and Stock.
- Etzioni A. (2015). Common good. In M.T. Gibbons (Ed.), *The Encyclopedia of Political Thought*. John Wiley and Sons.
- Etzioni, A. (2016). How learning economics makes you antisocial. Retrieved from <http://evonomics.com/how-learning-economics-makes-you-antisocial/>
- Fehr, E., Fischbacher, U., & Gaechter, S. (2002). Strong reciprocity, human cooperation, and the enforcement of social norms. *Human Nature*, 13, 1–25.
- Finn, D. (2013). *Christian economic ethics: history and implications*. Minneapolis: Fortress Press.
- Finnis, J. (2011). Aquinas' moral, political, and legal philosophy. In E.N. Zalta (Ed.), *Stanford encyclopedia of philosophy*. Retrieved from <http://plato.stanford.edu/entries/aquinas-moral-political/>
- Gillespie, M. A. (2008). *The theological origins of modernity*. Chicago: University of Chicago Press.
- Gintis, H., Henrich, J., Bowles, S., Boyd R., & Fehr, E. (2008). Strong reciprocity and the roots the roots of human morality. *Social Justice Research*, 21(2), 241–253.
- Gold, L. (2010). *New financial horizons: The emergence of an economy of communion*. New York: New City Press.
- Gregory, B.S. (2012). *The unintended revolution: How a religious revolution secularized society*. Cambridge: Belknap Press.
- Grossman, I., Jinkyung, N., Varnum, M., Kitayama, S., & Nisbett, R. (2013). A route to well-being: Intelligence vs. wise reasoning. *Journal of Experimental Psychology: General*, 142(3), 944–953.
- Haidt, J. (2013). *The righteous mind: Why good people are divided by politics and religion*. New York: Vintage.
- Hayek, F. (1960). *The constitution of liberty*. Chicago: University of Chicago Press.
- Hayek, F. (1973). *Law, legislation, and liberty*. Chicago: University of Chicago Press.

- Helliwell, J. (2012). Understanding and improving the social context of well-being (NBER Working Paper No. 18486).
- Helliwell, J., & Huang, H. (2010). How's the job? Well-being and social capital in the workplace. *Industrial and Labor Relations Review*, 63, 205–28.
- Himes, K. R., (2005). *Modern Catholic social teaching: Commentaries and interpretations*. Washington, DC: Georgetown University Press.
- Hittinger, R. (2008). The coherence of the four basic principles of Catholic social doctrine: An interpretation. In Pontifical Academy of Social Sciences, *Pursuing the common good: How solidarity and subsidiarity can work together*. Vatican City
- Hollenbach, D. (1977). Modern Catholic teachings concerning justice. In J.C. Haughey (Ed.), *The faith that does justice: Examining the Christian sources for social change*. Eugene: Wipf and Stock.
- Hollenbach, D. (2002). *The common good and Christian social ethics*. New York: Cambridge University Press.
- Judt, T., (2010). *Ill fares the land*. New York: Penguin.
- Kraut, R. (2014). Aristotle's ethics. In E.N. Zalta (Ed.), *Stanford encyclopedia of philosophy*. Retrieved from <http://plato.stanford.edu/entries/aristotle-ethics/>.
- Lilla, M. (2014). The truth about our libertarian age. Retrieved from <https://newrepublic.com/article/118043/our-libertarian-age-dogma-democracy-dogma-decline>
- Longley, C. (2014). *Just money: How Catholic social teaching can redeem capitalism*. London: Theos.
- MacIntyre, A. (1981). *After virtue*. London: Gerald Duckworth and Co. Ltd.
- Maritain, J. (1947). *The person and the common good*. New York: Charles Scribner's Sons.
- McCloskey, D. (2008). Adam Smith, the last of the former virtue ethicists. *History of Political Economy*, 40(1), 43–71.
- McInerney, R., & O'Callaghan, J. (2014). Saint Thomas Aquinas. In E.N. Zalta (Ed.), *Stanford encyclopedia of philosophy*. Retrieved from <http://plato.stanford.edu/entries/aquinas/>
- Michel, V. (1937). *Christian social reconstruction*. Milwaukee: Bruce.
- Milanovic, B. (2016). *Global inequality: A new approach for the age of globalization*. Cambridge: Belknap Press.
- Miller, C. B. (2011). Distributive justice and empirical moral psychology. In E.N. Zalta (Ed.), *Stanford encyclopedia of philosophy*. Retrieved from <http://plato.stanford.edu/entries/justice-moral-psych/>
- Miller, F. (2011). Aristotle's political theory. In E.N. Zalta (Ed.), *Stanford encyclopedia of philosophy*. Retrieved from <http://plato.stanford.edu/entries/aristotle-politics/>.
- Minnerath, R. (2008). The fundamental principles of social doctrine: The issue of their interpretation. In Pontifical Academy of Social Sciences, *Pursuing the common good: How solidarity and subsidiarity can work together*. Vatican City
- Moyn, S. (2015). *Christian human rights*. Philadelphia: University of Pennsylvania Press.
- Nozick, R. (1974). *Anarchy, state, and utopia*. New York: Basic Books.
- Nussbaum, M. (1990). Aristotelian social democracy. In R. B. Douglass, G.M. Mara, & H.S. Richardson (Eds.), *Liberalism and the good*. London: Routledge.
- Nussbaum, M. (2003). Capabilities as fundamental entitlements. *Feminist Economics*, 9(2-3), 33–59.
- Nussbaum, M. (2005). Mill between Aristotle and Bentham. In L. Bruni & P.L. Porta (Eds.), *Economics and happiness: Framing the analysis*. New York: Oxford University Press.
- Pareto, V. (1971). *Manual of political economy*. New York: Augustus Kelley (Original work published in 1909).
- Pfaff, D. (2015). *The altruistic brain: How we are naturally good*. New York: Oxford University Press.
- Piketty, T. (2014). *Capital in the twenty-first century*. Cambridge: Belknap Press.
- Pinker, S. (2012). *The better angels of our nature: Why violence has declined*. New York: Penguin Books.
- Pontifical Council for Justice and Peace. (2014). Vocation of the business leader: A reflection. Retrieved from http://www.iustitiaetpax.va/content/dam/giustiziaepace/VBL/Vocation_ENGLISH_4th%20edition.pdf
- Pope Benedict XVI. (2009). Caritas in veritate. Retrieved from http://w2.vatican.va/content/benedict-xvi/en/encyclicals/documents/hf_ben-xvi_enc_20090629_caritas-in-veritate.html
- Pope Francis. (2013). Evangelii gaudium. Retrieved from http://w2.vatican.va/content/francesco/en/apost_exhortations/documents/papa-francesco_esortazione-ap_20131124_evangelii-gaudium.html
- Pope Francis. (2015). Laudato si'. Retrieved from http://w2.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si.html
- Pope John Paul II. (1981). Laborem exercens. Retrieved from http://w2.vatican.va/content/john-paul-ii/en/encyclicals/documents/hf_jp-ii_enc_14091981_laborem-exercens.html

Pope John Paul II. (1987). *Sollicitudo rei socialis*. Retrieved from http://w2.vatican.va/content/john-paul-ii/en/encyclicals/documents/hf_jp-ii_enc_30121987_sollicitudo-rei-socialis.html

Pope John Paul II. (1991). *Centesimus annus*. Retrieved from http://w2.vatican.va/content/john-paul-ii/en/encyclicals/documents/hf_jp-ii_enc_01051991_centesimus-annus.html

Pope John XXIII. (1961). *Mater et magistra*. Retrieved from http://w2.vatican.va/content/john-xxiii/en/encyclicals/documents/hf_j-xxiii_enc_15051961_mater.html

Pope John XXIII. (1963). *Pacem in terris*. Retrieved from http://w2.vatican.va/content/john-xxiii/en/encyclicals/documents/hf_j-xxiii_enc_11041963_pacem.html

Pope Leo XIII. (1891). *Rerum novarum*. Retrieved from http://w2.vatican.va/content/leo-xiii/en/encyclicals/documents/hf_l-xiii_enc_15051891_rerum-novarum.html

Pope Paul VI. (1967). *Populorum progressio*. Retrieved from http://w2.vatican.va/content/paul-vi/en/encyclicals/documents/hf_p-vi_enc_26031967_populorum.html

Pope Pius XI. (1931). *Quadragesimo anno*. Retrieved from http://w2.vatican.va/content/pius-xi/en/encyclicals/documents/hf_p-xi_enc_19310515_quadragesimo-anno.html

Rawls, J. (1971). *A theory of justice*. Cambridge: Belknap Press.

Rawls, J. (1993). *Political liberalism*. New York: Columbia University Press.

Ricard, M. (2015). *Altruism: The power of compassion to change yourself and the world*. New York: Little, Brown and Company.

Robbins, H. (1935). *An essay on the nature and significance of economic science*. London: Macmillan.

Ryan, R., Huta, V. & Deci, E. (2008). Living well: a self-determination theory perspective on eudaimonia. *Journal of Happiness Studies*, 9, 139–170.

Sachs, J. (2011). *The price of civilization: Reawakening American virtue and prosperity*. New York: Random House.

Sachs, J. (2013). Restoring virtue ethics in the quest for happiness. In J. Helliwell, R. Layard, & J. Sachs (Eds.), *World Happiness Report 2013*. New York: Sustainable Development Solutions Network.

Sachs, J. (2015). Investing in social capital. In J. Helliwell, R. Layard, & J. Sachs (Eds.), *World Happiness Report 2015*. New York: Sustainable Development Solutions Network.

Sachs, J. (2016). Happiness and Sustainable Development: Concepts and Evidence. In J. Helliwell, R. Layard, & J. Sachs (Eds.), *World Happiness Report 2016 Update* (Vol. I). New York: Sustainable Development Solutions Network.

Sandel, M. (2005). *Public philosophy: Essays on morality in politics*. Cambridge: Harvard University Press.

Sandel, M. (2009). *Justice: What's the right thing to do?* New York: Farrar, Straus, and Giroux.

Seligman, M. (2012). *Flourish: A visionary new understanding of happiness and well-being*. New York: Atria.

Sen, A. (1977). Rational fools: A critique of the behavioral foundations of economic theory. *Philosophy and Public Affairs*, 9(4), 317–24.

Sen, A. (1993). Does business ethics make economic sense? *Business Ethics Quarterly*, 3(1), 45–55.

Sen, A. (1999). *Development as freedom*. New York: Anchor Books.

Sen, A. (2014). The contemporary relevance of Buddha. *Ethics and International Affairs*, 28(1), 15–27.

Shapiro, I. (2003). *The moral foundations of politics*. New Haven: Yale University Press.

Smith, A. (1759). *The theory of moral sentiments*. Retrieved from https://www.ibiblio.org/ml/libri/s/SmithA_MoralSentiments_p.pdf.

Szalavitz, M. (2012). Why the rich are less ethical: They see greed as good. <http://healthland.time.com/2012/02/28/why-the-rich-are-less-ethical-they-see-greed-as-good/>

Szalavitz, M. (2013). Wealthy selfies: How being rich increases narcissism. Retrieved from <http://healthland.time.com/2013/08/20/wealthy-selfies-how-being-rich-increases-narcissism/>

Wight, J. (2015) *Ethics in economics: An introduction to moral frameworks*. Stanford: Stanford University Press.

Wilson, D. S. (2015). *Does altruism exist? Culture, genes, and the welfare of others*. New Haven: Yale University Press.

Wilson, E. O. (2014). *The meaning of human existence*. New York: Norton.

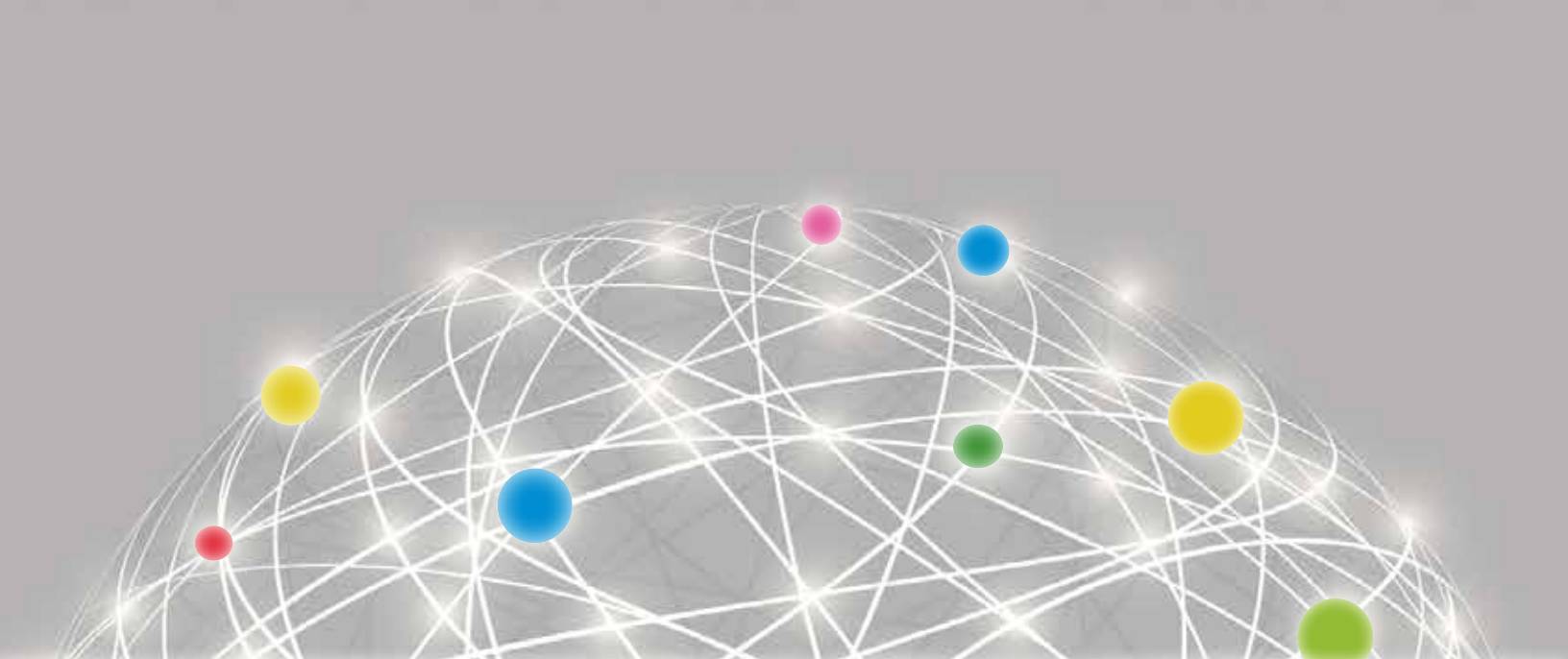
World Bank. (2015). *World development report 2015: Mind, society, and behavior*. Washington, DC: World Bank.

Wright, R. (2000). *Nonzero: The logic of human destiny*. New York: Pantheon Book.

Zamagni, S. (2005). Happiness and individualism: A very difficult union. In L. Bruni & P.L. Porta (Eds.), *Economics and happiness: Framing the analysis*. New York: Oxford University Press.

Zamagni, S. (2008). Reciprocity, civil economy, common good. In Pontifical Academy of Social Sciences, *Pursuing the common good: How solidarity and subsidiarity can work together*. Vatican City

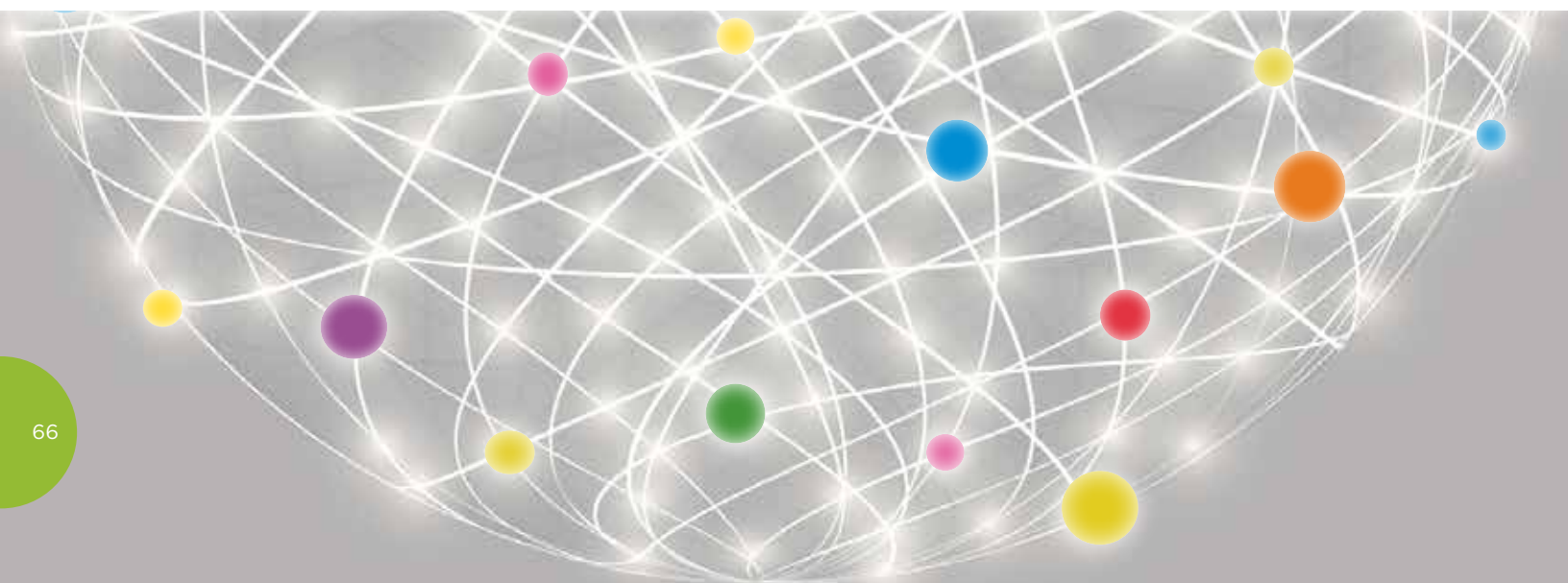
Zamagni, S. (2010). Catholic social thought, civil economy, and the spirit of capitalism. In D. Finn (Ed.), *The true wealth of nations: Catholic social thought and economic life*. Oxford: Oxford University Press.



Chapter 3

THE CHALLENGES OF PUBLIC HAPPINESS: AN HISTORICAL-METHODOLOGICAL RECONSTRUCTION

LUIGINO BRUNI AND STEFANO ZAMAGNI



Luigino Bruni, LUMSA University, Rome, Italy. E-mail: l.bruni@lumsa.it

Stefano Zamagni, University of Bologna, Italy. E-mail: stefano.zamagni@unibo.it

At a severe crisis, when lives in multitudes and wealth in masses are at stake, the political economists are helpless – practically mute: no demonstrable solution of the difficulty can be given by them, such as may convince or calm the opposing parties.

John Ruskin¹

Man is a civil animal.

Leonardo Bruni²

Introduction: Old and New Happiness

The way contemporary economics and social sciences consider happiness is far from the classical tradition, and in general, too simplistic. This paper aims to make the use of the term happiness more intricate than in the present debates, showing the complexity of the concept in both philosophical (Aristotelian) and economic traditions. Today happiness is often understood in context of the Utilitarian concept, ignoring the rich and very old discussions about the meaning and nature of human happiness. The social dimension is particularly ignored; what the Romans and the Italians called *pubblica felicità*, or public happiness, is almost totally absent from contemporary studies. We claim, instead, that a reconsideration of the classical concepts of public happiness and eudaimonia can offer important hints and critical tools for a better understanding of our well-being, individually and collectively.

The classical tradition of political economy, with a journey of more than two centuries, began by investigating the means for living well under the hypothesis that economic variables such as income, wealth, or employment are important

goals for a good life, both individually and socially. Reducing unhappiness by means of reducing material poverty then became the telos of economics. In this way, political economy gained its ethical status in the modern period, after a middle age where its moral statute was often questioned.

The science of economics became known as the “science of wealth,” with the “hope that poverty and ignorance may gradually be extinguished” and “that all should start in the world with a fair chance of leading a cultured life, free from the pains of poverty and stagnating influences of excessive mechanical toil.”³ This hope inspired economists to study the “nature and causes of the wealth” of persons and nations, with the hope and promise that an ever-increasing number of people can enjoy basic material needs, and therefore increase “public happiness.”

In the last few decades, however, something very subtle pertaining to human happiness has begun creeping into economic thought. Doubts have arisen about the moral value of economic growth and the ethical base of progress. A steady stream of critiques questioning the values of modernity and the market economy has characterised modernity since its very beginning. Jean-Jacques Rousseau, the main representative of this anti-modernity tradition, pointed out that the vice of the modern age was luxury, avarice, and the search for wealth.⁴ Not only socialism and Marxism, but also Utopian socialists and some branches of the cooperative movement have continued Rousseau’s radical critique of markets and the modern economy, in a tradition that flows parallel to the capitalistic river. During deep and long economic and social crises, this anti-market-economy tradition has always arisen, and gained popularity among the public, the media, and intellectuals.

The literature on the ‘paradoxes of happiness’ offers material for the present-day critique of capitalism. In this paper, we will try to show that

happiness poses to economic life and theory challenges which are numerous, complex, and old.

The expression “paradox of happiness” or “Easterlin paradox” refers to empirical data about two different and controversial issues. In a nutshell, the happiness paradox shows that per-capita income has risen sharply in most countries in recent decades, yet average happiness has stayed constant or has grown less than traditional economics claims.

Explanations for the paradox are many.⁵ An idea, however, is present in all economic theories: Economics, focused on its key variables (income, wealth, consumption) neglects some important things that affect people’s happiness. There are, in other words, some ‘happiness externalities’ that are not calculated in the standard economic analysis of income/wealth. In the ‘transformation’ of *economic goods into well-being* something occurs to make the process more complex than standard economic theory supposes.

Today, in the technicalities of the debate on the economics of happiness, we find many nuances and interpretations. But apart from those technicalities, a very sharp cultural message springs: In contemporary market societies, wealth and income, at the individual and social level, are linked in a deep relationship with well-being or happiness. The most important words about our lot are those embodied in the ‘transformation problem’ of goods into well-being, of *wealth* into *weal*. But mainstream economics shows, in general, no interest in the transformation of commodities into happiness. It stops its discourse at the backyard of our well-being.

This paper tries to show some of the whys and hows of the lack of attention to this transformation problem in economics, following the main stream of the history of the nexus of wealth-happiness, but also some minor detours from the main economic traditions (the Italian Civil economy and the Cambridge

tradition) where greater attention was paid to the translation of goods into well-being; in some cases, central attention.⁶

In the following sections, we start with an analysis of the Aristotelian idea of “eudaimonia.” Then we discuss the tradition of political economy, with special attention to the Cambridge tradition where the complexity of the transformation of goods/wealth into happiness remained central, despite the continued focus of mainstream political economy, following Adam Smith’s ideas, on wealth and disregarding the difficulty of transforming economic well-being into both individual and public happiness. We conclude with some considerations of the relational nature of happiness, and its policy implications.

The Old “Civil” Happiness”: Aristotle’s Eudaimonia⁷

The Greek word eudaimonia is very often present today in papers dealing with happiness, in both the social sciences and psychology. However, the term is rarely used with an awareness of its complex meaning. In particular, there is an eudaimonia before Socrates, one in Socrates, and many after him. Here, we choose to start with the use of eudaimonia in Aristotle, given his weight in both Western tradition and contemporary debates on happiness.

Enclosed in the term eudaimonia⁸ we find the fundamental coordinates marking the route for the research we describe in the following chapters. Socrates, Plato, and Aristotle, as well as all the classical schools of philosophy (i.e. Stoicism) explored the diverse dimensions of happiness. The fundamental ideas they shared on happiness were: (a) happiness is the final, or ultimate, end of life: the highest good for the human being; (b) happiness is self-sufficient, because there is nothing that, added to it, would increase its value; (c) there is an inseparable bond between happiness and the practice of

virtues; (d) because virtues bear fruits regardless of self-interest, happiness can be reached only as a by-product if it is sought in non-instrumental ways, for example by seeking to be virtuous. On the other hand, differences between Aristotle and the other classical Greek philosophers arose around such questions as the connection between the active and contemplative life, and then, over the role of sociality and civil virtues in order to reach the good life.

The Aristotelian meaning of the *eudaimonia* is semantically impoverished when translated into the English word happiness: The Greek expression meant the highest end that humans can realize: “What is the highest of all goods achievable by action.”⁹ As a consequence, *eudaimonia* is an end “which is in itself worthy of pursuit more final than that which is worthy of pursuit for the sake of something else...for this we choose always for self and never for the sake of something else.”¹⁰ That makes happiness “the best, noblest, and most pleasant thing in the world.”¹¹ All the other good things, including wealth, are only means for reaching happiness. Happiness, therefore, *is never a means*; on the contrary, it is the only goal that is impossible to instrumentalize, because of its very nature. For this reason it is the final end: something final cannot be an instrument for something else; there is nothing to be reached beyond it. Out of this comes the thesis that neither wealth nor health can ever be ultimate ends. They can only be important means (instruments) for living a good life. As the philosopher Martha Nussbaum writes: “Happiness is something like flourishing human living, a kind of living that is active, inclusive of all that has intrinsic value, and complete, meaning lacking in nothing that would make it richer or better.”¹²

Furthermore, *eudaimonia* is a multidimensional and diverse reality. First, one of the primary objectives of Aristotle was to distinguish *eudaimonia* from the hedonism of Aristippus and his school: “To judge from the lives that men lead, most men, and men of the most vulgar

type, seem (not without some ground) to identify the good, or happiness, with pleasure.”¹³ *Eudaimonia*, then, cannot be identified with pleasure, but also neither with honour nor money. This is why the neo-Aristotelian philosophers in the Anglo-Saxon world preferred to translate *eudaimonia* as “human flourishing” rather than happiness, because in common language today happiness also indicates momentary euphoria, carefree content, a pleasurable sensation or *tout court* pleasure.¹⁴

To Aristotle, pleasure is not the *end* of action, then, but only a *sign* that the action is intrinsically good. Pleasure, instead, can signal the value of an activity, not its scope: “Virtuous actions must be in themselves pleasant.”¹⁵ Second, *eudaimonia* is the end of politics: “what it is that we say political science aims at and what is the highest of all goods achievable by action...for both the general run of men and people of superior refinement say that it is happiness.”¹⁶ The aim of politics is happiness because politics “gives utmost attention in forming citizens in a certain way, that is to make them good and committed to carrying out beautiful actions.”¹⁷ What is more, political life is the only place in which happiness can be fully experienced: “It is natural, then, that we call neither ox nor horse nor any other of the animals happy; for none of them is capable of sharing in such activity.”¹⁸

As a third (and very crucial) element, *eudaimonia* is the indirect result, a by-product, of the practice of virtues. The word *eudaimonia*, in fact, originally derived from “good demon” (*eu daimon*), which meant that only those who have a good demon or good fortune on their side can reach *eudaimonia*. So happiness and good fortune were used as synonymous words. Socrates, and after him Plato and Aristotle, invested the word *eudaimonia* with new meanings. The idea that even a person with bad luck could *become* happy by means of virtuous actions began to enter into the philosophical imagination.

Linked with the key connection between virtues and eudaimonia we find a fundamental tension regarding the whole Aristotelian theory of eudaimonia: Although the virtuous life is a way to happiness, virtues bear their fruit (happiness) only if sought *non-instrumentally*, and only if internalised as being *intrinsically good*. In fact, as soon as virtue is used as a means, it ceases to be a virtue. So happiness is the indirect result of practising virtues, which makes them, at the same time, means and ends—part of eudaimonia.

Virtues are means to happiness only if they are *not only* a means: this represents the basic happiness paradox by Aristotle or teleological paradox, which leans in the direction of associating virtues with gratuitousness and genuineness. Virtues lead to happiness only if practised genuinely for their *intrinsic value* (the virtuous action is its own reward).

Only if we keep in mind this fundamental tension in Aristotle's vision of eudaimonia can we properly understand the Aristotelian approach to the relationality–happiness nexus that nowadays receives emphasis in the literature on happiness. Interpersonal relations lead to happiness only if they are genuine expressions of the practice of virtues. Every relational theory of happiness, ancient and modern, is also related to this key idea. And finally, we find this Aristotelian paradox any time we deal with a genuinely civil approach to happiness.

This short analysis of Aristotle's eudaimonia has shown that his vision of happiness is basically one of civil happiness. Following this idea, we find in the *Nicomachean Ethics* a strong point of attraction—perhaps the strongest in the entire Aristotelian ethics—for the *civil* or *political* nature of a good life, of happiness. Notice that Aristotle, like all classical thought, did not distinguish between the civil, social, and political spheres; that is a typically modern distinction. This focus on the civil or political nature of a

good life, of happiness, appears in one of Aristotle's most quoted passages: "Surely it is strange, too, to make the supremely happy man a solitary; for no one would choose the whole world on condition of being alone, since man is a political creature and one whose nature is to live with others. Therefore even the happy man lives with others; for he has the things that are by nature good. And plainly it is better to spend his days with friends and good men than with strangers or any chance persons. Therefore the happy man needs friends."¹⁹

For Aristotle, then, and in the whole Western civil tradition, there is an intrinsic value in relational and civil life, without which human life does not fully flourish. Though human life must be able to flourish autonomously, in the sense that it cannot be totally jeopardized by bad fortune, it is also true that in the Aristotelian line of thought, some of the essential components of the good life are tied to interpersonal relationships. Participation in civil life, having friends, loving and being loved, are essential parts of a happy life.²⁰

By definition, we have said, eudaimonia cannot be reached instrumentally: it is the *indirect* result of virtuous actions, carried out for their intrinsic value. Nussbaum calls "friendship, love and political commitment"²¹ the three basic *relational goods* in Aristotle's *Ethics*. Therefore, they have intrinsic value, are part of eudaimonia, and cannot be used as just a means. This has been a common point of agreement for many philosophers throughout history and still today, despite other differences between their schools of thought.²²

The peculiarity of Aristotle's theory of the happiness-relationality nexus emerges from his analysis of the diverse forms of friendships found in the eighth book of the *Nicomachean Ethics*. Friendship, for Aristotle, "is besides most necessary with a view to living."²³ Thus, to him, true friendship is virtue-friendship. It is

that which remains in the virtuous and happy person even after he has reached contemplation. It is not friendship “for the sake of pleasure” or “for the sake of utility,”²⁴ but desired for the good of the friend. Because they are *made of* relationships, “relational goods” can be enjoyed only in reciprocity.²⁵

So, by affirming the importance of relational goods in a happy life (“The happy man needs friends”), Aristotle brings happiness back under the influence of fortune.²⁶

This internal tension in the Aristotelian eudaimonia—that it must, at the same time, be the final end, self-sufficient, *and* fragile (because it depends on others)—marks the deepest difference between the two approaches of the happiness-sociality nexus (i.e. the Aristotelian and the Platonic) that have characterised the whole Western cultural trajectory until now. Though Aristotle agrees with Plato that the contemplative life is superior to the active life, at the same time he affirms the necessity of friends for every stage of life. In an Aristotelian approach, happiness, the good life, is at the same time constitutionally civil and therefore fragile. To renounce its fragility would mean we would have to renounce the good life itself.

This is the basic stress on which the happiness-sociality nexus leans. The awareness of the civic life’s fragility accompanies the trajectory of Western thought up to modern times, when the invention of the market economy was considered the major tool for eliminating fragility from life in common.²⁷ More than any other modern invention, the market emancipates us from dependence on other people. It frees us from the benevolence of our fellow citizens. The market emancipates us from dependence, but in doing so may remove the locus of genuine sociality. We’ll return to these issues at the end of the paper.

Roman and Italian Public Happiness

The Aristotelian idea of happiness/eudaimonia remained alive during the Middle Ages, in particular in the Thomistic tradition of virtue ethics and common good. A moment of a particularly relevant offspring of that tradition in modernity has been the Neapolitan *Economia Civile*, which is a strict and direct continuation of the Aristotelian and Roman conception of happiness and good life, with a substantial dimension of sociality.

In fact, while the fathers of American revolution were writing the right to the “pursuit of happiness” in the opening of the Declaration of Independence, in Italy the first economists put “public happiness” as their motto for the new science.

Non sibi, sed domino gravis est, quae servit egestas: “A servant’s poverty is hard on the master, not the servant.” This sentence of Lucanus, put *in esergo* to his *Lezioni di Economia Civile*, represents a good synthesis of Antonio Genovesi’s idea of both *Economia Civile* and *Pubblica Felicità*. Genovesi, as an Enlightenment philosopher and reformer, had the sovereign as a privileged interlocutor. Not by chance, even Adam Smith, the founder of the modern political economy, wrote at the core of his *Wealth of the Nations* (the title of the book is also very telling): “Political œconomy, considered as a branch of the science of a statesman or legislator, proposes two distinct objects: first, to provide a plentiful revenue or subsistence for the people, or more properly to enable them to provide such a revenue or subsistence for themselves; and secondly, to supply the state or commonwealth with a revenue sufficient for the public services. It proposes to enrich both the people and the sovereign.”²⁸

From that point of view, civil economy is not only very similar to political economy, but also to late-mercantilism, physiocracy, and maybe cameralism, and the adjective *civil* can properly

be seen as just the Latin version of the Greek word *political* (or social). But actually, to acknowledge that moral philosophers and the first economists of modernity were writing with the aim of being useful to the policymakers of their times, to make their countries richer and powerful, is not a very interesting and fecund intellectual exercise. It is just to restate what the scholar of modern political and social ideas knew very well. Genovesi's *Economia Civile*, however, is also something more.

Genovesi's idea of public happiness has been surely influenced by the Roman *felicitas publica*, as many scholars knew and wrote.²⁹

But, in spite of what D'Onofrio³⁰ claims, Genovesi had no need to pass thought-out Germany to ground his theory in Roman and classical thought. The *Lezioni di Commercio o sia di Economia Civile* have hundreds of Greek and Latin sentences, languages that Genovesi mastered—he taught both in Latin and in Italian. In his *Lezioni* we find he quotes Cicero about 10 times, which becomes 45 in the *Diceosina* (a title that is an Italianization of the Greek “On the Just and Honest”); quotes Plato 40 times in *Lezioni* and 50 times in the *Diceosina*. He quotes Aristotle respectively 50 and 42 times, Homer about 30 times in each, Aquinas 10 times in the *Diceosina* and once in the *Lezioni*, and we could continue with tens of other Latin and Greek philosophers, poets, and historians. Counting quotations is not, in general, the best tool for determining the influences of one author on another. But when one finds hundreds of direct quotations of Latin and Greek authors on eudaimonia and *felicitas publica*, and zero quotation of Wolff in either *Lezioni* or *Diceosina*, it becomes heroic to find serious bases for thinking and even writing that “Genovesi's particular version of natural law was deeply influenced by Wolff's.”³¹ Genovesi was surely influenced by the natural law tradition, but his influences were the authors Locke, Grotius, Shaftsbury, Althusius; most of the modern philosophers including (essentially) Rousseau, Montesquieu; and the

French authors Mélon, Cary, and Vico. These were the fundamental references for Genovesi's philosophy and for his civil economy (and totally absent in D'Onofrio's reading). Among those, Genovesi surely knew the work of Wolff and maybe the Cameralist tradition,³² but from this, to arrive at the statement that Civil Economy was nothing new in Modern Europe, and that Genovesi was just repeating or applying northern or even Cameralist authors (or just a late mercantilist³³) is unjustified, incorrect, simply wrong.

Furthermore, the concept of *felicitas publica* is a typical Latin concept. It is not the English happiness, even less the German *glück* that refers directly to good luck or fortune (happiness comes from *hap*, to happen). The prefix *fe-* in the word *felicitas* is the same of *fecundus*, *femina*, *fetus*, *ferax*. *Felicitas* then recalls the concept of fecundity, and hence the cultivation of humanity and virtues. The Latin verb *feo* means to produce. In the Roman culture *infelix* designates the sterile tree, and *felix* as the fertile one. *Felicitas*, then, means bringing fruits, something very different from good fortune. In the coins of Roman republic, it was very common to put in one side the inscription *felicitas publica*. But in the other side of those coins the icons were children, agriculture tools, women: life, generation, cultivation.

Therefore, there is a strong continuity between the Roman *pubblica felicità* and the Aristotelian eudaimonia.

This Roman tradition of *felicitas publica* remained very alive in the European Middle Ages, and experienced a new revival during the Italian civil humanism of the 15th century and later in the Renaissance, when Roman civilization returned to play a central role. It was also very present and central in Vico, Genovesi's master. Thus, Genovesi and Muratori had a direct link to the Roman tradition; no need to imagine or invent a North passage. Middle Age, *comuni* and the *civiltà cittadina*, civil humanism and his

‘invention’ of *Vita civile* and *Vita activa* were alive and active in Italy in the 18th century. *Felicitas publica* and the *civitas* were in the DNA of modern Italian civilization, culture, philosophy.

That public happiness was an identity element in the Italian tradition of civil economy is evident when one considers the titles of many books by Italian economists in the second half of the 18th century: Palmieri, Bianchi, Paoletti, and Verri, among others. Achille Loria, maybe the most influential Italian economist of the end of 19th century, wrote: “All our [Italian] economists, from whatever regional background, are dealing not so much, like Adam Smith, with the wealth of nations, but with Public Happiness.”³⁴ The Neapolitan philosopher Paolo Mattia Doria’s book, *Della vita civile*,³⁵ (a clear “civic humanist” heading) had an influence on Genovesi’s thought and that of the Neapolitan School in general. The book begins with the following words: “Without a doubt, the first object of our desire is human happiness.” And Pietro Verri: “The discussion *on happiness* has as its object a very common argument upon which many have written.”³⁶ Was all this movement just an importation or repetition of what Cameralists were doing in Germany? Obviously not.

Second, the idea of happiness in Genovesi is not only the “public happiness” in Muratori’s sense. Muratori’s conception of public happiness³⁷ was present in all Europe at least since the old Romans. In Genovesi, there is also another idea of happiness, more ‘horizontal,’ directly linked to his vision of the person as a relational entity, and to the crucial role he assigned to interpersonal relationships in human well-being. It would be enough to read his books—that, I know, are too huge and difficult to be read entirely and carefully: summaries and secondary literature are much easier—to find an impressive degree of attention to the Aristotelian idea of happiness related to interpersonal relationships, where the ‘happiness of others’ is essential to one’s own happiness: “The more you work for interest, the more you must be virtuous,

unless you are a fool. It is a universal law that we cannot make ourselves happy without making others happy as well.”³⁸

Wealth or Happiness of Nations?

Modern political economy is supposed to have been a by-product of the modern need to make the search for wealth and individual self-interest socially and morally legitimate. However, before Adam Smith published his *Wealth of Nations* in 1776, in which he defined wealth as the subject of a newborn discipline, a different approach had gained ground. In the mid-18th century in the French and Italian traditions, the issue placed at the core of modern economic reflection was “public happiness.” The first author who used the expression *pubblica felicità* as the title of one of his books was the Italian philosopher Ludovico Antonio Muratori (*On Public Happiness*) in 1749, and after him the term ‘happiness’ appeared in the title of many books and pamphlets by Italian economists of that time: examples include Giuseppe Palmieri’s 1788 *Reflections on the Public Happiness*, Pietro Verri’s 1781 *Discourse on Happiness*, and others. Happiness became a landmark of the Italian classical civil economy. The eighteenth-century Italian tradition was in continuity with civic humanism, and with the idea in particular that comes from the Aristotelian-Tomistic tradition that happiness is ‘social’ by nature—man is a social animal and therefore, as Aristotle wrote, the “happy man needs friends.”³⁹

It should also be noted that in Italy the theme of public happiness was coupled with the idea of *ben-vivere sociale* (the social weal), an association that had been characteristic of the Italian civic humanist tradition, from Francesco Petrarca to Leon Battista Alberti and Lodovico Antonio Muratori. A special Neapolitan echo of that tradition stayed alive in Naples, thanks to Giam-battista Vico, Pietro Giannone, and Paolo Mattia Doria.⁴⁰ Some years later, in France, philosopher-economists such as Rousseau, Linguet,

Maupertuis, Necker, Turgot, Condorcet, and Sismondi all gave happiness a place in their analyses, and the *félicité publique* was one of the key ideas of the French Enlightenment movement: “The mass of the [English] nation seems to forget, as do philosophers, that the increase in riches is not the end of political economy, but the means by which to provide the happiness for all.”⁴¹

Sismondi’s thesis has to be circumstantiated. In fact, if it is true that Smith or Ricardo did not attribute a central place in their economic theories to happiness, the issue of happiness was still far from absent in the British debate of their time. It suffices to remember that classical Utilitarianism was an offspring of that intellectual climate.⁴²

Smith’s position is well-known. In his *Theory of Moral Sentiments* (TMS), one can find the classical (Aristotelian) idea of happiness as the final goal of human life.⁴³ Human happiness does not present a peculiar characteristic for human beings in respect of other creatures, and under the Stoic influence happiness is defined as “tranquillity and enjoyment.”⁴⁴ Smith does not emphasize the idea that happiness is related to interpersonal relationships, although his moral system is built on relational categories such as “fellow-feeling” —categories absent, however, in his economic theory of wealth.

The key idea in the relationship between wealth and happiness is that wealth is instrumental to happiness; wealth is just a means for being happy,⁴⁵ a thesis not far from the classical one. However, Smith’s vision of happiness in relation to the economic field is more complex than the simple equivalence of more wealth = more happiness. The argument runs as follows: The emulation of the wealth and greatness of the rich is the engine of both social mobility and economic development. So the “poor man’s son” submits “to more fatigue of body and more uneasiness of mind [...] he labours night

and day to acquire talents superior to all his competitors.”⁴⁶

This dynamic, however, is based upon a deception; namely, the idea that the rich man is happier than the poor, or that he possesses “more means for happiness.”⁴⁷ In reality, this is not true, but it is the engine of social and economic development (by means of the “invisible hand” argument). This ‘good deception’ (for the common good) is the core of Smith’s theory of the invisible hand.

Smith’s illustration of the workings of deceived human imagination is a piece of psychological analysis that finds its completion in the description of the *real* and actual condition of the rich, as people paradoxically sharing the same lot as the poor:

It is to no purpose, that the proud and unfeeling landlord views his extensive fields, and without a thought for the wants of his brethren, in imagination consumes himself the whole harvest that grows upon them. The homely and vulgar proverb, that the eye is larger than the belly, never was more fully verified than with regard to him. The capacity of his stomach bears no proportion to the immensity of his desire, and will receive no more than that of the meanest peasant.”⁴⁸

The fate of the rich, in fact, is *merely* that

“they only select from the heap what is most precious and agreeable. They consume little more than the poor, and in spite of their natural selfishness and rapacity, though they mean only their own conveniency, though the sole end which they propose from the labours of all the thousands whom they employ, be the gratification of their own vain and insatiable desires, they divide with the poor the produce of all their improvements. They are led by an invisible hand to make nearly the same distribution of the necessaries of life,

which would have been made, had the earth been divided into equal portions among all its inhabitants, and thus without intending it, without knowing it, advance the interest of the society, and afford means to the multiplication of the species. When Providence divided the earth among a few lordly masters, it neither forgot nor abandoned those who seemed to have been left out in the partition. These last too enjoy their share of all that it produces. In what constitutes the real happiness of human life, they are in no respect inferior to those who would seem so much above them. In ease of body and peace of mind, all the different ranks of life are nearly upon a level, and the beggar, who suns himself by the side of the highway, possesses that security which kings are fighting for.⁴⁹

Smith's use of the *invisible hand* metaphor in the *TMS* parallels the logic of the happiness paradox in the current literature. In Smith's moral theory, the rich and the ambitious are moved by frivolous and temporary illusions. "Power and riches⁵⁰ appear then to be, *what they are*, enormous and operose machines contrived to produce a few trifling conveniences to the body . . . which in spite of all our care are ready every moment to burst into pieces, and crush in their ruins their unfortunate possessor."⁵¹

In the *Wealth of Nations*, the issue of happiness is almost totally absent. The title of the book itself defines the object of the newborn political economy: it deals with wealth not with happiness, even if in Smith's choice of the word 'wealth' instead of 'riches' one can rightly see the idea that wealth (weal or well-being) is more and something different from simply possessing riches.

Malthus's happiness of nations

Malthus, "the first of the Cambridge's economists" as J.M. Keynes defined him,⁵² followed a different path. His *Essay on Population*⁵³ reserves an important role for happiness, a word that

appears even in the title of the second, 1803 edition of the book.⁵⁴ In a very central passage he writes:

The professed object of Dr. Adam Smith's inquiry is the nature and causes of the wealth of nations. There is another inquiry however perhaps even more interesting, which he occasionally includes in his studies and that is the inquiry into the causes which affect the happiness of nations [...]. I am sufficiently aware of the near connection of these two subjects and that the causes which tend to increase the wealth of a state tend also, generally speaking, to increase happiness [...]. But perhaps Dr Adam Smith has considered these two inquiries as still more nearly connected than they really are.⁵⁵

From this sentence, we have the main elements to understand the key points of Malthus' idea of happiness and his evaluation of Smith's position. To Malthus, happiness is not wealth, but in general, he agrees with Smith that more wealth leads to more happiness. According to Malthus, however, Smith was not sufficiently aware that the relation between these two concepts is complex and worth investigating on its own: he was aware, then, of the 'happiness transformation problem.' In particular, Malthus belongs to those economists (Sismondi, Genovesi, and many Italians) who thought that "the happiness of the nations" was "another inquiry however, perhaps still more interesting" than that of wealth, as the modern theorists of happiness also think.

It is important to notice, however, that Malthus's wish to directly study happiness as the object of political economy did not last long. In his *Principles of Political Economy*,⁵⁶ there are no references to happiness, and the object of his inquiries becomes wealth, as in Smith and the classical mainstream tradition of economics. (Something similar will occur also for Marshall, as we will see later). In particular, although Malthus was fully aware that by focusing on the

material and quantitative aspects of human interactions, political economy was losing important elements of well-being, he left outside all interpersonal dimensions of wealth:

A man of fortune has the means of [...] collecting at his table persons from whom he is likely to hear the most agreeable and instructive conversation [...]. It would not be denied, that these are some of the modes of employing wealth, which are always, and most justly, considered as much superior in respectability, to the purchase of fine clothes, spending on furniture, or costly jewels [...]. But it is a wide step in advance of these concessions, at once to place in the category of wealth, leisure, agreeable conversation [...]. The fact really is, that if we once desert matter in definition of wealth, there is no subsequent line of demarcation which has any tolerable degree of distinctness, or can be maintained with any tolerable consistency, till we have included such a mass of immaterial objects as utterly to confuse the meaning of the term, and render it impossible to speak with any approach towards precision, either of the wealth of different individuals, or different nations.⁵⁷

In the Cambridge tradition, however, Malthus's issues remained alive.

Alfred Marshall's analysis of happiness, an expression that he uses synonymously with well-being, is strictly interrelated with his theory of sociality in economics. It is well-known that Marshall made room for altruism in his economics, denying, in contrast with economists such as Pantaleoni,⁵⁸ that individualistic self-interest is an essential requisite of economic science. He wanted to study the "man in flesh and blood," and therefore, any human dimension could theoretically find its place within his economics.⁵⁹ The only limitation of the economic domain for Marshall is the possibility of monetary measurement of economic variables. Therefore, economic goods are those that "can be measurable by a money price."⁶⁰ It is a

methodological operation very close to that performed by Malthus in shaping the boundaries of economic wealth.

A few pages earlier we introduced Malthus's position on happiness: Apart from the reference to a direct study of happiness that one can find in the *Essay*, we have shown that he sharply spotted the distinction between happiness and wealth, although in his economic analyses he chose to deal with wealth and only indirectly with happiness. This approach, by the founder of the Cambridge tradition, was continued by Marshall and his school (Pigou in particular). Marshall, opening his *Principles*, wrote:

"Political economy or economics is a study of mankind in the ordinary business of life; it examines that part of individual and social action which is most closely connected with the attainment and with the use of the material requisites of well-being. Thus it is on the one side a study of wealth; and on the other, and more important side, a part of the study of man."⁶¹

In this, Marshall was a really 'neo'-classical, his approach fully in agreement with Malthus. Given his moral approach to economics, partially inherited from Ruskin and Carlyle, and his concern for poverty, he was very aware of the complexity of the happiness/wealth relationship. From the above passage, significantly placed at the beginning of his *Principles*, we get the basic elements of Marshall's vision of economic agency: Economics does not deal directly with "well being" (which to Marshall is a substitute for happiness), but with the "material requisites" of it. We do not find the word happiness anymore, (which in England was linked to the utilitarian and hedonistic philosophy, from which Marshall wanted to distance himself). There is, however, the expression "well-being" (not completely new among economists of his time), later translated by his follower Pigou into "welfare," the key-category of his *Economics of Welfare*.⁶²

The ‘material requisites’ of well-being essentially consist of ‘wealth’, in line with the Smithian classical tradition.

In the ‘Introduction’ to the *Principles* we also find the theoretical key for understanding Marshall’s idea of the relationship between happiness and wealth: “It is true that in religion, in the family affections and in friendship, even the poor may find scope for many of those faculties which are the source of the highest happiness. But the conditions which surround extreme poverty, especially in densely crowded places, tend to deaden the higher faculties. Those who have been called the Residuum of our large towns have little opportunity for friendship; they know nothing of the decencies and the quiet, and very little even of the unity of family life; and religion often fails to reach them.”⁶³

Happiness, to Marshall, depends largely on extra-economic factors that are not wealth in the usual economic sense; and that do not pass through the market, such as religion, and, mainly, genuine interpersonal relationships, such as family affections and friendship. We still find in Marshall the classical (Aristotelian in particular) idea that happiness does not coincide with wealth, and also that happiness has a social nature.⁶⁴

Anyone who knows Amartya Sen’s theory of the ‘the standard of living’⁶⁵ will find a strong consonance between the two Cambridge economists: It is quite easy to be persuaded that being happy is an achievement that is valuable, and that is evaluating the standard of living, happiness is an object of value (or a collection of object of value, if happiness is seen in a plural form). The interesting question regarding this approach is not the legitimacy of taking happiness to be valuable, which is convincing enough, but its exclusive legitimacy. Consider a very deprived person who is poor, exploited, overworked and ill, but who has been made satisfied with his lot by

social conditioning (through, say, religion, political propaganda, or cultural pressure). Can we possibly believe that he is doing well just because is happy and satisfied? Can the living standard of a person be high in the life that he or she leads is full of deprivation? The standard of life cannot be so detached from the nature of the life the person leads.⁶⁶

Marshall’s line of thought was followed by his heir in Cambridge, Arthur Cecil Pigou, who moved the fulcrum of the issue at hand toward the other magic word in economics: welfare. In his *Economics of Welfare*, Pigou states that he intends to deal only with the economic aspects of general welfare (what he calls “economic welfare”), or that part of total welfare that “can be expressed, directly or indirectly, by a money measure.”⁶⁷

In this choice, that per se is legitimate; there was an important missing link: analysing how, and if, economic goods may become happiness, or well-being (without adjective). In fact, what we see today in the debate on economics and happiness is that the efforts to acquire material goods have systematic negative effects on the other components of wealth—in particular interpersonal relationships—and more income can lead (as the growing literature on the paradox of happiness shows) to less well-being. Such a line of thought was also developed by Keynes, in particular in his *Economic Perspectives of our Grandchildren*, where he distinguished between “basic” and “relative” (or relational) needs.⁶⁸ To Keynes, economic or material growth can properly satisfy the basic needs, but the relative ones have only a tiny and indirect connection with income.

In Marshall’s *Principles*, however, there is also an intuition of this possible inverse (and perverse) tendency that was completely ignored by the founders of contemporary economics. It is his theory of the “standard of life,” the last chapter of his *Principles*.

In this chapter, with a full Aristotelian flavor, states that “the true key-note of economic progress is the development of new activities rather than new wants,”⁶⁹ specifying that the question that “is of special urgency in our generation” is “the connection between changes in the manner of living and the rate of earning.”⁷⁰

In order to analyze this urgent question, he distinguishes between two concepts: “the standard of life” and “the standard of comfort,” where “the standard of life is taken to mean the standard of activity adjusted to wants”⁷¹ and “the standard of comfort [is] a term that may suggest a mere increase of artificial wants, among which perhaps the grosser wants may predominate.”^{72,73}

The main reason is clearly stated here for why the political economy avoided dealing with the interpersonal, qualitative aspects of economic transactions. Malthus was convinced not only that “enjoying conversations” with friends was an important, “superior” form of using wealth, but even that “leisure and agreeable conversations” can rightly be considered components of a person’s wealth and welfare. However he considered these components too ill-defined to include them in the economic domain, which required data and objective measurement. I.e., needs ‘matter’—a methodological position very close to the Austrian school of Menger at the end of 19th century. Something had to be sacrificed at the altar of the new science of objective and scientific measurements, and one victim was the social and immaterial components of wealth. A science seeking to encompass the first “scientific” reflections on economic relations chose to concentrate its analyses upon objective elements such as labour value or redistribution of income. Such a science, however, does not have the tools to study the “happiness of nations,” as the young Malthus claimed.

Bentham and the New Name of Happiness

Cambridge’s approach to happiness did not become mainstream in England, nor in neoclassical economics. The University College, where Bentham founded the Utilitarian tradition and Jevons studied economics, took the lead. In fact, it is impossible to reconstruct the evolution of the idea of happiness in economics without taking into account Utilitarianism, built around the golden rule, “The greatest happiness for the greatest number.”

In Bentham’s idea of happiness, we immediately see that in his system, happiness is equal to “pleasure.” This comes straight from the very first lines of his *An Introduction to the Principles of Morals and Legislation*: “Nature has placed mankind under the governance of two sovereign masters, pain and pleasure.”⁷⁴

The Benthamite vision of happiness can therefore rightly be called psychological hedonism, having an individualistic nature; people are depicted as seekers of happiness-pleasure. This psychological feature is essential to the Utilitarian programme in which social happiness is seen only as an aggregation, a sum of individual pleasures. John Stuart Mill, who on happiness diverges deeply from Bentham and from his father, James, in his Utilitarianism, explicitly states that in early Utilitarianism there was an identification between pleasure and happiness: “By happiness is intended pleasure.”⁷⁵

Bentham’s other key word is “utility” (from which the term Utilitarianism came). His “principle of utility” (inherited from Beccaria’s *Dei delitti e delle pene*) is stated, appropriately, on the first page of his introduction to be “foundation of the present work.”⁷⁶ In all Bentham’s works, the words happiness, pleasure, and utility are used interchangeably as different ways of expressing the same basic concept of Utilitarianism. In chapter I of *An Introduction to the Principles of Morals and Legislation*, he wrote that by

utility he meant “that property in any object, whereby it tends to produce benefit, advantage, pleasure, good or happiness.”⁷⁷

With Bentham, the distinction between end (happiness) and means (wealth) disappeared. Happiness-pleasure also became the direct end of economic actions. Bentham’s approach to happiness, therefore, is far from both the classical vision of happiness (from Aristotle to Genovesi) and the Cambridge tradition that kept the distinction between happiness (the final end) and wealth.

Bentham’s methodological project, as is well-known, nurtured economics, thanks mainly to the works of Jevons and Edgeworth. Most of the leaders of the new economics based their subjectivist approach to economics on a hedonistic philosophy. In Edgeworth’s early works up to his *Mathematical Physics*,⁷⁸ the Utilitarian and hedonist philosophy had a great impact. To him, happiness means pleasure, and maximizing happiness means maximizing pleasure.⁷⁹ Happiness entered neoclassical economics fully identified with utility, the new subject of the new economics. Jevons not only states the old Utilitarian thesis that happiness is related to utility, but also that economics is the “calculus of pleasures and pain.”⁸⁰ To Jevons, pleasures are different “only in degree, not in kind.”⁸¹ Economics deals with the “lowest” pleasures, and he does not exclude the fact that that men can renounce pleasures from the economic domain for the sake of ethical or superior pleasures, but as in Bentham, his ethical rule is to maximize the sum of pleasures, both individually and socially. In the *Theory* he states: “The theory which follows is entirely based on a calculus of pleasure and pain and the object of economics is to maximize happiness by purchasing pleasure as it were, at the lowest cost of pain.”⁸² For British marginalist economists, economics became the science of the direct analysis of happiness/pleasure. The domain of economics was no longer wealth, but happiness/pleasure directly. While the classical economists were

dealing with objective, external aspects (“material prerequisites”), Jevons or Edgeworth economics came back to a “subjective” approach; the domain of economics is inside man’s mind.

Contemporary rational choice theory (based on the preference-satisfaction approach) is, from a methodological point of view, a continuation of the Benthamite approach: “The analysis assumes that individuals maximize welfare as they conceive it.”⁸³ Contemporary rational choice theory is far from the classical/neoclassical economists and very close to Bentham or Jevons (more than they thought: Consider Hicks’ and Samuelson’s battle against hedonism in economics in the 1930s). Why? First, as for Jevons, the domain of economics is maximizing pleasure (preferences); second, the place of pleasure has been taken by preferences-satisfaction, but the core elements of the utilitarian approach are still there:

- (a) The domain of economics is no longer wealth or economic welfare (the material prerequisites), but to directly bring about happiness, which can be translated into concepts such as pleasure (old marginalists), ordinal utility or preferences (Hicks), or choices (Samuelson);
- (b) The tools utilized for studying the ‘means’ (maximization, quantitative calculus, instrumental rationality) are now used for specifically studying ‘happiness.’

After Bentham, happiness/pleasure became the object of economics; therefore, it is not true that happiness is not central in neoclassical economics. The reductionism of happiness/eudaimonia to utility/pleasure is the real breaking point in the history of happiness in economics: the distinction between material prerequisites and happiness. Cambridge’s and classical political economy’s cornerstone, has been lost.

Conclusion: Relational Goods

Cambridge's epistemology was potentially open to making space for the analysis of some aspects of happiness within economics; the mainstream, however, has followed a completely different path, and the present resurgence of the 'paradox of happiness' is an eloquent sign that during the 20th century, mainstream economics has lost the methodological categories for even understanding the 'happiness transformation problem.'

The reasons are many. The most obvious is the cultural atmosphere of the 1930s when modern microeconomics came to life. It was so much influenced by neo-positivism and behaviourism that it disregarded Marshall's social considerations, and at the same time welcomed Paretian positive economics.

The word richness is a distant derivative of *rex* in Latin (king), therefore it has to do with power and even with disposing of people through money and goods. To possess riches has always been, and is still, deeply connected with the possession of people; the border line where democracy turns into plutocracy (the rule of the rich) is always quite faint, fragile, and little-guarded by those sentinels who are not paid by the plutocrats.

But richness also means *wealth*, and this English word comes from *weal*, meaning well-being, prosperity, individual and collective happiness. Adam Smith chose to use the word wealth (and not riches) for his economic study *The Wealth of Nations* also to suggest that economic richness is something more than the mere sum of material goods or our GDP.

From the second half of the 19th century, the tradition of *pubblica felicità* became an underground river, and the old idea of well-being understood as wealth gradually disappeared. And so in the whole of the West, the semantic range of richness became much poorer—and so

did we. We have created a financial type of capitalism that generated much of the wrong 'richness' that did not improve our lives or that of the planet. Then, maybe, the tradition of *pubblica felicità* can still have something important to say.

One field, particularly relevant, where the tradition of public happiness/eudaimonia is alive again (almost always implicitly) is the recent debate on relational goods.

Thanks also to the emergence of both experimental and behavioral economics, words typical of the civil tradition have been brought back to economic theories and models. Reciprocity, trust, intentions, fairness, esteem, and similar concepts can nowadays be found even in the top economics journals, showing that something new really is going on.⁸⁴ More generally, psychological studies offer plenty of data on the importance of relationality on happiness and life satisfaction, and these, more and more, are influencing the economics and happiness debate. There has been increasing appreciation within psychology of the fundamental importance of supportive interpersonal relationships for well-being and happiness. Especially within the eudaimonic approach, many authors see a universal association between the quality of relationships and well-being: "Evidence supporting the link of relatedness to SWB is manifold. Studies suggest that, of all factors that influence happiness, relatedness is at or very near the top of the list ... Furthermore, loneliness is consistently negatively related to positive affect and life satisfaction."⁸⁵ Ryff *et al.*⁸⁶ also reviewed evidence that positive relations predicted physiological functioning and health outcomes: "Central among the core criterial goods comprising optimal living is having quality ties to others. Across time and settings, people everywhere have subscribed to the view that close, meaningful ties to others is an essential feature of what it means to be fully human."^{87, 88}

In economic theory, the new concept of relational goods is slowly but steadily emerging.⁸⁹

Uhlener defined them as goods that “can only be ‘possessed’ by mutual agreement that they exist after appropriate joint actions have been taken by a person and non-arbitrary others.”⁹⁰ Relational goods are goods (in the economic sense) that cannot be produced, consumed, or acquired by a single individual because they depend on interaction with others, and are enjoyed only if shared with others. According to Uhlener, “goods which arise in exchanges where anyone could anonymously supply one or both sides of the bargain are not relational.”⁹¹

In a study based on the data of *World Values Survey*,⁹² we found robust evidence about the nexus between happiness and relational goods. For example, membership of a voluntary organisation—used as a proxy for relational goods—is associated with a statistically significant increase in life satisfaction. It is interesting to observe that the effect of volunteering on life satisfaction is quantitatively the same as that of moving up by *one decile* in the income scale. These results suggest that the relational component of participation in voluntary organisations, represented by the actual interaction with other people, has an independent positive effect on life satisfaction. Furthermore, time spent with the family has the largest effect on life satisfaction, and time spent with friends and with people from sport activities have positive and significant coefficients.

To conclude we are convinced that, in contemporary market societies, the idea of a sharp separation between market relations (seen as the domain of instrumental dealings) and non-market ones (conceived as the realm of reciprocity and genuine sociality) is not very useful for imagining a good society. Markets today occupy most of the social areas formerly covered by family, church, or community. Quality of life, perhaps, could improve if we also begin to conceive of market relations as a form of friendship, or of reciprocity, and then if we design civil institutions that could make this possible.

The aim of this paper is to suggest: “Complicate happiness.” More to the point, one stream of the tradition of economic science said that the experience of self-reported happiness is important, but is not enough for a good life: An Aristotelian-inspired approach would say that it is important what we feel but even more, what we do with our freedom, rights, and capabilities that contribute to human flourishing even though they are associated with suffering and pain.

Finally, scholars of happiness—almost all economists—are in continuity with the Benthamite idea of happiness. “I use the terms happiness, subjective well-being, satisfaction, utility, well-being, and welfare interchangeably.”⁹³ For Frey and Stutzer, “Happiness research in Economics takes reported subjective well-being as a proxy measure for utility.”⁹⁴ Ruut Veenhoven “use[s] the terms ‘*happiness*’ or ‘*life satisfaction*’ for the comprehensive judgement.”⁹⁵ Subjective happiness is certainly important, but it alone is not sufficient to evaluate the goodness of life: the evaluation of well-being cannot be entrusted solely to self-evaluation.

Then, there is a tension and *conflict* between different dimensions of good human life: happiness (even Aristotle’s *eudaimonia*) is not everything. In modern times, there are other “ultimate ends”: freedom, dignity, the happiness of children. To be aware of this tension is a promising way for the future developments of happiness studies.

- 1 Ruskin (1862).
- 2 Bruni (1558).
- 3 Marshall (1945, pp. 3–4).
- 4 Bruni and Sugden (2013).
- 5 For a recent discussion on happiness paradox, its interpretations and limits, see Easterlin (2015).
- 6 The paper is an elaboration and development of Bruni (2016). See also Bruni and Zamagni (2016).
- 7 This session is based on Bruni (2006).
- 8 In Greek philosophy there are many words for expressing the concept of what we now call in English *happiness*. In particular, the happy man is called *Makar*, *Eudaimon*, *Olbios*, or *Eutyches*. Nevertheless, in Plato, Aristotle, and also for Epicurean and Stoic philosophers, *eudaimonia* was by far the most used term (in the Gospels, the most used term was instead *makar*).
- 9 Aristotle, *Nicomachean Ethics* (NE), I, 4, 1095a.
- 10 *Nicomachean Ethics* (NE), I, 7, 1097a.
- 11 NE, I, 8, 1099a.
- 12 Nussbaum (2005, p. 171).
- 13 NE, I, 5, 1095b.
- 14 Following the same line of thought, the “Aristotelian” Thomas Aquinas wrote that the *dilectatio* (pleasure) is the very *accidens* of the virtuous life. The relationship between happiness and pleasure is conceived by the Aristotelian theory in a substantially different way than by hedonism and Utilitarianism.
- 15 NE, I, 8, 1099a.
- 16 I, 4, 1095a.
- 17 I, 9, 1099b.
- 18 I, 9, 1099b.
- 19 NE, IX, 9, 1169b.
- 20 We can’t help but recall *Raffaello*’s masterpiece, “The School of Athens”, as a splendid icon of these two souls of Greek philosophy. Plato, with *Timaeus* under his arm, pointing to the sky, expresses the contemplation of beauty in itself, while Aristotle, embracing the *Nicomachean Ethics*, indicates the *polis*, the civil life.
- 21 Nussbaum (1986).
- 22 The entire Ciceronian theory of friendship, later appropriated by Medieval monastic ethics (see *The Spiritual Friendship* by Aelred of Rievaulx in the twelfth century), was based on the conviction that friendship cannot exist except among virtuous persons (*summa amicitia proprie non est nisi inter bonos*). Thomas Aquinas called the virtue-friendship *amor amicitiae*.
- 23 *Nicomachean Ethics* VIII, I, 1155a.
- 24 NE VIII, I, 1155a.
- 25 This concept is well expressed by Martha Nussbaum: “Mutual activity, feeling, and awareness are such a deep part of what love and friendship are that Aristotle is unwilling to say that there is anything worthy of the name of love or friendship left, when the shared activities and the forms of communication that express it are taken away. The other person enters in not just as an object who receives the good activities, but as an intrinsic part of the love itself. But if this is so, then the components of the good life are going to be minimally self-sufficient. And they will be vulnerable in an especially deep and dangerous way.” (1986, p. 344).
- 26 It is not by chance, as Nussbaum remarks, that Aristotle gives particular attention to the catastrophes which can happen because of the *philia*, when he writes about catastrophes. He tries to deal with the problem by defining *eudaimonia* as a self-sufficient reality that is, however, dependent on other people.
- 27 Bruni (2012).
- 28 Smith (1976b, IV, p. 1).
- 29 See also Bruni (2006, cap. 4); Bruni (2012, 2013).
- 30 D’Onofrio (2015).
- 31 D’Onofrio (2015).
- 32 As De Matteis (1999) notes, Genovesi quotes Walff in his Latin book on philosophy (in 1745).
- 33 *New Palgrave Dictionary of Economics* II: 514 (Durlauf and Blume, 2008).
- 34 Loria (1904, p. 85).
- 35 Doria (1710).
- 36 Verri (1963, p. 3).
- 37 Muratori (1749).
- 38 Genovesi (2013, p. 449).
- 39 Aristotle, *Nicomachean Ethics*.
- 40 Bruni (2006).

- 41 Sismondi (1819, p. 52).
- 42 At the same time, we must however recognize that British classical political economy did not choose public happiness as a direct object of its enquiries, focusing instead on the wealth of nations, its distribution, creation and growth.
- 43 Smith (1976a, p. 166).
- 44 Smith (1976a, p. 149).
- 45 Smith (1976a, p. 166).
- 46 Smith (1976a, p. 181).
- 47 Smith (1976a, p. 182).
- 48 Smith. (1976a, IV, 1, 10).
- 49 Smith. (1976a, 1, 10).
- 50 Smith. (1976a, 1, 8).
- 51 Smith. (1976a, 1, 9).
- 52 J.M. Keynes (1933, p. 95).
- 53 Malthus (1966).
- 54 In fact, the expression ‘Human happiness’ was not present in the first edition of the *Essay*.
- 55 Malthus (1966, pp. 303–4).
- 56 Malthus (1820).
- 57 Malthus (1820, pp. 31–2).
- 58 Bruni and Sugden (2007).
- 59 Marshall (1890, 27–ff.).
- 60 Marshall (1890, p. 33).
- 61 Marshall (1890, p. 1).
- 62 Pigou (1912).
- 63 Marshall (1890, p. 2).
- 64 Nevertheless, poverty, even if in itself does not necessarily mean unhappiness, determines those objective conditions that render it very difficult, if not impossible, to develop the dimensions of life and the interpersonal relationships on which happiness actually depends. Therefore, to Marshall the economists’ role in society is very important: to study the ways of increasing wealth or reducing poverty, far from being in contrast with general well-being or happiness, is a means for directly increasing the standard of life by fostering the interpersonal dimensions of life. In this direction goes the fact that Marshall (following the German writers) was the first to use, in the English language, the word ‘good’ for ‘commodity’ in his *Principles*.
- 65 Sen (1987).
- 66 Sen (1987, pp. 7–8).
- 67 Pigou (1920, p. 16).
- 68 Keynes (1930).
- 69 Marshall (1890, p. 688).
- 70 Marshall (1890).
- 71 Marshall (1890, p. 689).
- 72 Marshall (1890, p. 690).
- 73 A first application of this analysis is Marshall’s recommendation to reduce in general the hours of labour, which is likely to cause a little net material loss and much moral good; a case where a reduction of income can lead to a higher standard of life (happiness). At the end of the chapter Marshall explains why: “Even if we took account only of the injury done to the young by living in a home in which the father and the mother lead joyless lives, it would be in the interest of society to afford some relief to them also. Able workers and good citizen are not likely to come from homes, from which the mother is absent during a great part of the day; nor from homes to which the father seldom return till his children are asleep: and therefore society as a whole has a direct interest in the curtailment of extravagantly long hours of duty away from home.” (Marshall 1890, p. 721).
- 74 Bentham (1996, p. 11).
- 75 Mill (1963, p. 210).
- 76 Bentham (1996, p. 11).
- 77 Bentham (1996, p. 12).
- 78 Edgeworth (1881).
- 79 Edgeworth (1881, 7, 16). Jevons (1971) defined economics as the science of utility, explicitly stating his acceptance of the Utilitarian philosophy of Bentham.
- 80 Jevons (1970, ‘Introduction’).
- 81 Schabas (1990, p. 39).
- 82 Jevons (1970, p. 91).
- 83 Becker (1996, p. 139).
- 84 Bruni and Porta (2016).
- 85 Deci and Ryan (2001, p. 154).
- 86 Ryff *et al.* (2001).
- 87 Ryff and Singer (2000, p. 30).

88 In particular, Ryff and her colleagues show empirical and theoretical evidence on the strict nexus between interpersonal relationships–health–happiness: “Viewed from the standpoint of interpersonal flourishing and positive health, two key points emerge. First, studies of the beneficial and positive features of social relationships, be they secure attachments in childhood and adulthood, or loving and intimate relationships in adulthood, are rarely connected to health. Second, when health or biology has entered the picture, it is overwhelmingly on the side of negative social interaction and adverse health consequences, including an expansive array of physiological systems.” (Ryff and Singer, 2000, p. 34). Furthermore, reduction of genuine interpersonal relationships “predicted incident cardiovascular disease, decline in physical function, and decline in cognitive function.” (ibid: 38).

89 Gui and Sugden (2005).

90 Uhlaner (1989, p. 254).

91 Uhlaner (1989, p. 255).

92 Bruni and Stanca (2008).

93 Easterlin (2001, p.465).

94 Frey and Stutzer (2005, p. 116).

95 Veenhoven (2005, p. 245).

References

- Aristotle. (1980). *The nicomachean ethics*. Oxford: Oxford University Press.
- Bartolini, S., Bilancini, E., & Sarracino, F., (2013). Predicting the trend of well-being in Germany: How much do comparisons, adaption and sociability matter? *Social Indicators Research*, 114, pp. 169–191.
- Becchetti, L., Massari, R., & Naticchioni, P. (2014). The drivers of happiness inequality: suggestions for promoting social cohesion. *Oxford Economic Papers* 66, pp. 419–442.
- Becker, G. (1996) *Accounting for tastes*. Cambridge, MA: Harvard University Press.
- Bentham, J. (1996). *An introduction to the principles of morals and legislation*. In Burns, J. H., & Hart, H. L. A. (Eds.) Oxford: Clarendon Press. (Original work published 1789).
- Bianchini, L. (1845). *Della scienza del ben vivere sociale e della economia degli stati*. Palermo: Stamperia di Francesco Lao.
- Bruni, L. (1558). Aristotelis Stagiritae Politicorum siue de republica libri octo Leonardo Aretino interprete cum D. Thomae Aquinatis explanatione. Venice: Venetiis Venetiis impressum, Lucantonio eredi.
- Bruni, L. (2004). The ‘technology of happiness’ and the tradition of economic science. *Journal of the History of Economic Thought*, 26, 19–43.
- Bruni, L. (2006). *Civil happiness*. London: Routledge.
- Bruni, L. (2010). The happiness of sociality. Economics and eudaimonia: a necessary encounter. *Rationality and Society*, 22(4), 383–406.
- Bruni, L. (2012). *The genesis and ethos of the market*. MacMillan-Palgrave, London.
- Bruni, L. (2015). Economics, wealth and happiness in historical perspective. *RISS*, 1, 41–56.
- Bruni, L. (2016). *Public happiness in historical perspectives*. Mimeo, Lumsa. Rome.
- Bruni, L., & Porta, P. L. (2005). *Economics and Happiness Framing the Analysis*. Oxford University Press, 366.
- Bruni, L., & Porta, P. (2016). *Handbook of methods and researches in happiness and quality of life*. Edward Elgar Publishing Ltd.
- Bruni, L., & Sugden, R. (2007). The road not taken. How psychology was removed from economics, and how it might be brought back. *The Economic Journal*, 117, pp. 146–173.
- Bruni, L., & Sugden, R. (2013). Reclaiming virtue ethics for economics. *Journal of Economic Perspectives*, 27 (4), 141–64
- Bruni, L., & Stanca, L.M. (2008). Watching alone: Relational goods, television and happiness, *Journal of Economic Behavior and Organization*.
- Bruni, L., & Zamagni, S. (2016). *Civil Economy*. London: AgendaPub.
- Carlyle, T. (1898). *Latter-day pamphlets*. (Original work published 1850). London: Chapman and Hall.
- Deci, R.M. & Ryan, E.L. (2001). On happiness and human potentials: a review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology*, 52, 141–166.
- D’Onofrio, F. (2015). On the concept of ‘felicitas publica’ in eighteenth-century political economy. *Journal of the History of Economic Thought*, 27, 449–471.
- Doria, P. M. (1710). *Della vita civile*. Augusta: Daniello Höpper.
- Durlauf, S.N. & Blume, L. E. (Eds.) (2008) *New Palgrave Dictionary of Economics*, 2nd edition. Palgrave Macmillan.
- Easterlin, R. (2015). Happiness and economic growth – the evidence. In Glatzer, W., Camfield, L., Möller, V., & Rojas, M. (Eds.) *Global handbook of quality of life. exploration of well-being of nations and continents*. London: Springer.
- Edgeworth, F.Y. (1881). *Mathematical psychics*. London: Kegan.
- Edgeworth, F.Y. (1970). *Papers related to political economy*. New York: Burt Franklin. (Original work published 1927).
- Fontaine, P. (1997). Identification and economic behaviour. Sympathy and empathy in historical perspective. *Economics and Philosophy*, 13, 264–8.
- Frank, R. (1999). *Luxury fever*. New York: The Free Press.
- Frey, B., & Stutzer, A. (2002). *Happiness in economics*. Princeton: Princeton University
- Genovesi, A. (2013). *Lezioni di commercio o sia di economia civile*. Daldegan, F. (Ed.) Milan: Vita e Pensiero (Original work published 1765).
- Gui, B. & Sugden, R. (2005). *Economics and social interaction*, Cambridge: Cambridge University Press.
- Henderson, W. (2000). *John Ruskin’s political economy*. London: Routledge.
- Hobbes, T. (1954). *Leviathan*. London: Dent & Son. (Original work published 1651).
- Jevons, W.S. (1970). *The theory of political economy*. New York: Penguin Books. (Original work published 1871)
- Keynes, J.M. (1930). *Essays in persuasion*. London: Macmillan.
- Keynes, M. (1933). *Essays in biography*. London: Macmillan.

Layard, R. (2005) Rethinking public economics: the implications of rivalry and habit. In L. Bruni & P.L. Porta (Eds.), *Economics and happiness: Framing the analysis*. New York: Oxford University Press.

Loria, A. (1904). *Verso la giustizia sociale*. Milano: Società Editrice Libreria. (Original work published 1893).

Malthus, T. R. (1966). *An essay on the principle of population*. London: Macmillan. (Original work published 1798).

Malthus, T. (1986). *Principles of political economy*. Wrigley, E.A., & Souden, D. (Eds.). London: Pickering. (Original work published 1820).

Marshall, A. (1945). *Principles of economics*. London: Macmillan. (Original work published 1890)

Marshall, A. (1927). *Industry and trade*. London: Macmillan. (Original work published 1919)

Mill, J. S. (1963). *Utilitarianism in the collected works of John Stuart Mill*, vol. X. Robson, J. M., & Stillinger, J. (Eds.). Toronto: University of Toronto Press and London, Routledge & Kegan Paul. (Original work published 1861).

Moore, G. E. (1903). *Principia ethica*. London: Macmillan.

Muratori, L. A. (1749). *Della pubblica felicità*. Lucca [i.e. Venezia].

Ng, Y. K. (1997). A case for happiness, cardinalism, and interpersonal comparability. *Economic Journal*, 107, pp. 1848–58.

Nussbaum, M. (1986). *The fragility of goodness: luck and ethics in Greek tragedy and philosophy*. Cambridge: Cambridge University Press.

Oslington, P. (2002). John Henry Newman, Nassau Senior, and the separation of political economy from theology in the nineteenth century. *History of Political Economy*, 33, pp. 825–42.

Oswald, A. J. (1997). Happiness and economic performance. *Economic Journal*, 107, 1815–31.

Palmieri, G. (1788). *Riflessioni sulla pubblica felicità relativamente al Regno di Napoli*. Milano:

Pirotta e Maspero.

Pigou, A. C. (1920). *Economics of welfare*. London: Macmillan.

Ruskin, J. (1862). *Unto this last*. London: Smith, Elder and Co.

Ryff, C.D. & Singer, B. (2000) “Interpersonal flourishing: a positive health agenda for the new millennium”. *Personality and Social Psychology Review*, 4, 30–44.

Ryff, C.D., Singer, B.H., Wing, E. & Love, G.D. (2001).

Elective affinities and uninvited agonies: mapping emotion with significant others onto health. In Ryff, C.D. and Singer, B.H. (eds) *Emotion, Social Relationships, and Health: Third Annual Wisconsin Symposium on Emotion*, New York: Oxford University Press.

Schabas, M. (1990) *A world ruled by numbers: William Stabkey Jevons and the rise of mathematical economics*, Princeton: Princeton University Press.

Sen, A. (1991). *The standard of living*. Cambridge: Cambridge University Press.

Sen, A. (2000). *Development as freedom*. New York: A. Knopf.

Sidgwick, H. (1901). *The methods of ethics*. London: Macmillan. (Original work published 1874).

Sismondi, J., Sismondi, J. C. L. (1971). *Nouveaux principes d'économie politique*. Paris: Calmann-Lévy. (Original work published 1819)

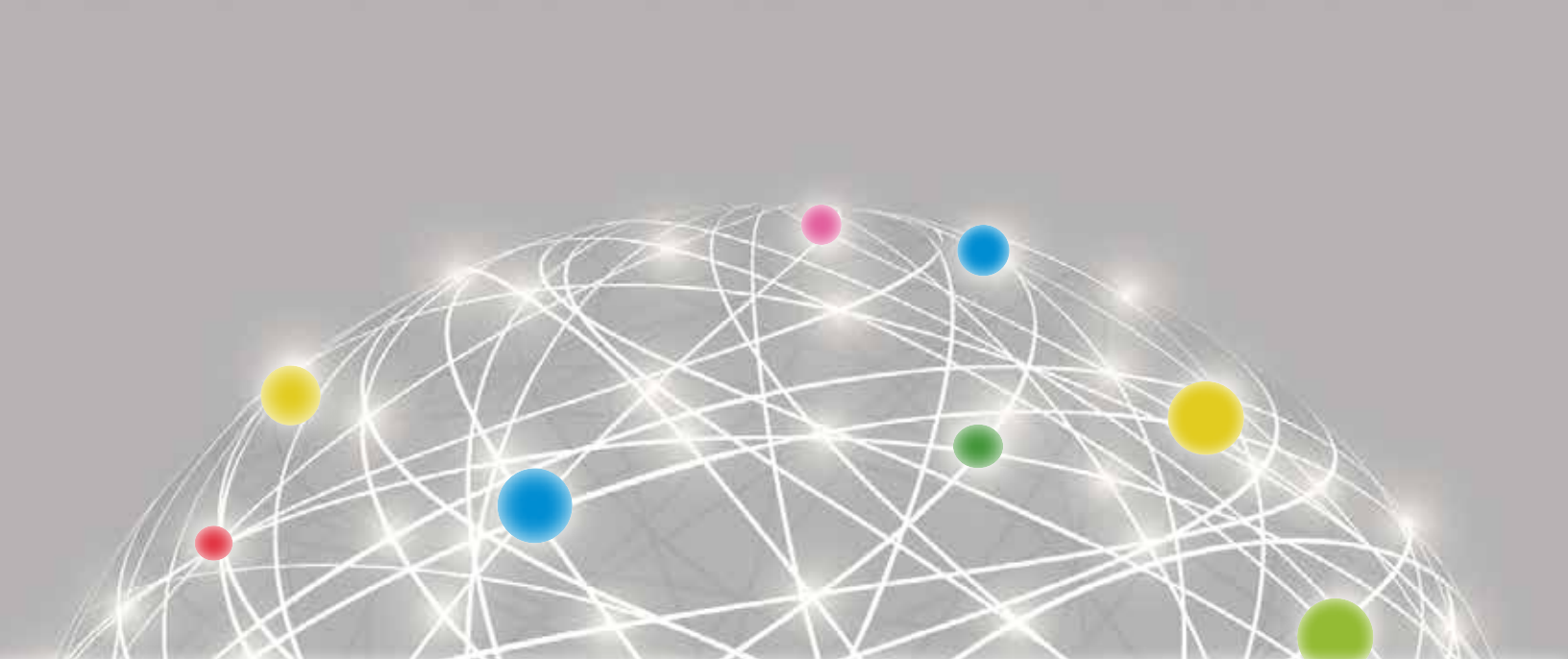
Smith, A. (1976a). *The theory of moral sentiments*. Macfie, A. L. & Raphael, D. D. (Eds). Oxford: Oxford University Press. (Original work published 1759).

Smith, A. (1976b). *An inquiry into the nature and causes of the wealth of nations*. Campbell, R. H., Skinner, A. S., & Todd, W. B. (Eds). Oxford: Oxford University Press. (Original work published 1776).

Uhlaner, C.J. (1989). “Relational goods and participation: incorporating sociality into a theory of rational action”. *Public Choice*, 62, 253–285.

Veenhoven, R. (2005) Happiness in hardship. In L. Bruni & P.L. Porta. (Eds.) *Economics and happiness: Framing the analysis*. New York: Oxford University Press.

Verri, P. (1963). *Il discorso sulla felicità*. Milan: Feltrinelli. (Original work published 1763)



Chapter 4

THE GEOGRAPHY OF PARENTHOOD AND WELL-BEING: DO CHILDREN MAKE US HAPPY, WHERE AND WHY?

LUCA STANCA



Executive Summary

This paper investigates the relationship between parenthood and subjective well-being, focusing on cross-country spatial heterogeneity. Using a large sample of individuals from more than 100 countries, we find that life satisfaction is higher, *ceteris paribus*, among those without children. The negative parenthood premium is stronger for females and it turns positive for older age groups and for widowers. Across countries, the sensitivity of well-being to parenthood is significantly related to macroeconomic conditions: The negative relationship between parenthood and life satisfaction is stronger in countries with higher GDP per capita or a higher unemployment rate.

Introduction

Children are arguably one of the most important parts of life. Yet despite the importance of fertility decisions for households and individuals, the literature has only recently started to investigate the effects of parenthood on well-being.¹ Quite surprisingly, a number of studies indicate that, controlling for economic and socio-demographic characteristics, parenthood is negatively related to subjective well-being.

In a recent paper using individual-level data for 94 countries, Stanca finds that parenthood is negatively related to life satisfaction.² To shed light on this puzzling finding, the present paper investigates the cross-country distribution of the effects of parenthood on subjective well-being, using a larger sample of individuals and countries from the World Values Survey (WVS). We focus on how parenthood's effects on subjective well-being at the individual level vary across countries throughout the world. This allows us to investigate the link between country-level socio-economic characteristics and the relationship between parenthood and subjective well-being.

The findings indicate a worldwide negative relationship between parenthood and life satisfaction. This relationship is stronger for females, turning positive only for older age groups and for those who have been widowed. At the country level, a negative relationship between parenthood and life satisfaction is found in 66 percent of the countries under investigation. We do not find evidence of spatial dependence in the cross-country distribution of the effects of parenthood on subjective well-being. The negative effect of parenthood on life satisfaction is significantly stronger in countries with a higher GDP per capita or a higher unemployment rate.

The paper is structured as follows: Section 2 discusses the related literature. Sections 3 and 4 describe the data and methods. Section 5 presents the results. Section 6 presents conclusions.

Related Literature

Until recently, the literature on the determinants of happiness has largely neglected the role of parenthood.³ Early studies of the relationship between parenthood and well-being include McLanahan and Adams, Umberson, and Umberson and Gove.⁴ More recent studies generally obtain mixed findings, which are sensitive to the type of data used, the definition and measurement of the key variables, and the methods of investigation.

Clark and Oswald⁵ find that parenthood is not associated with well-being in longitudinal analyses, once individual fixed effects are controlled for. Nomaguchi and Milkie⁶ study the effects of parenthood on social integration, self-esteem, self-efficacy, hours of housework, marital conflict, and depression, finding that having children can have positive or negative effects depending on parents' social position. Tao⁷ uses data from the Taiwan Panel Study of Family Dynamics to study whether an optimal number of children exists, and find that the

number of children is not significantly related to marital happiness. Kohler et al.⁸ analyze the impact of parenthood on well-being using a data set of monozygotic twins, thus controlling for unobserved characteristics related to genetic dispositions. Their findings indicate that the first child has a large and positive effect on happiness, whereas additional children do not affect happiness. Frey and Stutzer⁹ and Haller and Hadler¹⁰ find a positive relationship between parenthood and well-being.

Hansen et al.¹¹ explore the effects of parental status on a range of psychological well-being outcomes, using individual-level data for Norway. Their results indicate that childless women report significantly lower life satisfaction and self-esteem, whereas motherhood is not related to affective well-being. Among men, parental status is unrelated to any well-being indicator. Angeles¹² investigates the effects of having children at home on individual happiness, using a large panel of British households from 1991 to 2005. On average, the study finds the number of children negatively related to individual happiness, but controlling for individuals' characteristics, the effect is found to be positive. Aassve et al.¹³ use data from the European Social Survey to study the relationship between parenthood and happiness across European countries. They find a positive and significant association between parenthood and subjective well-being.

More recently, Baetschmann et al.¹⁴ investigate the relationship between parenthood and life satisfaction, focusing on the issue of self-selection into motherhood. By exploiting the extended longitudinal dimension of the German Socio-Economic Panel, the study finds that motherhood is associated with substantial positive gains in subjective well-being. In a study closely related to the present one, Stanca¹⁵ investigates the effects of parenthood on individual well-being, using World Values Survey data for 94 countries. The results indicate that having children is negatively related to subjective well-being. Controlling for individual character-

istics can only partially explain this finding. The paper shows that the overall negative effect of parenthood on well-being can be explained by a large adverse impact on financial satisfaction, which more than offsets the positive impact on non-financial satisfaction. Nelson et al.¹⁶ provides evidence from three studies that aim to test parenthood's effects on different dimensions of well-being. Their results indicate that parenthood is associated with higher levels of happiness, positive emotion, and meaning in life. Yet when Bhargava et al.¹⁷ re-examine that analysis, they reach the opposite conclusion (see also the counter-argument from Nelson et al.).¹⁸ Hank and Wagner¹⁹ use pooled cross-sectional data from the first two waves of the Survey of Health, Ageing, and Retirement in Europe to assess the effects of parenthood on various dimensions of well-being in old-age. The results indicate that childless individuals do not report lower economic, psychological, or social well-being than parents. Pollmann-Schult²⁰ uses data from the German Socio-Economic Panel to investigate the role of the cost of raising children on the relationship between parenthood and life satisfaction. He finds that parenthood has substantial positive effects on life satisfaction, which are offset by the financial and time costs of parenthood.

Herbst and Ifcher²¹ examine the relationship between parenthood and happiness among US individuals, using data from the General Social Survey and the DDB Lifestyle Survey. Their findings indicate that parents become happier over time relative to non-parents, while non-parents' happiness declines absolutely, and estimates of the parental happiness gap are sensitive to the time-period analyzed. Beja²² uses individual-level data from the 4th and 5th waves of the World Values Survey to disentangle the direct and indirect effects of parenthood on happiness. The findings indicate that parenthood's overall impact on happiness is generally negative because the negative indirect impact more than offsets the positive direct effect on happiness.

Table 1. Descriptive statistics, individual-level

Variable	Mean	Std. Dev.	Min.	Max.	N
Life satisfaction	66.98	24.17	10	100	421782
Happiness	30.48	7.41	10	40	416422
Parent dummy	0.72	0.45	0	1	406842
No children	0.28	0.45	0	1	406842
1 child	0.16	0.37	0	1	406842
2 children	0.27	0.44	0	1	406842
3 children	0.14	0.35	0	1	406842
4 children	0.07	0.25	0	1	406842
5 children or more	0.08	0.27	0	1	406842
Income	4.72	2.38	1	10	379297
Unemployed	0.08	0.28	0	1	416237
Employment: full-time	0.37	0.48	0	1	416237
Employment: part-time	0.08	0.27	0	1	416237
Employment: self-employed	0.10	0.3	0	1	416237
Employment: other	0.02	0.13	0	1	416237
Retired	0.13	0.34	0	1	416237
At home	0.15	0.35	0	1	416237
Student	0.07	0.26	0	1	416237
Education, lower	0.31	0.46	0	1	323386
Education, middle	0.45	0.5	0	1	323386
Education, upper	0.24	0.43	0	1	323386
Married	0.58	0.49	0	1	422675
As married	0.05	0.23	0	1	422675
Divorced	0.04	0.19	0	1	422675
Separated	0.02	0.13	0	1	422675
Widowed	0.07	0.25	0	1	422675
Single	0.24	0.43	0	1	422675
Number of children	1.89	1.78	0	20	406842
Age	41.42	16.47	13	101	423539
Male	0.48	0.5	0	1	423263
Survey wave 1	0.08	0.27	0	1	428055
Survey wave 2	0.15	0.35	0	1	428055
Survey wave 3	0.17	0.38	0	1	428055
Survey wave 4	0.23	0.42	0	1	428055
Survey wave 5	0.20	0.4	0	1	428055
Survey wave 6	0.17	0.38	0	1	428055

Source: World Values Survey (2014).

Data

The source for our micro-level data is the World Values Survey (2014), a compilation of surveys conducted in more than 100 countries, representing about 90 percent of the world population.²³ The WVS provides information on individual beliefs about politics, the economy, religious, social and ethical topics, personal finances, familial and social relationships, happiness and life satisfaction. Within each country, samples are selected randomly from administrative regional units after stratification by region and degree of urbanization. Six WVS waves are currently available (1981–1984, 1989–1993, 1994–1998, 1999–2004, 2005–2009, 2010–2014) for a total of more than 400,000 individual observations.

Summary statistics for all the variables in the micro-level data set are reported in Table 1. Life satisfaction is measured on a 1–10 scale, based on the question, “All things considered, how satisfied are you with your life as a whole these days?”²⁴ Happiness is a four-item ordinal variable, based on the question, “Taking all things together, would you say you are: very happy, quite happy, not very happy, or not at all happy?” Income is measured by self-reported deciles in the national distribution of income, so that income levels are expressed in relative terms and are comparable across countries and individuals. Unemployment is one item from a full set of employment dummies that includes the following categories: employed, unemployed, retired, student, at home, part-time, full-time, and other employment. Educational levels are measured by dummy variables for low education (inadequately completed or completed elementary education, incomplete secondary school); medium education (completed technical/vocational secondary school, incomplete or completed university/preparatory secondary school); and high education (some university with or without degree/higher education).

The data source for the country-level data is the World Development Indicators database.²⁵ GDP per capita is measured at constant 2000 US dollars. Government expenditure is general government final consumption expenditure as a percentage of GDP. Health expenditure is total health expenditure as a percentage of GDP. The fertility rate is the average number of children born to a woman during her lifetime. Summary statistics for all the variables used in the macro-level analysis are reported in Table 2.

Table 2. Descriptive statistics, country-wave level

Variable	Mean	Std. Dev.	Min.	Max.	N
Log GDP per capita	8.38	1.42	5.25	10.8	270
Unemployment rate	9.34	6.34	0.58	36.4	266
Government spending / GDP	16.66	5.02	4.53	28.72	264
Health expenditure / GDP	6.96	2.36	0.01	17.89	258
Fertility rate	2.21	1.11	1.04	6.71	271

Source: World Development Indicators, World Bank (2014).

Methods

As in Stanca²⁶, we model the well-being (*WB*) of individual *i* in country *j* as being linearly related to parenthood status (*CH*), economic conditions (*ECO*), and socio-demographic factors (*SD*):

$$WB_{ij} = \alpha_0 + \beta_1 CH_{ij} + \beta_2 ECO_{ij} + \beta_3 SD_{ij} + \alpha_j + \varepsilon_{ij} \quad (1)$$

where ε_{ij} is an individual-specific error term and α_j is a country fixed effect that captures the characteristics of the external context.

Well-being is measured with either life satisfaction or happiness. Parenthood is measured with either a dummy variable for having children or a set of dummy variables for individual number-of-children categories (between 0 and 5 or

more), in order to allow for possible non-linear relations. Economic conditions are measured by self-reported household income, converted into the corresponding decile in the national income distribution, and employment status. Socio-demographic characteristics include age, gender, marital status, and education level. We control for age by using six 10-year age groups (from 15–24 to 65 and above), to allow for possible non-linear relationships.

The characteristics of the external context are controlled for with a set of country dummy variables (α_j). The set of regressors also includes wave-specific dummy variables to account for heterogeneity across the six WVS survey waves. Equation (1) is estimated by Ordinary Least Squares (OLS) for life satisfaction and by ordered probit for happiness, to take into account the ordinal nature of the latter dependent variable. We consider estimates obtained for the whole sample with and without controlling for individuals' socio-demographic characteristics (age, gender, income, employment status, marital status, education). Test statistics are based on standard errors robust to heteroskedasticity.

Regarding identification issues, we consider reverse causality to be unlikely, given that parenthood decisions were generally made several years before subjective well-being levels were reported. Unobserved heterogeneity is instead more likely to be present, as unobservable individual characteristics may determine both self-reported well-being and decisions about parenthood. In the absence of longitudinal data, or appropriate instrumental variables for parenthood decisions, the causal interpretation of our estimates must be taken with care.²⁷

We then investigate the relationship between parenthood and subjective well-being for each country in the sample. This allows us to investigate across countries the link between aggregate socio-economic conditions and the effect of

parenthood on subjective well-being. We therefore use the estimated sensitivities of life satisfaction to parenthood as the dependent variable in cross-country regressions, where macroeconomic and socio-demographic conditions are used as the main explanatory variables.²⁸ We consider both country-specific estimates for the overall sample and country-wave specific estimates, which provide us with an unbalanced panel data set ($N=106$ countries, $T=6$ survey waves). This allows us to use a fixed-effect estimator, to take into account potentially unobserved heterogeneity in the estimation of the macro-level specification.

Results

We start by presenting results for the overall sample, pooling all countries in the sample as a benchmark. We also consider estimates obtained for the overall sample, controlling for individual socio-demographic characteristics, thus focusing on sub-samples by age, gender, education, and marital status. We then present country-specific estimates of the effect of parenthood on life satisfaction. Finally, we examine the country-level determinants of the relationship between parenthood and life satisfaction.

Do Children Make Us Happy?

Table 3 presents OLS estimation results for equation (1), using life satisfaction as a dependent variable, based on the whole sample. To check the robustness of the results, we consider two specifications: one that does not include individual characteristics (columns 1–2), and a second (columns 3–4) that includes a full set of socio-demographic characteristics, as described above (gender, age, marital status, education level, income decile, employment status). The sample size for estimation in the two cases is about 400,000 and 340,000 observations, respectively. For each of these two specifications,

we report estimates obtained by using either a single dummy variable for parenthood (columns 1 and 3) or a set of individual number-of-children dummy variables (columns 2 and 4). We only report coefficient estimates for parenthood variables, as this is the focus of the analysis.

Table 3. Parenthood and life satisfaction, overall

	(1)	(2)	(3)	(4)
Parenthood dummy	-0.62**		-0.57**	
	(0.08)		(0.13)	
1 child		-0.50**		-0.71**
		(0.11)		(0.15)
2 children		-0.26**		-0.62**
		(0.10)		(0.15)
3 children		-0.53**		-0.44**
		(0.11)		(0.16)
4 children		-0.90**		-0.18
		(0.15)		(0.20)
5 children and more		-1.79**		-0.28
		(0.15)		(0.20)
Individual-level controls	No	No	Yes	Yes
R ²	0.16	0.16	0.21	0.21
Observations	400894	400894	342732	342732

(Dependent variable: Life satisfaction. OLS estimates, heteroskedasticity-robust standard errors reported in brackets. * indicates $p < 0.05$, ** indicates $p < 0.01$.)

Consistent with the existing literature, the findings indicate that having children is negatively and significantly related to life satisfaction. Controlling only for country and survey wave fixed effects, the estimated parenthood life satisfaction premium is -0.62, statistically significant at the one percent level (column 1). That is, on a scale between 1 and 100, life satisfaction is 0.62 lower for those who have children than for those who do not. This negative premium is virtually unchanged (-0.57), and remains strongly significant, when controlling for individual socio-demographic characteristics

(column 3). The results are even more clear-cut when we use dummy variables to capture the effects of individual number-of-children categories. When compared with the no-children reference group, the life satisfaction of individuals with a positive number of children is in all cases (1 child to 5 children or more) negative and strongly significant (column 2). Controlling for individual socio-demographic characteristics (column 4), the size of the effect is inversely related to the number of children. The negative effect is large and significant up to 3 children, whereas it is negative but smaller and not significant above this threshold.

Table 4 reports the same set of results for equation (1) in the overall sample, using happiness as a dependent variable and an ordered probit estimator. The relationship between parenthood and happiness is found to be negative (columns 1 and 3), but the estimated coefficients (log-odds ratios) are not statistically significant. When using dummy variables for individual number-of-children categories, without controlling for individual characteristics (column 2), we find a positive coefficient for the one-child or two-children groups, while the effect is negative and significant for the 4-children and the 5-and-above groups. However, controlling for individual characteristics (column 4), happiness is not significantly related to any individual number-of-children category.

Table 4. Parenthood and happiness, overall

	(1)	(2)	(3)	(4)
Parenthood dummy	-0.01		-0.00	
	(0.00)		(0.01)	
1 child		0.02**		-0.01
		(0.01)		(0.01)
2 children		0.02**		-0.00
		(0.00)		(0.01)
3 children		0.00		0.01
		(0.01)		(0.01)
4 children		-0.06**		-0.01

	(1)	(2)	(3)	(4)
		(0.01)		(0.01)
5 children and more		-0.10**		0.01
		(0.01)		(0.01)
Individual-level controls	No	No	Yes	Yes
Pseudo-R ²	0.06	0.06	0.08	0.08
Number of observations	398607	398607	341842	341842

(Dependent variable: happiness. Ordered Probit estimates, heteroskedasticity-robust standard errors reported in brackets. * indicates $p < 0.05$, ** indicates $p < 0.01$.)

Let us turn to the role played by personal characteristics such as gender, age, marital status, and education level as moderators of the effects of parenthood on well-being. Figure 1 compares the parenthood life-satisfaction premium by gender. Interestingly, the negative relationship between parenthood and life satisfaction is stronger for females than for males (-0.79 and -0.48, respectively), and the difference is strongly statistically significant ($p < 0.01$).

Figure 1. Parenthood and life satisfaction, by gender

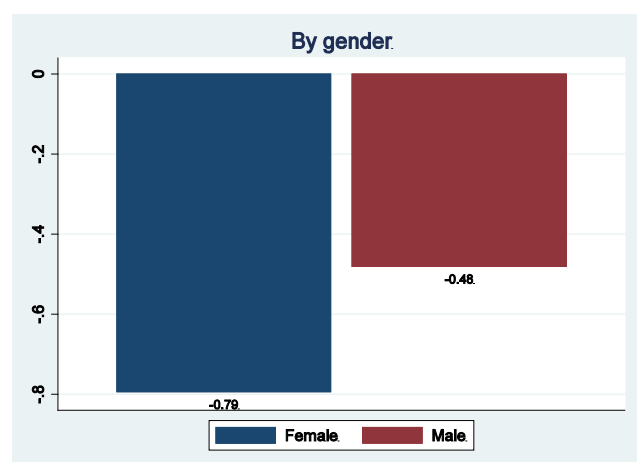


Figure 2 compares the life-satisfaction parenthood premium for different age groups. The results clearly indicate that the effect of having children on life satisfaction is positively related to age. We find a strong and significant negative relationship for younger parents (-2.42 and -1.15, respectively, for the 15–24 and 25–34 age groups), while we find a significant positive relationship (1.59) for parents in the over-65 group. The parenthood coefficient is negative for the 35–44 and 45–54 groups and positive for the 55–64 group, but not statistically significant in any of these cases.

Figure 2. Parenthood and life satisfaction, by age group

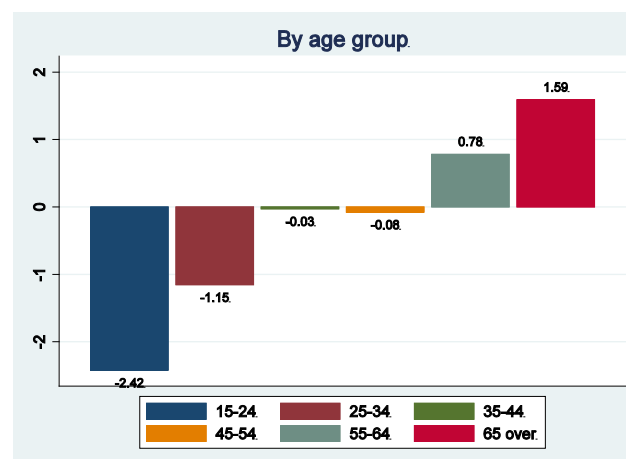
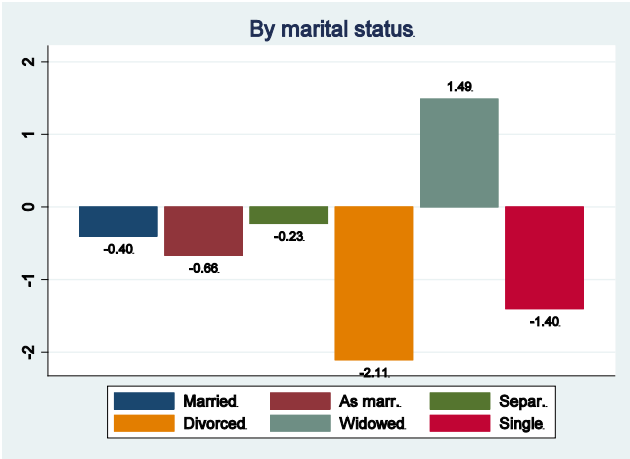


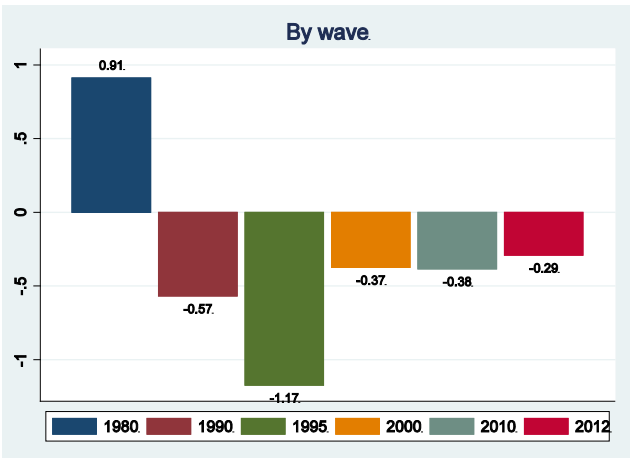
Figure 3 compares the life-satisfaction parenthood premium by marital status. Interestingly, the estimated coefficient for parenthood is positive and significant only for those who have been widowed (1.49). It is negative and significant for those who are married (-0.4), separated (-2.11) or single (-1.40), while negative but not significant for those living as married (-0.66) or divorced (-0.23).

Figure 3. Parenthood and life satisfaction, by marital status



Finally, Figure 4 indicates that our finding of a negative relationship between parenthood and life satisfaction is qualitatively robust when estimating equation (1) separately by survey wave, to account for possible changes over time. The parenthood coefficient is positive (but not significant) only in the first wave (1980); it is negative in each of the other survey waves.

Figure 4. Parenthood and life satisfaction, by survey wave



Overall, these results confirm, and extend to a worldwide sample, the finding that *ceteris paribus*, life satisfaction is higher on average among those without children. No clear-cut relationship is found between parenthood and

happiness. The negative life-satisfaction premium for parenthood in the overall sample is larger for females, and turns positive only for older age groups and for widowers.

Where?

Table 5 reports results for equation (1) by country. The estimated coefficients for the life-satisfaction premium of parenthood range from a minimum of -6.82 to a maximum of 5.12. Out of the 105 countries in the estimation sample, 36 display positive coefficients, which are statistically significant only in 9 cases. The five countries displaying the largest life-satisfaction premia to parenthood are Montenegro (5.12), China (4.85), Kyrgyzstan (4.64), Taiwan (3.70), and Vietnam (3.13). At the other extreme, the five countries displaying the largest negative parenthood premia are Macedonia (-6.82), Tunisia (-4.71), Libya (-3.87), Jordan (-3.71), and Zimbabwe (-3.51).

Table 5. Parenthood and Life Satisfaction, by country

Rank	Country	Coeff.	t-stat
1	Montenegro	5.12	3.48
2	China	4.85	3.95
3	Kyrgyzstan	4.64	3.39
4	Taiwan	3.70	2.46
5	Viet Nam	3.13	2.13
6	Guatemala	2.86	1.63
7	Kazakstan	2.53	1.76
8	Kuwait	2.09	1.20
9	New Zealand	2.03	1.83
10	Morocco	1.92	1.38
11	Saudi Arabia	1.88	1.03
12	Estonia	1.64	1.68
13	Latvia	1.62	1.36
14	Venezuela	1.60	1.12
15	Bangladesh	1.59	1.09
16	Slovenia	1.58	1.30
17	Cyprus	1.52	1.10

Rank	Country	Coeff.	t-stat
18	Portugal	1.45	0.91
19	Singapore	1.41	1.27
20	Belgium	1.28	1.20
21	Sweden	0.98	1.12
22	Hong Kong	0.98	0.70
23	Pakistan	0.96	0.82
24	Russian Fed.	0.82	0.90
25	Ireland	0.76	0.58
26	Hungary	0.71	0.56
27	Indonesia	0.68	0.48
28	El Salvador	0.64	0.37
29	Ukraine	0.51	0.47
30	Australia	0.31	0.35
31	Mali	0.25	0.14
32	Palestine	0.22	0.10
33	Norway	0.17	0.17
34	Netherlands	0.15	0.19
35	Belarus	0.08	0.07
36	Rwanda	0.06	0.05
37	Czech Republic	-0.02	-0.01
38	India	-0.03	-0.03
39	Serbia	-0.05	-0.04
40	Yemen	-0.05	-0.03
41	Greece	-0.09	-0.05
42	Bulgaria	-0.11	-0.08
43	United States	-0.17	-0.23
44	Dominican Rep.	-0.17	-0.08
45	Denmark	-0.18	-0.16
46	Austria	-0.22	-0.18
47	Moldova	-0.24	-0.19
48	United Kingdom	-0.27	-0.31
49	Spain	-0.30	-0.34
50	France	-0.33	-0.29
51	Colombia	-0.36	-0.38
52	Armenia	-0.36	-0.25
53	Canada	-0.41	-0.48
54	Nigeria	-0.42	-0.38
55	Switzerland	-0.47	-0.47
56	Algeria	-0.48	-0.32

Rank	Country	Coeff.	t-stat
57	Andorra	-0.49	-0.39
58	Finland	-0.51	-0.54
59	Ecuador	-0.63	-0.49
60	Iraq	-0.68	-0.58
61	Iran	-0.77	-0.67
62	Zambia	-0.77	-0.54
63	Azerbaijan	-0.93	-0.66
64	Ghana	-0.95	-0.77
65	Iceland	-0.95	-0.83
66	Uganda	-0.96	-0.56
67	Italy	-0.96	-0.86
68	South Korea	-1.00	-0.72
69	Mexico	-1.21	-1.25
70	Argentina	-1.21	-1.01
71	Germany	-1.22	-1.68
72	Bosnia-Her.	-1.29	-1.08
73	Egypt	-1.29	-1.17
74	Uzbekistan	-1.33	-0.83
75	Thailand	-1.37	-0.90
76	Uruguay	-1.44	-1.30
77	Croatia	-1.44	-0.95
78	Turkey	-1.47	-1.43
79	Ethiopia	-1.52	-1.16
80	Peru	-1.69	-1.46
81	Lebanon	-1.73	-1.02
82	Japan	-1.83	-1.87
83	Slovakia	-1.91	-1.49
84	Puerto Rico	-1.94	-1.41
85	Brazil	-1.95	-1.65
86	Lithuania	-2.00	-1.38
87	Luxembourg	-2.04	-1.32
88	Malaysia	-2.14	-1.60
89	South Africa	-2.14	-2.44
90	Philippines	-2.22	-1.57
91	Romania	-2.25	-2.23
92	Trinidad-Tobago	-2.31	-1.98
93	Malta	-2.39	-1.57
94	Georgia	-2.42	-1.44
95	Tanzania	-2.53	-1.42

Rank	Country	Coeff.	t-stat
96	Burkina Faso	-2.56	-1.65
97	Chile	-2.65	-2.60
98	Albania	-2.66	-1.50
99	Poland	-2.68	-2.29
100	Qatar	-3.07	-1.99
101	Zimbabwe	-3.51	-2.53
102	Jordan	-3.71	-2.34
103	Libya	-3.87	-2.63
104	Tunisia	-4.71	-2.55
105	Macedonia	-6.82	-4.18

Source: World Values Survey (2014).

The estimated parenthood premia reported in Table 5 are mapped geographically in Figure 5. The spatial representation indicates a clustering of large parenthood premia in Asia (China, Kyrgyzstan and Kazakhstan). Relatively smaller (and negative) parenthood premia are observed in Western Europe, Africa, and Latin America. These clustering patterns, however, turn out not be statistically significant when testing for spatial correlation. We do not find evidence of spatial dependence in the cross-country distribution of the effects of parenthood on well-being, using either a spatial lag or a spatial error model, even after accounting for differences in aggregate economic and social conditions.²⁹

Figure 5. Parenthood and life satisfaction, world

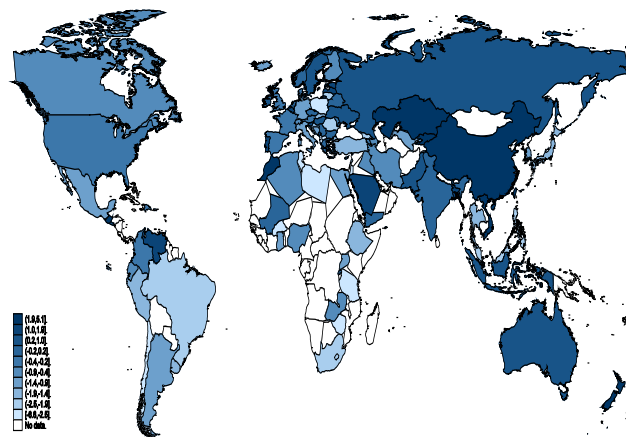
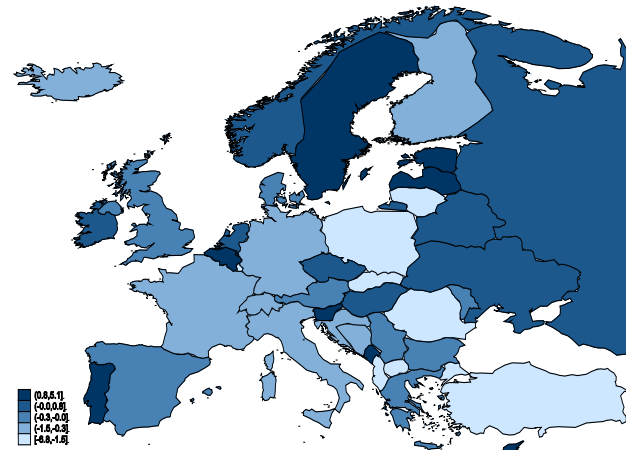


Figure 6 takes a closer look at estimated parenthood premia for European countries. A clustering of positive and large parenthood premia is generally observed in Northern Europe (Estonia 1.64, Latvia 1.62, Sweden 0.98, and Norway 0.17) and former Soviet Union countries (Russian Federation 0.82, Ukraine 0.51, and Belarus 0.08). Negative and relatively large parenthood premia are observed in Poland (-2.68), Albania (-2.66), Romania (-2.25), and Turkey (-1.47).

Figure 6. Parenthood and life satisfaction, Europe



Why?

Table 6 reports results obtained by regressing the country-specific sensitivities of life-satisfaction to parenthood, reported in Table 5, on indicators of macroeconomic and social conditions. We focus in particular on GDP per capita, unemployment rate, government spending relative to GDP, health expenditure relative to GDP, and fertility rate. We consider three alternative specifications. The first (column 1) takes countries as the unit of analysis, thus focusing on averages for the entire time span. The second and third specifications (columns 2-3) focus instead on country-wave specific observations, thus resulting in an (unbalanced) panel data structure (N=106 countries, T=6 survey waves).

Table 6. Determinants of parenthood life satisfaction premium

	(1) Cross-section	(2) Panel - OLS	(3) Panel - FE
Log GDP per capita	-1.19*	-1.73**	-2.65**
	(0.56)	(0.53)	(0.65)
Unemployment rate	-0.16*	-0.22*	-0.29*
	(0.08)	(0.09)	(0.12)
Government spending / GDP	0.04	0.27	0.48
	(0.07)	(0.17)	(0.39)
Health expenditure / GDP	0.02	0.14	0.70*
	(0.14)	(0.11)	(0.34)
Fertility rate	-1.15*	-1.96**	0.76
	(0.48)	(0.44)	(0.90)
R ²	0.44	0.33	0.23
Number of observations	100	235	235

Dependent variable: sensitivity of life satisfaction to parenthood.

As shown in Table 6, the coefficient for GDP per capita is negative and strongly significant in all three specifications. This indicates that the micro-level relationship between parenthood and life satisfaction is more strongly negative (or less strongly positive) in richer countries. The effect of parenthood on life satisfaction is also negatively related to the unemployment rate. Interestingly, the coefficients for government spending and health expenditure are not statistically significant. The coefficient for the fertility rate is negative and significant in the cross-sectional and pooled specifications, but positive and not significant when using a fixed-effect estimator (column 3).

Overall, these findings indicate that macroeconomic conditions primarily account for the cross-country distribution of the micro-level sensitivity of well-being to parenthood. Having

children is worth less, in terms of subjective well-being, in richer countries and in countries where the unemployment rate is higher.

Concluding Remarks

Despite growing interest in parenthood's effects on well-being, the existing evidence is not conclusive. Previous studies have found different effects of parenthood on well-being, depending on the type of data used, the definition and measurement of the key variables, and the methods of investigation. To shed light on these findings, we investigated the relationship between parenthood and well-being based on individual-level worldwide data, with a focus on how the effects of parenthood on subjective well-being vary across countries.

Our findings indicate that the relationship between parenthood and life satisfaction is generally negative throughout the world. The parenthood life-satisfaction gap is stronger for females, and turns positive only for older age groups and for widows and widowers. Within countries, a negative relationship between parenthood and life satisfaction is found in 66 percent of the countries under investigation. Across countries, the negative effect of parenthood on life satisfaction is significantly stronger in countries with higher GDP per capita or a higher unemployment rate. These findings indicate that, on the one hand, having children is valued less, in terms of life satisfaction, in countries where the opportunity cost of time is higher.³⁰ On the other hand, worse labor market conditions enhance the adverse effects of parenthood's financial and time costs.³¹

-
1. See, e.g., Hansen (2012), Kravdal (2014), Nelson et al. (2014a) for recent comprehensive reviews.
 2. Stanca (2012).
 3. See Di Tella and MacCulloch (2006), Blanchflower (2008), Dolan et al. (2008) for comprehensive reviews.
 4. McLanahan and Adams (1987); Umberson (1989); Umberson and Gove (1989).
 5. Clark and Oswald (2002).
 6. Nomaguchi and Milkie (2003).
 7. Tao (2005).
 8. Kohler et al. (2005).
 9. Frey and Stutzer (2006).
 10. Haller and Hadler (2006).
 11. Hansen et al. (2009).
 12. Angeles (2010).
 13. Aassve et al. (2012).
 14. Baetschmann et al. (2012).
 15. Stanca (2012).
 16. Nelson et al. (2013).
 17. Bhargava et al. (2014).
 18. See also the counter-argument in Nelson et al. (2014b).
 19. Hank and Wagner (2014).
 20. Pollmann-Schult (2014).
 21. Herbst and Ifcher (2015).
 22. Beja (2015).
 23. World Values Survey (2014).
 24. The original variable on a scale 1 (dissatisfied) to 10 (satisfied) was multiplied by 10 in order to ease interpretation of regression results.
 25. World Bank (2014).
 26. Stanca (2012).
 27. Clark and Oswald (2002).
 28. See, e.g., Lewis and Linzer (2005), Hornstein and Greene (2012) for a discussion of regression models in which estimated coefficients are used as dependent variables.
 29. See Stanca (2010).
 30. See also Stanca (2010).
 31. Pollmann-Schult (2014).

References

- Aassve, A., Goisis, A., & Sironi, M. (2012). Happiness and childbearing across Europe. *Social Indicators Research*, 108, pp. 65–86.
- Angeles, L. (2010). Children and Life Satisfaction. *Journal of Happiness Studies*, 11(4), 523–538.
- Bhargava, S., Kassam, K. S., & Loewenstein, G. (2014). A reassessment of the defense of parenthood. *Psychological Science*, 25, pp. 299–302.
- Baetschmann, G., Staub, K., & Studer, R. (2012). Does the Stork Deliver Happiness? Parenthood and Life Satisfaction (Working Paper Series No. 94). Zurich, Switzerland: University of Zurich, Department of Economics.
- Beja, E. (2015). Direct and indirect impacts of parenthood on happiness. *International Review of Economics*, 62(4), 307–318.
- Blanchflower, D. (2008). International evidence on well-being (NBER Working Paper No. 14318).
- Clark, A., & Oswald, A. (2002). Well-being in panels (Unpublished Manuscript). Department of Economics, University of Warwick.
- Di Tella, R., & MacCulloch, R. (2006). Some uses of happiness data in economics. *Journal of Economic Perspectives*, 20, pp. 25–46.
- Di Tella, R., MacCulloch, R., & Oswald, A. (2003). The macroeconomics of happiness. *Review of Economics and Statistics*, 85, pp. 809–827.
- Dolan, P., Peasgood, T., & White, M. (2008). Do we really know what makes us happy? A review of the economic literature on the factors associated with subjective well-being. *Journal of Economic Psychology*, 29, pp. 94–122.
- Frey, B., & Stutzer, A. (2006). Does marriage make people happy or do happy people get married? *The Journal of Socio-Economics*, 35, pp. 326–347.
- Haller, M., & Hadler, M. (2006). How social relations and structures can produce happiness and unhappiness: An international comparative analysis. *Social Indicators Research*, 75, pp. 169–216.
- Hank, K., & Wagner, M. (2014). Parenthood, marital status, and well-being in later life: Evidence from SHARE. *Social Indicators Research*, 114, pp. 639–653.
- Hansen, T. (2012). Parenthood and happiness: A review of folk theories versus empirical evidence. *Social Indicators Research*, 108, pp. 29–64.
- Hansen, T., Slagsvold, B., & Moum, T. (2009). Childlessness and psychological well-being in midlife and old age: An examination of parental status effects across a range of outcomes. *Social Indicators Research*, 94, pp. 343–362.
- Herbst, C., & Ifcher, J. (2015). The increasing happiness of US parents. *Review of Economics of the Household*, pp. 1–23.
- Hornstein, A., & Greene, W. (2012). Usage of an estimated coefficient as a dependent variable. *Economics Letters*, 116(3), 316–318.
- Kohler, H., Behrman, J., & Skytthe, A. (2005). Partner + children = happiness? The effects of partnerships and fertility on well-being. *Population and Development Review*, 31, 407–445.
- Kraval, O. (2014). The estimation of fertility effects on happiness: Even more difficult than usually acknowledged. *European Journal of Population*, 30(3), 263–290.
- Lewis, J., & Linzer, D. (2005). Estimating regression models in which the dependent variable is based on estimates. *Political Analysis*, 13, pp. 345–364.
- McLanahan, S., & Adams, J. (1987). Parenthood and psychological well-being. *Annual Review of Sociology*, 13, pp. 237–257.
- Nelson, S. K., Kushlev, K., English, T., Dunn, E. W., & Lyubomirsky, S. (2013). In defense of parenthood: Children are associated with more joy than misery. *Psychological Science*, 24, pp. 3–10.
- Nelson S. K., Kushlev K., & Lyubomirsky S. (2014a). The pains and pleasures of parenting: When, why, and how is parenthood associated with more or less well-being? *Psychological Bulletin*, 140(3), 846–895.
- Nelson, S., Kushlev, K., English, T., Dunn, E., & Lyubomirsky, S. (2014b). Parents are slightly happier than nonparents, but causality still cannot be inferred: A reply to Bhargava, Kassam, and Loewenstein (2014). *Psychological Science*, pp. 303–304.
- Nomaguchi, K., & Milkie, M. (2003). Costs and rewards of children: The effects of becoming a parent on adults' lives. *Journal of Marriage and Family*, 65, pp. 356–374.
- Pollmann-Schult, M. (2014). Parenthood and life satisfaction: Why don't children make people happy? *Journal of Marriage and Family*, 76(2), 319–336.
- Stanca, L. (2010). The geography of economics and happiness: Spatial patterns in the effects of economic conditions on well-being. *Social Indicators Research*, 99(1), 115–133.
- Stanca, L. (2012). Suffer the little children: Measuring the effects of parenthood on well-being worldwide. *Journal of Economic Behavior and Organization*, 81(3), 742–750.
- Tao, H. (2005). The effects of income and children on marital happiness: Evidence from middle- and old-aged couples. *Applied Economics Letters*, 12, pp. 521–24.

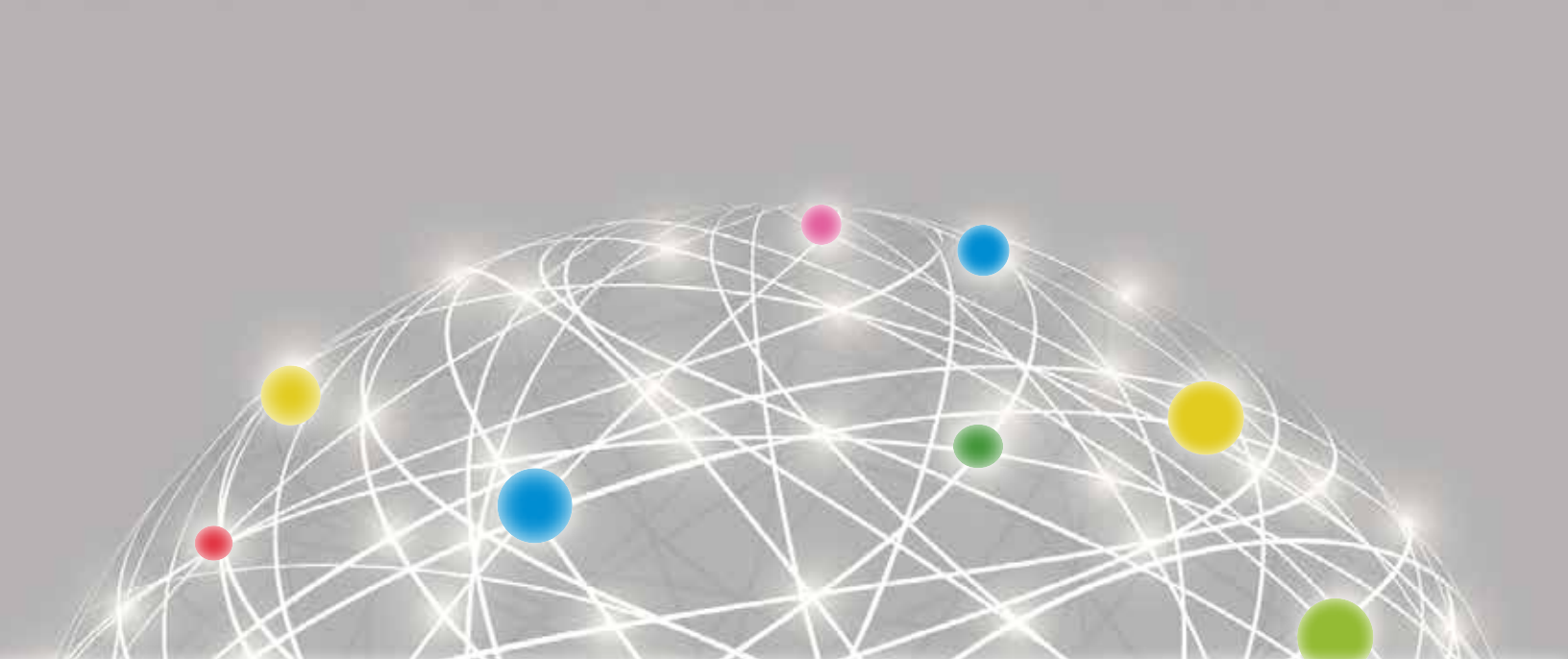
Umberson, D. (1989). Parenting and well-being: The importance of context. *Journal of Family Issues*, 10, pp. 427–439.

Umberson, D., & Gove, W. (1989). Parenthood and psychological well-being: Theory, measurement, and stage in the family life course. *Journal of Family Issues*, 10, pp. 440–462.

Van Praag, B., Frijters, P., & Ferrer-i-Carbonell, A. (2003). The anatomy of subjective well-being. *Journal of Economic Behavior and Organization*, 51, pp. 29–49.

World Bank. (2014). *World Development Indicators 2014*. ISBN: 0-8213-7386-2

World Values Survey Association. (2014). *European and world values surveys six-wave integrated data file. 1981–2014*.



Chapter 5

MULTIDIMENSIONAL WELL-BEING IN CONTEMPORARY EUROPE: AN ANALYSIS OF THE USE OF A SELF-ORGANIZING MAP APPLIED TO SHARE DATA.

LUCA CRIVELLI, SARA DELLA BELLA AND MARIO LUCCHINI



Luca Crivelli, Department of Business Economics, Health and Social Care (DEASS), University of Applied Sciences and Arts of Southern Switzerland (SUPSI) and Swiss School of Public Health (SSPH+). E-mail: luca.crivelli@supsi.ch

Sara Della Bella, Institute for Public Communication (ICP), Università della Svizzera italiana (Switzerland) and DEASS SUPSI (Switzerland). E-mail: sara.dellabella@usi.ch

Mario Lucchini, Department of Sociology, University of Milano-Bicocca (Italy) and DEASS SUPSI (Switzerland). E-mail: mario.lucchini@unimib.it

Introduction

After years during which researchers from different fields were mainly focused on the negative aspects of human psychology (e.g. depression and mental disorders), psychologists and scholars of other social science disciplines (like economics and sociology) have increasingly been looking at ways of measuring happiness and other positive emotions. This trend reflects the importance that modern societies attribute to individuals' subjective well-being (SWB).¹

Today, social scientists widely agree in defining happiness (or subjective well-being, which we consider synonymous) as a broad and multidimensional construct. Although happiness has been defined in different ways,² all definitions identify two basic components to this concept: a hedonic and a eudaimonic one.

These two components are not, of course, completely independent—for instance, subjective evaluations are strongly influenced by emotional experiences—but they need to be distinguished both empirically and conceptually.³ Indeed, these two dimensions are the result of different processes: affective reactions are often responses to immediate situations and tend to be of short duration; life-satisfaction ratings are likely to reflect a long-term perspective.⁴ Moreover, while a person's evaluation of her or his life satisfaction tends to reflect conscious values and goals in life, emotional reactions are affected to a greater extent by unconscious motives and bodily states.

Following Aristotle, the eudaimonic dimension of happiness is conceptualized as primarily cognitive, and understood to consist of elements such as life satisfaction, meaning and purpose in life, goal attainment, self-determination and personal growth, but also commitment to shared goals and values.⁵

Carol Ryff, for example, developed a eudaimonic model of psychological well-being (PWB) that includes six fundamental components: self-acceptance, personal growth, purpose in life, environmental mastery, autonomy, and positive relations with others.⁶ Ryan and Deci⁷ developed a simplified version of the PWB model which they called self-determination theory (SDT). SDT distinguishes between three psychological needs—autonomy, competence, and relatedness—which, if they remain unmet, will have a detrimental impact on SWB. The PWB approach differs from SDT in that it treats autonomy, competence, and relatedness as indicators of well-being; in SDT they are instruments through which to obtain well-being.

As observed by Boniwell,⁸ the eudaimonic dimension of well-being risks becoming an excessively extended concept into which is dumped everything that does not fit the pleasure dimension. For example, it has been referred to as “personal expressiveness,”⁹ and a “flow state” or “optimal experience,” i.e., a state of complete absorption in intrinsically rewarding activities that challenge our abilities without exceeding them.¹⁰

Both positive and negative affects have been identified¹¹ as belonging to the hedonic dimension. Positive affects include joy, contentment, pride, and hope, while negative affects include emotions such as sadness, anger, anxiety, and guilt.

Both types of affects are necessary and fulfill important functions.¹² Interestingly, positive and negative affects are not simply antonyms. Although some studies have reported a strong inverse correlation between positive and negative affects, many others have shown that they can, to some extent, be considered independent constructs¹³ and related to other variables in different ways, such that they seem to be produced by different processes and biological systems.¹⁴

The existence of two distinct affect systems (a positive and a negative one) is supported by the evidence that positive emotions tend to co-occur with negative emotions.¹⁵

Moreover, several studies have clarified that positive and negative affects reflect the operation of two broad, evolutionarily adaptive motivational systems: a behavioral activation system, which directs organisms towards situations and experiences that might yield pleasure, and a behavioral inhibition system that inhibits behavior that might have undesirable consequences.¹⁶

Overall, neurophysiologic studies have shown that no single neural system is able to activate both positive and negative affects. Rather, there are complex and emotion-specific neural systems. Indeed, whereas positive affects are systematically associated with the level of resting activity in the left prefrontal area, negative ones are systematically associated with right frontal activation.¹⁷

In the “broaden and build” theory developed by Barbara Fredrickson,¹⁸ positive emotions are conceptualized not only as enjoyable and ephemeral feelings, as moments in which people are not plagued by negative affects, but also as a means through which to broaden people’s attention and thinking, increase their psychological resilience, and build intellectual and social resources. Positive emotions do not simply operate in the immediate present but also have a long-term impact, enhancing human flourishing and favoring healthy longevity.¹⁹

Hence, although positive and negative affects are not completely independent of each other, researchers tend to agree on the usefulness of keeping them separate. As such, happiness can actually be considered to be comprised of three distinct components. Diener and colleagues, for example, have defined subjective well-being as consisting of three interrelated factors: cognition, positive affects, and negative affects.²⁰

Diener and colleagues’ definition has been supported by several empirical studies. Arthaud-Day and colleagues,²¹ for instance, show that the three-factors structure (cognition, positive affects, and negative affects) best fits the data, and that the three elements are discriminately valid.

Studies in the field of depression have documented the existence of two factors underlying the basic emotions: depression, tearfulness, and wishing to die are included in the first, referred to as the “depressed affect factor” while loss of interest, poor concentration, and lack of enjoyment are included in the second, the “motivation factor.”²²

Despite researchers’ increasing theoretical awareness that multidimensionality is implicit in the concept of SWB, in practice, most existing studies seem to adopt a one-dimensional understanding of happiness. This can be seen in their use of single-item measures, or of cognitive and affective scales interchangeably, as if they were equivalent proxies for overall SWB.²³

Indeed over the past 30 years, researchers have created several scales aimed at capturing the cognitive dimension of happiness, such as the Life-3 Delighted-Terrible Scale,²⁴ the Well-Being Index,²⁵ and the Satisfaction with Life Scale,²⁶ as well as scales designed to measure affect, such as the Affectometer,²⁷ the Affect Balance Scale,²⁸ the Positive and Negative Affect Schedule (PANAS),²⁹ the Scale of Positive and Negative Experience (SPANE),³⁰ the Beck Depression Inventory,³¹ and the EURO-D scale of depression severity.³²

What is astonishing is the lack of measuring tools able to capture the multidimensionality of happiness adequately; indeed, it is a common practice to use individual indicators of SWB or synthetic indicators obtained by subtracting the negative-feelings score from the positive-feelings score.³³

The aim of this paper is to apply a sophisticated “clustering-and-projection” technique—the Self Organizing Map (SOM)—to a large number of indicators of well-being, to capture the structure of happiness. More specifically, it can help us understand the extent to which different indicators/dimensions of SWB (the eudaimonic and hedonic dimensions, cognitive and affective measures, positive and negative affects) are independent rather than totally or partially overlapping.

Although global self-reported measures of happiness possess adequate psychometric properties, good internal consistency, and appropriate sensitivity to changes in life circumstances,³⁴ in this paper we start from the hypothesis that such measures might not be the best choice when it comes to measuring SBW in its complexity because they illegitimately collapse into one dimension different components that only partially overlap. The SOM approach can help us shed light on some ambiguities in the umbrella construct of life satisfaction, and to crystallize the relationship between this concept and other important components of a good life such as positive and negative emotions, health, social relationships, meaning, and social activities.

Method

The aim of this study is to apply an unsupervised artificial neural network—the Self Organizing Map (SOM)—to capture and visualize the hidden structure of highly multidimensional data. The SOM is a vector quantization algorithm widely used in a variety of domains³⁵ which performs a mapping from a high-dimensional input space of data onto a two-dimensional output space. The latter is a rectangular grid of nodes, each of which is equipped with a weight vector or a model m_i in the data space. The training algorithm exploits competitive learning such that in the first step each observation or input vector is assigned to its best matching unit (BMU), i.e. the unit with the weight

vector $m_i(t)$ that matches best with the input vector $x(t)$ in some metric and according to the following equation:

$$c = \operatorname{argmin}_i \{ \|x(t) - m_i(t)\| \}$$

Subsequently, in the second step, the weight vectors of the BMU and its closest neighbors in the map are updated such that the modified weight vectors will match better with the input vectors. The equation ruling the updating phase is the following:

$$m_i(t+1) = m_i(t) + k(t)h_{ci}(t)[x(t) - m_i(t)]$$

where c is the index of the winner node, $k(t)$ is a monotonically decreasing scalar function of t and $h_{ci}(t)$ is the neighborhood function, usually taken to be Gaussian around the BMU, as follows:

$$h_{ci}(t) = \exp \left(- \frac{(i - i_c)^2}{2\sigma^2(t)} \right)$$

where σ is the width of the neighborhood and i_c is the index of the BMU, the node whose weight vector matches the input vector best. The size of the neighborhood is gradually decreased during the training process until only the weights of the BMU are updated.

Data and Variables

We use data from the fourth wave (2010–11) of the Survey of Health, Aging, and Retirement in Europe (SHARE).³⁶ The conventional approach would be to rank the countries with respect to the average Cantril ladder score using, for instance, life satisfaction or quality of life. Using the life-satisfaction indicator reported in SHARE, we obtain the results highlighted in Table 1 and learn that, within the sample of European countries, Denmark, Sweden, and Switzerland had the highest average scores in 2010, whereas Hungary and Estonia had the lowest.

Table 1: Ranking of life satisfaction 2010-11 (among people aged 50 or older).

Country	Life Satisfaction	
	mean	sd
Denmark	8.621	1.325
Sweden	8.425	1.456
Switzerland	8.402	1.365
Austria	8.304	1.646
Netherlands	8.100	1.036
Germany	7.789	1.723
Belgium	7.780	1.404
Italy	7.680	1.674
Spain	7.633	1.800
Poland	7.453	1.904
Slovenia	7.453	1.750
Czech Republic	7.420	1.929
France	7.315	1.686
Portugal	7.084	2.013
Hungary	6.737	2.147
Estonia	6.736	2.039

The availability in this wave of a wide range of indicators covering different aspects of subjective well-being has made it possible to adopt a truly multidimensional approach. The choice of indicators and dimensions is largely driven by the theories previously reviewed and by the availability of indicators in SHARE. More specifically, we selected 38 items (see Table 2) covering seven different dimensions of well-being, listed below:

1. **Positive affects and evaluations:** Hope for the future, enjoyment from activity, how often one looks back on one's life with a sense of happiness, looking forward to each day, feeling that life has meaning and is full of opportunities, feeling full of energy, feeling positive about the future.
2. **Negative affects and orientations:** Depression, emotional disorders, wishing one were dead, guilt or self-blame, tearfulness,

fear of the worst, fear of dying.

3. **Somatic disorders:** Trouble sleeping, trembling hands, diminution in appetite, faintness, feeling irritable or nervous.
4. **Vitality/apathy/flow state:** Interest in things, too little energy to do things/fatigue, difficulty in concentrating on entertainment and on reading.
5. **Self-efficacy/pathway thinking/agency thinking:** Ability to do the things one wants to do, age prevents one from doing those things, what happens to one is out of one's control, feeling left out of things, family responsibilities prevent one from doing what one wants to do, shortage of money stops one from doing the things one wants to do.
6. **Physical and mental health:** Self-assessed health, chronic conditions, impediments to daily activities.
7. **Evaluations of life domains:** Life in general, satisfaction with the activities engaged in, satisfaction with relationships.

The dimensions of positive and negative affects of somatic disorders and vitality/apathy are more strongly driven by hedonic experience, whereas the indicators included in the dimensions of self-efficacy and evaluations of life domains have a stronger eudaimonic orientation, although it is reasonable to think that all indicators show a certain degree of semantic overlap with both forms of SWB.

As our aim is to measure well-being in multidimensional terms, we have also included some important indicators of health and social capital that, depending on the theoretical approach adopted, can be considered either, on the one hand, aspects or, on the other, causes or effects of well-being.

Finally, dimensions 1 and 5 express two different forms of optimism. Following Scheier and Carver,³⁷ dimension 1 refers to so-called dispositional optimism; that is, the mental disposition based on which the person tends to expect positive outcomes and recognize the available opportunities. Dimension 5 refers to attributional optimism, which implies being self-confident and the creator and protagonist of one's own destiny.

It is important to underline that the chosen items refer to different time frames: the past, the present and the future. Moreover, whereas some items reflect a relatively short time perspective (last week), others concern much longer time frames (for instance, one's entire life).

All the items have been rescaled such that they have the same direction and are interpretable as indicators of well-being (in other words, higher values of an indicator entail higher levels of well-being).

Table 2: Descriptive statistics of the SWB indicators taken from SHARE Wave 4 (obs. 51260). (Part 1)

Unpleasant Affects	Synthetic label		
In the last month, have you been sad or depressed? By sad or depressed, we mean miserable, in low spirits (0 Yes, 1 No)	0,60	0,49	Sadness depress
In the last month, have you felt that you would rather be dead? (0 Any mention of suicidal feelings or wishing to be dead, 1 No such feelings)	0,92	0,26	Suicidal feelings
Do you tend to blame yourself or feel guilty about anything? 0 Mentions guilt or self-blame, 1 No such feelings.	0,77	0,42	Self-blame & guilty
In the last month, have you cried at all? (0 Yes, 1 No)	0,75	0,43	Tearfulness
Has there been a time or times in your life when you suffered from symptoms of depression which lasted at least two weeks? (0 Yes, 1 No)	0,77	0,42	Depression symp.
Has a doctor ever told you that you suffer from other affective or emotional disorders, including anxiety, nervous or psychiatric problems? (0 Yes, 1 No)	0,90	0,30	Emotional disorder
(During the past week) I had fear of the worst happening (1 Most of the time, 2 Some of the time, 3 Hardly ever, 4 Never)	3,41	0,88	Fear of the worst
I had a fear of dying. (1 Most of the time, 2 Some of the time, 3 Hardly ever, 4 Never)	3,74	0,63	Fear of dying
Pleasant affects			
What are your hopes for the future? (0 No hopes, 1 Any hopes mentioned)	0,81	0,39	Hope for the future
What have you enjoyed doing recently? (0 Fails to mention any enjoyable activity, 1 Mentions any enjoyment from activity)	0,87	0,34	Enjoyment of activity
How often, on balance, do you look back on your life with a sense of happiness? (1 Never, 2 Rarely, 3 Sometimes, 4 Often)	3,37	0,78	Back happy
How often do you look forward to each day? (1 Never, 2 Rarely, 3 Sometimes, 4 Often)	3,38	0,91	Look forward
How often do you feel that your life has meaning? (1 Never, 2 Rarely, 3 Sometimes, 4 Often)	3,55	0,74	Meaning
How often do you feel full of energy these days? (1 Never, 2 Rarely, 3 Sometimes, 4 Often)	3,15	0,87	Energy
How often do you feel that life is full of opportunities? (1 Never, 2 Rarely, 3 Sometimes, 4 Often)	3,09	0,90	Opportunities
How often do you feel that the future looks good for you? (1 Never, 2 Rarely, 3 Sometimes, 4 Often)	3,03	0,93	Future good

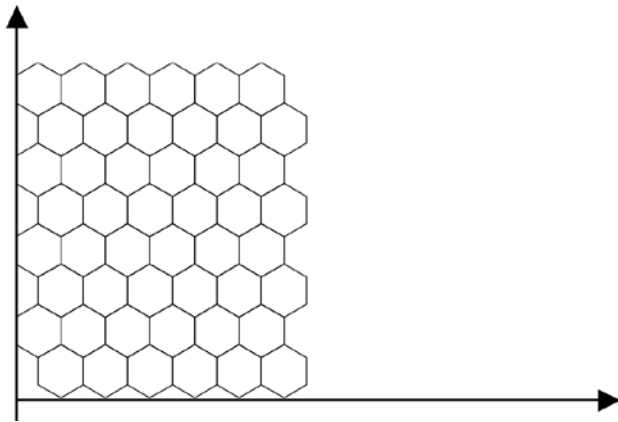
Table 2: Descriptive statistics of the SWB indicators taken from SHARE Wave 4 (obs. 51260). (Part 2)

Somatic disorders			
Have you had trouble sleeping recently? (0 Trouble with sleep or recent change in pattern, 1 No trouble sleeping)	0,65	0,48	Trouble sleeping
Have you been irritable recently? (0 Yes, 1 No)	0,70	0,46	Irritability
What has your appetite been like? (0 Diminution in desire for food, 1 No diminution in desire for food)	0,92	0,27	Appetite
I was nervous. (1 Most of the time, 2 Some of the time, 3 Hardly ever, 4 Never)	2,97	0,99	Nervous
I felt my hands trembling. (1 Most of the time, 2 Some of the time, 3 Hardly ever, 4 Never)	3,66	0,75	Hand trembling
I felt faint. (1 Most of the time, 2 Some of the time, 3 Hardly ever, 4 Never)	3,51	0,84	Feeling faint
Vitality/Apathy			
In the last month, what has your interest in things been? (0 Less interest than usual mentioned, 1 No mention of loss of interest)	0,92	0,27	Interest in things
In the last month, have you had too little energy to do the things you wanted to do? (0 Yes, 1 No)	0,63	0,48	Little energy/fatigue
Can you concentrate on a television, film or radio programme? (0 Difficulty in concentrating on entertainment, 1 No such difficulty mentioned)	0,88	0,32	Concentrating entert
Can you concentrate on something you read? (0 Difficulty in concentrating on reading, 1 No such difficulty mention)	0,87	0,34	Concentrating read
Physical and mental health			
Would you say your health is? (1 Poor, 2 Fair, 3 Good, 4 Very good, 5 Excellent)	2,80	1,07	Self-assessed health
Some people suffer from chronic or long-term health problems (0 Yes, 1 No)	0,48	0,50	Long illness
For the past six months at least, to what extent have you been limited because of a health problem in activities people usually do? (1 Severely limited, 2 Limited but not severely, 3 Not limited)	2,37	0,73	Limitation activity
Self-efficacy			
How often do you think your age prevents you from doing the things you would like to do? (1 Often, 2 Sometimes, 3 Rarely, 4 Never)	2,66	1,06	Age prevent
How often do you feel that what happens to you is out of your control? (1 Often, 2 Sometimes, 3 Rarely, 4 Never)	2,90	0,99	Out of control
How often do you feel left out of things? (1 Often, 2 Sometimes, 3 Rarely, 4 Never)	3,15	0,96	Feel left out
How often do you think that you can do the things that you want to do? (1 Never, 2 Rarely, 3 Sometimes, 4 Often)	3,22	0,91	Do things
How often do you think that family responsibilities prevent you from doing what you want to do? (1 Often, 2 Sometimes, 3 Rarely, 4 Never)	3,15	0,97	Fam resp prev
How often do you think that a shortage of money stops you from doing the things you want to do? (1 Often, 2 Sometimes, 3 Rarely, 4 Never)	2,56	1,13	Money stops
Evacuation of life domains			
(On a scale from 0 to 10, where 0 means completely dissatisfied and 10 means completely satisfied) how satisfied are you with the activities that you engaged in (or not)? (i.e. Done voluntary work, attended an educational course, gone to a sports, social or other kind of club, taken part in activities of a religious organization, of a political or community-related organization, read books or newspapers, did games such as crossword puzzles or Sudoku, played cards or games such as chess.	7,88	2,00	Sat activities
Overall, how satisfied are you with the relationship that you have with the person we have just talked about? (Scale from 0 to 10, where 0 means completely dissatisfied and 10 means completely satisfied)	8,92	1,27	Networksat
How satisfied are you with your life? (Scale from 0 to 10, where 0 means completely dissatisfied and 10 means completely satisfied)	7,62	1,81	Satisfaction with life

Results

The analyses were carried out using the SOM Toolbox for Matlab 5.³⁸ A large multidimensional input space has been reduced to a two-dimensional grid of 48 (6 x 8) micro-clusters or nodes.

Figure 1: Two-dimensional SOM made of 48 units arranged in a 6 x 8 hexagonal lattice.



To gain insight into the meaning of the map, we visually inspect its component planes, a special kind of graph illustrating the average values taken by a given indicator in each node. Looking at the component planes, we can identify emerging patterns of data distribution and detect the convergent and discriminant validity of the selected indicators.³⁹ More specifically, using scale colors, we may easily identify regions of the map with a minimum level of a given attribute because they are depicted in blue, and regions with a maximum level of a given attribute because they are depicted in red. The values of the components are de-normalized such that the values shown in the color bar are in the original value range.

At first glance, all indicators present a common pattern distribution with a concentration of red nodes at the bottom of the map; clearly this is the area of pleasant emotions (lack of negative affects and presence of positive affects), great vitality and self-efficacy, good health and a high degree of satisfaction with life, social relation-

ships and the activities engaged in. In contrast, the top of the map is characterized by unpleasant emotions, apathy, a low sense of self-determination, poor health, and low satisfaction with life and other circumstances.

Although the deepest differences occur along the vertical axis, the horizontal axis also shows results worthy of interest, as it is along this axis that a clear polarization between the indicators of positive and negative affects is revealed. More specifically, the items reflecting pleasant emotions and satisfaction with social relationships and activities contribute to the identification of an area of cumulative well-being located in the bottom-left corner of the map, whereas in the diametrically opposite position, in the upper-right corner, exists an area of multidimensional ill-being (discomfort), where indicators settle upon lower values. Moreover, the items reflecting negative affects, somatic disorders, and apathy tend to define a clear cluster of good mental health in the bottom-right corner and a cluster of mental distress in the upper-left corner, again in a diametrically opposite position.

Finally, the more holistic items or umbrella concepts, like self-assessed health and life satisfaction, reveal a very strong discriminating power only along the vertical axis, since they are not at all able to highlight significant differences along the horizontal axis, which, as previously explained, should capture any existing polarization between pleasant and unpleasant emotions.

Figure 2: Component planes for the unpleasant affects items (the variable labels are the same as in Table 1).

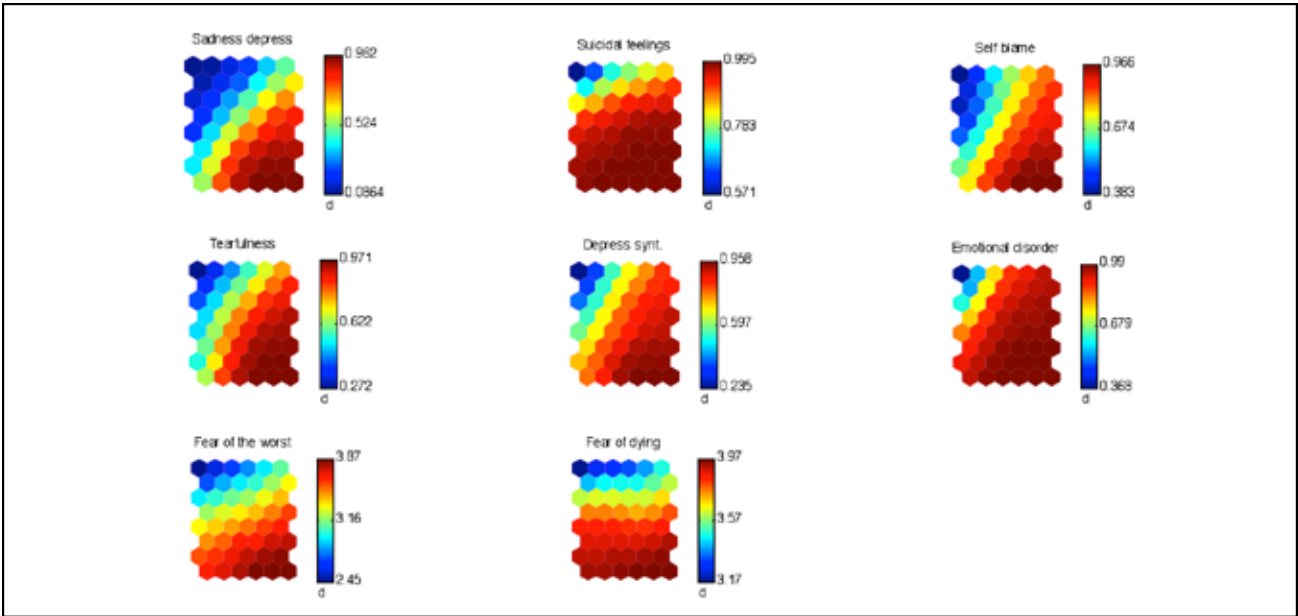


Figure 3: Component planes for the pleasant affects items.

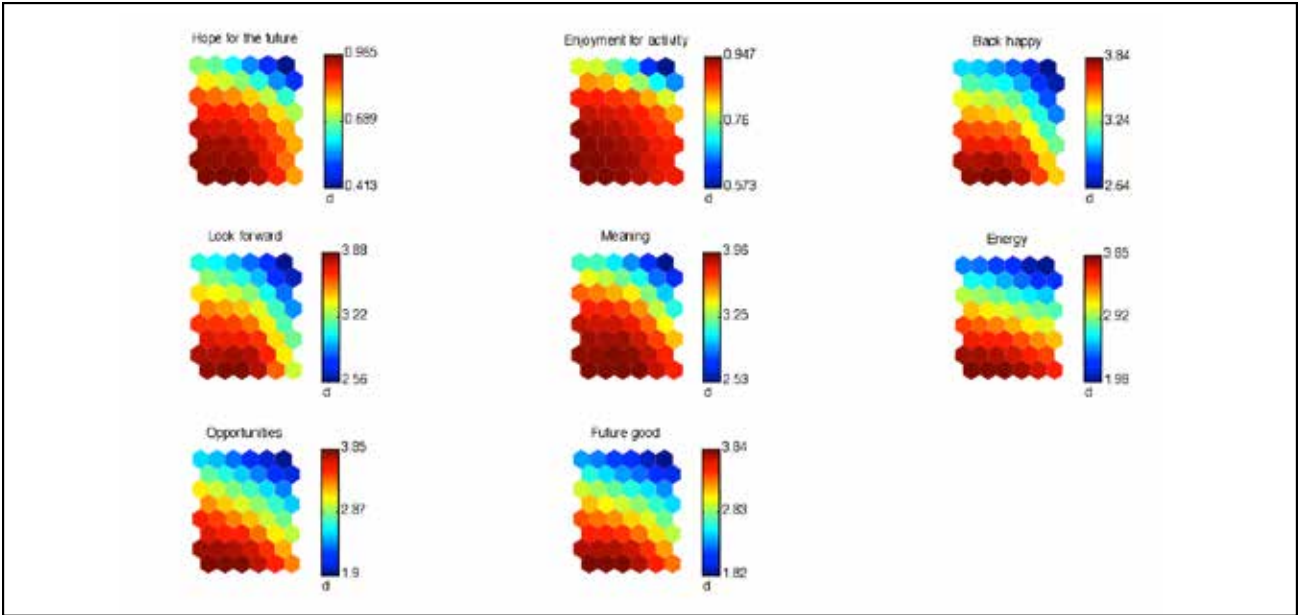


Figure 4: Component planes for the somatic disorders items.

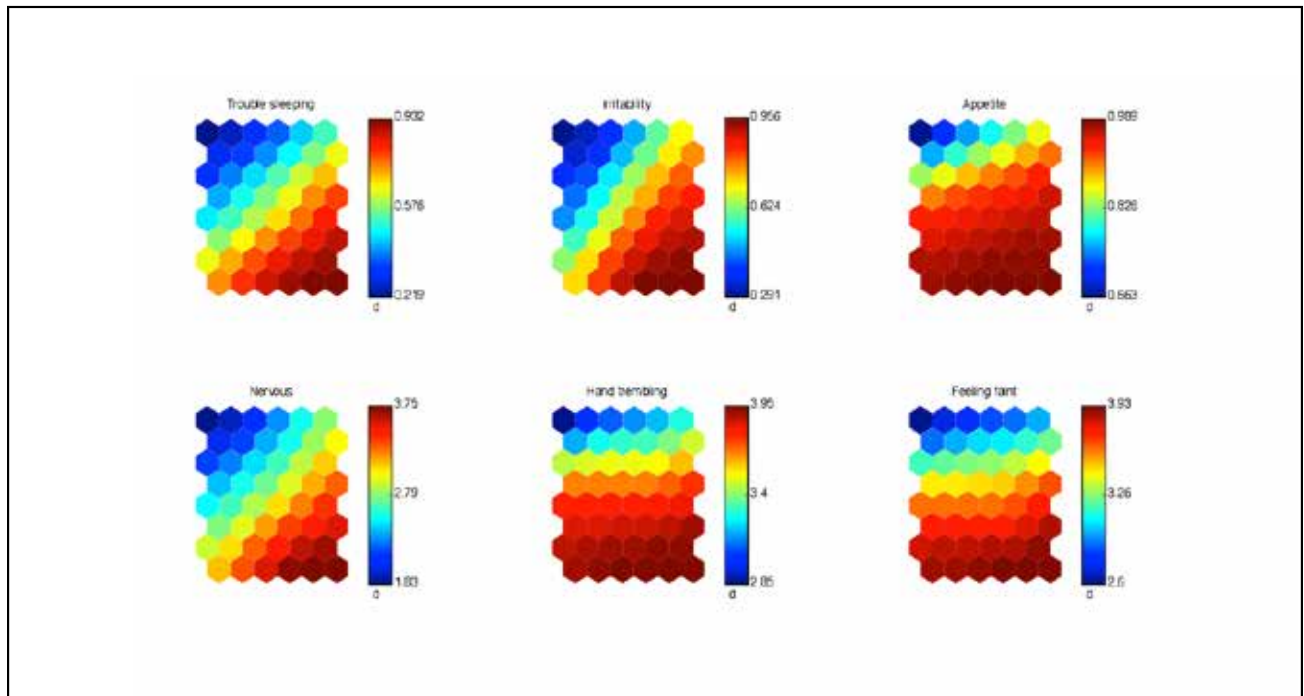


Figure 5: Component planes for vitality/apathy items.

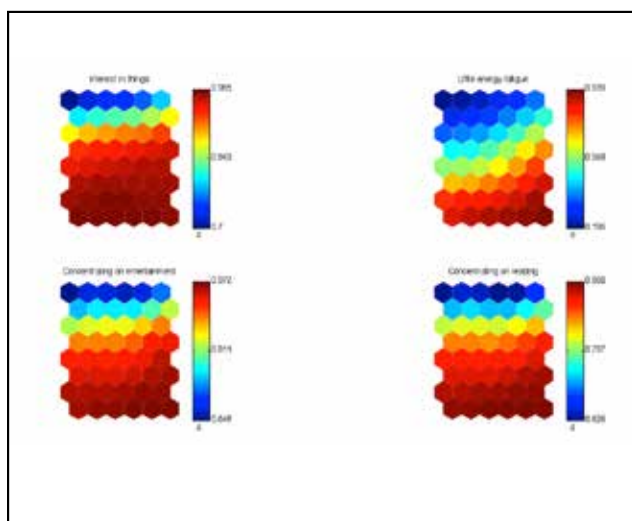


Figure 6: Component planes for physical and mental health items.

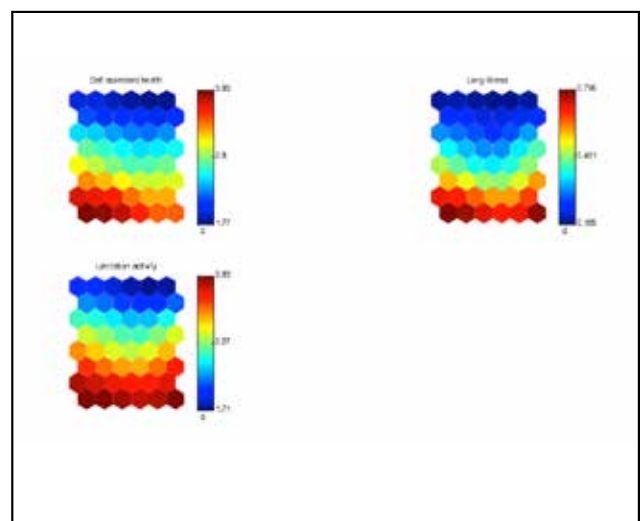


Figure 7: Component planes for the self-efficacy items.

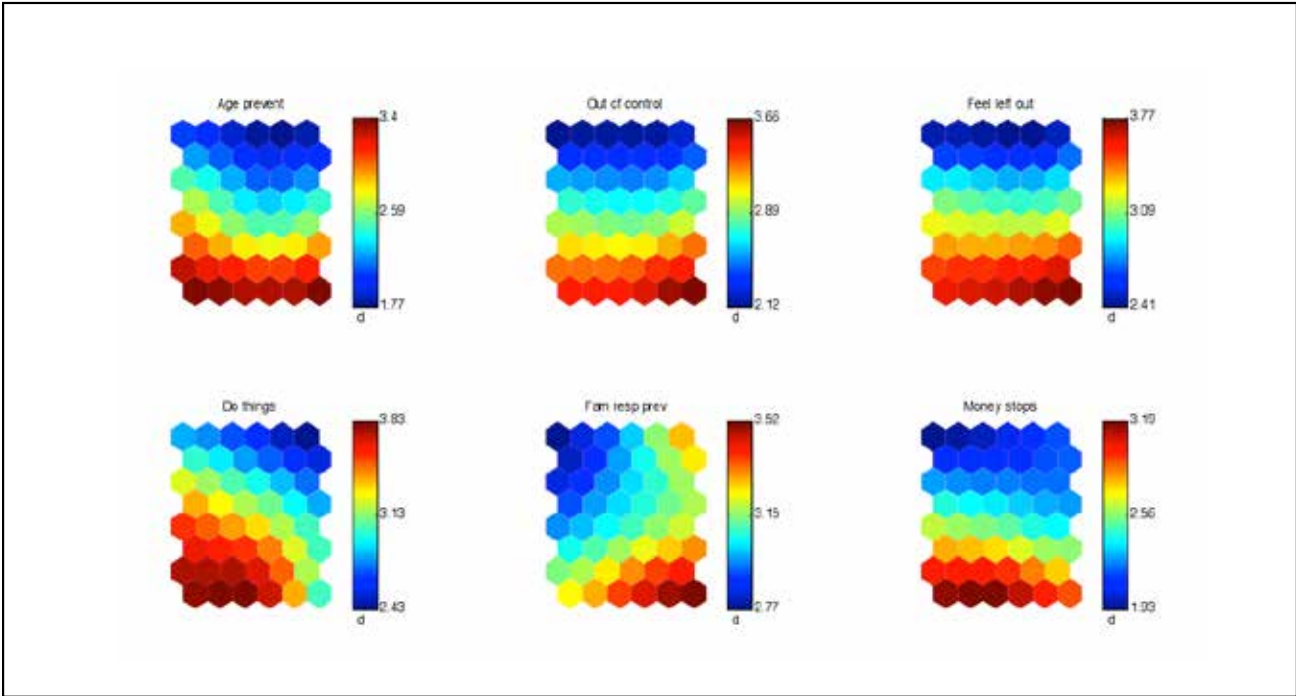
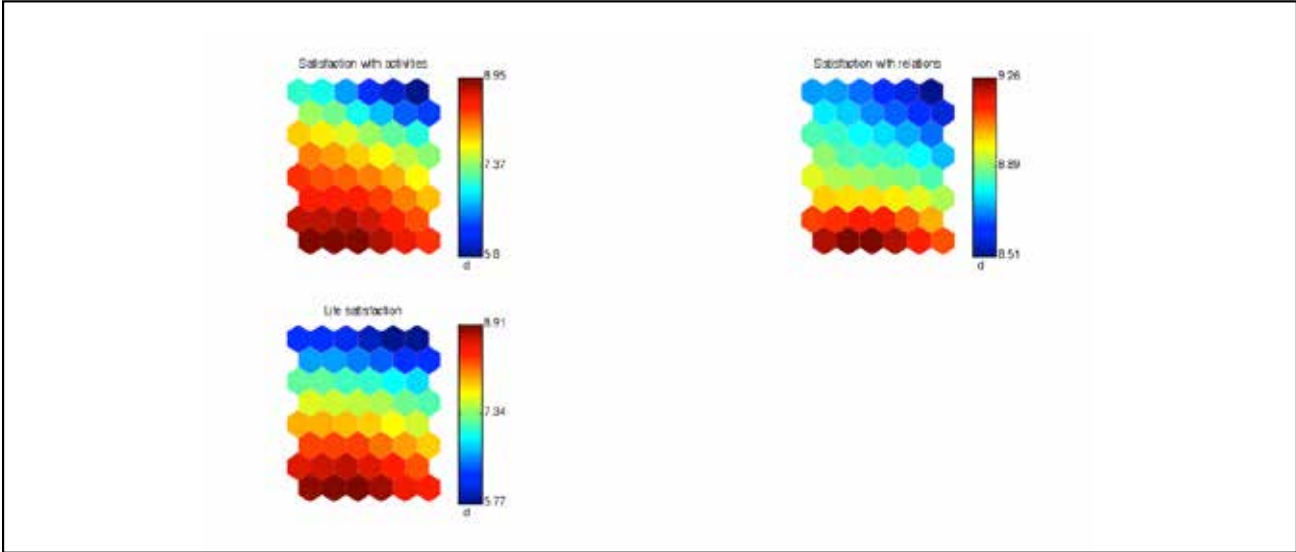
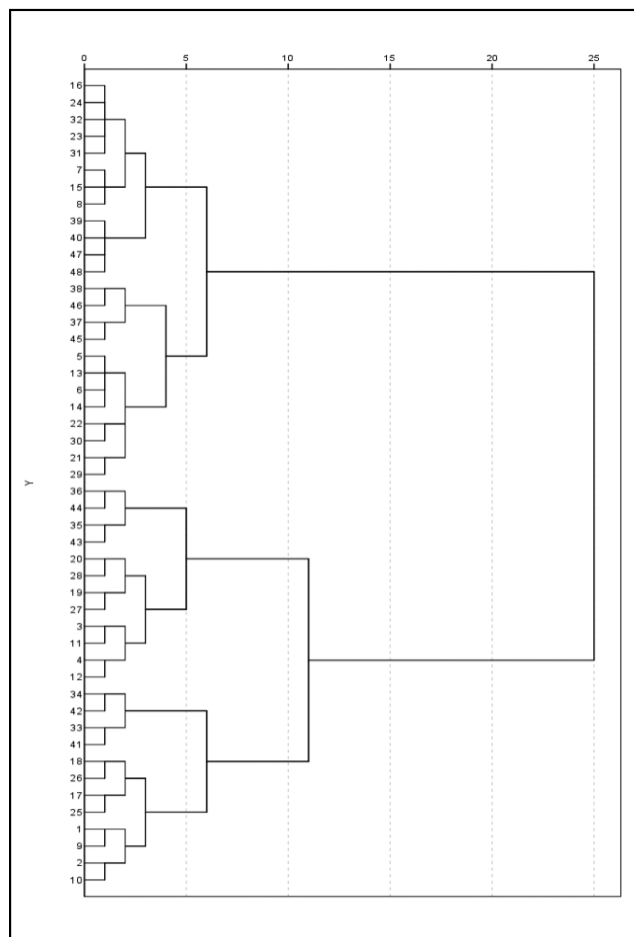


Figure 8: Component planes for evaluation of life domain items.

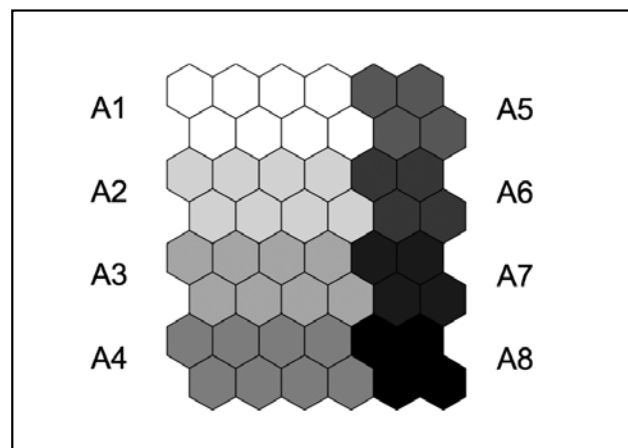


Subsequently, the 48 nodes of the map have been aggregated into prototypical areas running a hierarchical agglomerative clustering (average linkage method, see Figure 9). Cutting the dendrogram just above the value of 2.6 of the level of similarity yields eight macro-clusters

that are quite internally homogenous and easier to define (see Figure 10). This aggregation strategy appears well supported by both theoretical and visual criteria.

Figure 9: Average linkage clustering technique.

To describe the eight macro-clusters, we have calculated the averages and conditional probabilities of the indicators within each area, as shown in Table 3. The indicators and macro-clusters have been ordered with respect to the dimensions and the topological proximity.

Figure 10: Aggregation of the 48 micro-clusters into eight clusters or prototypical areas.

Analyzing the average scores and the conditional probabilities of the indicators within the macro-cluster, the following is revealed:

- i. A4 and A8 form areas of cumulative well-being located in the lower part of the map. In those areas, the highest positive deviations of the indicators from the sample mean are registered;
- ii. In contrast, A1 and A5 gather together persons experiencing worse well-being conditions, showing scores that are significantly below the sample mean;
- iii. A2 and A6 represent areas of vulnerability that maintain a certain continuity with the worse areas of the map (A1 and A5); whereas A3 and A7 show a certain similarity to the better areas (A4 and A8).

Let us have a detailed look at the meaning of each area.

A 1 incorporates 13 percent of the sample observations and is characterized by the lowest scores on all items reflecting negative emotions (sadness/depression, suicidal feelings, self-blame and guilt, tearfulness, symptoms of depression, emotional disorders, fear of the worst happening, fear of dying), somatic disorders (trouble

Table 3: Average score (and conditional probabilities) of indicators within each macro-cluster.

CLU8	A1	A5	A2	A6	A3	A7	A4	A8	Sample Mean
Unpleasant affects	A1	A5	A2	A6	A3	A7	A4	A8	
Sadness depress	0,137	0,467	0,332	0,782	0,595	0,902	0,775	0,936	0,604
Suicidal feelings	0,662	0,843	0,938	0,974	0,977	0,987	0,99	0,993	0,929
Self-blame & guilty	0,538	0,817	0,602	0,868	0,716	0,911	0,874	0,956	0,768
Tearfulness	0,393	0,756	0,644	0,914	0,769	0,943	0,817	0,958	0,76
Depression symp.	0,448	0,813	0,649	0,876	0,788	0,902	0,884	0,94	0,779
Emotional disorder	0,631	0,928	0,831	0,962	0,936	0,975	0,974	0,987	0,9
Fear of the worst	2,566	3,13	3,184	3,463	3,532	3,727	3,761	3,842	3,42
Fear of dying	3,189	3,508	3,714	3,712	3,875	3,895	3,946	3,961	3,753
Pleasant affects	A1	A5	A2	A6	A3	A7	A4	A8	
Hope for the future	0,624	0,331	0,871	0,709	0,93	0,842	0,96	0,808	0,819
Enjoyment of activity	0,766	0,498	0,918	0,858	0,93	0,896	0,939	0,905	0,874
Back happy	2,955	2,552	3,392	2,85	3,692	3,173	3,842	3,504	3,385
Look forward	2,964	2,454	3,45	2,809	3,723	3,219	3,883	3,37	3,396
Meaning	3,023	2,403	3,71	2,985	3,908	3,531	3,959	3,844	3,576
Energy	2,282	1,905	2,988	2,725	3,508	3,203	3,86	3,651	3,17
Opportunities	2,339	1,811	3,039	2,461	3,527	2,864	3,847	3,414	3,108
Future good	2,182	1,726	2,915	2,436	3,474	2,824	3,84	3,43	3,048
Somatic disorders	A1	A5	A2	A6	A3	A7	A4	A8	
Trouble sleeping	0,27	0,515	0,454	0,781	0,615	0,853	0,833	0,921	0,649
Irritability	0,36	0,693	0,529	0,83	0,663	0,899	0,855	0,938	0,707
Appetite	0,705	0,859	0,905	0,959	0,956	0,972	0,983	0,989	0,921
Nervous	2,012	2,793	2,494	3,147	2,922	3,453	3,458	3,701	2,98
Hand trembling	2,927	3,312	3,608	3,66	3,827	3,887	3,931	3,94	3,673
Feeling faint	2,667	2,983	3,314	3,564	3,678	3,833	3,901	3,916	3,525
Vitality/apathy	A1	A5	A2	A6	A3	A7	A4	A8	
Interest in things	0,705	0,777	0,937	0,962	0,966	0,975	0,985	0,978	0,925
Little energy/fatigue	0,212	0,352	0,391	0,704	0,656	0,872	0,904	0,928	0,639
Concentrating entert	0,642	0,709	0,879	0,933	0,931	0,957	0,966	0,965	0,887
Concentrating read	0,612	0,649	0,868	0,915	0,923	0,946	0,962	0,961	0,873
Physical and mental health	A1	A5	A2	A6	A3	A7	A4	A8	
Self-assessed health	1,841	1,751	2,394	2,512	2,883	2,941	3,783	3,35	2,805
Long illness	0,186	0,2	0,296	0,449	0,417	0,596	0,784	0,785	0,48
Limitation activity	1,781	1,732	2,124	2,319	2,41	2,626	2,827	2,827	2,379
Self-efficacy	A1	A5	A2	A6	A3	A7	A4	A8	
Age prevent	1,885	1,853	2,331	2,323	2,697	2,751	3,389	3,454	2,661
Out of control	2,087	2,243	2,585	2,687	2,955	3,122	3,473	3,694	2,905
Feel left out	2,392	2,511	2,929	2,897	3,27	3,321	3,661	3,797	3,159
Do things	2,697	2,381	3,161	2,802	3,573	3,134	3,863	3,004	3,24
Fam resp prev	2,865	3,334	2,961	3,05	3,06	3,192	3,356	3,526	3,146
Money stops	1,939	2,221	2,291	2,169	2,668	2,406	3,233	2,884	2,556
Evaluation of life domain									
Sat activities	6,705	5,61	7,911	7,294	8,365	7,874	8,952	8,41	7,919
Network sat	8,689	8,486	8,848	8,681	8,934	8,862	9,265	9,111	8,918
Satisfaction with life	5,981	5,598	7,394	7,011	8,139	7,686	8,925	8,409	7,654
Observations (in %)	6801 (13%)	7846 (15%)	8979 (18%)	10909 (21%)	3409 (7%)	4289 (8%)	4532 (9%)	4405 (9%)	51260 100%

sleeping, irritability, reduced appetite, nervousness, trembling hands, feeling faint) and apathy (low interest in things, too little energy to do things, difficulty in concentrating on entertainment and reading).

The health conditions (self-assessed health, long illness, and limited activity) and the feelings of self-efficacy (age prevents one from doing things, what happens to one is out of one's control, feeling left out of things, family responsibilities prevent one from doing what one wants to do, shortage of money stops one from doing the things one wants to do) are very poor.

The indicators of positive emotions/evaluations (hopes for the future, enjoyable activities, satisfaction with life, looking back on one's life with a sense of happiness, looking forward to each day, feeling that life has meaning and is full of opportunities, feeling full of energy, feeling that the future looks good) and of satisfaction with some important aspects of life (with the activities engaged in, with relationships) are below the sample mean but higher than in A5.

A5, located in the left-upper part of the map, incorporates 7 percent of observations and is characterized by the lowest scores for both positive emotions (hopes for the future, enjoyable activities, satisfaction with life, looking back on one's life with a sense of happiness, looking forward to each day, feeling that life has meaning and is full of opportunities, feeling full of energy, feeling that the future looks good) and satisfaction with social relationships and activities in which one is engaged.

Even the indicators of somatic disorders and some items of negative emotions (sadness, suicidal feelings, fear of the worst, fear of dying) show negative deviations from the sample mean, but without reaching the same intensity as in A1.

The scores for health indicators, life satisfaction, apathy/vitality and self-efficacy (with only one

exception: family responsibilities prevent one from doing what one wants to do) are very similar to those of cluster 1.

A4, which incorporates 21 percent of observations, seems specular to A5 and can be defined as the macro-cluster of cumulative well-being. This area is associated with higher values in the indicators of positive emotions and satisfaction with life, activities engaged in and relationships. The better the health condition, the higher the sense of self-efficacy and vitality. Protection from negative emotions and somatic disorders is significant, although without reaching A8 levels.

If A4 seems specular to A5, **A8** appears symmetric to A1. It incorporates 9 percent of the sample and is characterized by higher values with respect to the lack of negative emotions and somatic disorders.

People belonging to this cluster show a profile similar to that of A4 in health, vitality and self-efficacy. With regard to the positive-emotions dimension in only some indicators, however, (happiness with regard to the past, meaning, energy, opportunities and future good), important positive gaps are registered. Satisfaction with life, activities in which one is engaged, and relationships is also high, though without reaching the intensity of A4.

A2 groups 15 percent of the observations, and it expresses a pattern of vulnerability to negative emotions, somatic disorders, bad health and low self-efficacy, but without reaching the gravity of cluster 1. The scores regarding positive emotions, apathy/vitality, and satisfaction with activities and relationships roughly follow the sample mean.

A3, which consists of 18 percent of the observations, shows some similarities to area 4, as we can see in it some positive gaps, although of minor intensity, with reference to positive emotions and satisfaction with life, activities

engaged in, and social relationships. The items regarding other dimensions roughly follow the average profile.

A6 incorporates 8 percent of observations and, being topologically close to cluster 5, shares some aspects with it, but without equaling their gravity. In more detail, people belonging to this cluster are less likely to express positive emotions, and have a low level of self-efficacy and a high level of psychophysical weakness. Their levels of satisfaction regarding life, activities, and relationships are also below the average.

A7, finally, includes 9 percent of observations and presents some similarities to **A8**. People belonging to this group have an appropriate degree of protection from negative emotions and somatic disorders, and above-average health and vitality. With regard to the other dimensions, particularly relevant gaps are not registered. Satisfaction with life follows the sample mean almost perfectly.

In summary, the multidimensional area of data is representable along two axes. The vertical axis catches the intensity of SWB. While the horizontal axis is less relevant, it usefully breaks up the polarization between pleasant and unpleasant emotions. The dendrogram reveals a clear logic behind the node conglomerates on the map. Node aggregations situated along the horizontal axis correspond to low levels of dissimilarity. These aggregations catch the polarization between the lack (or presence) of pleasant emotions and the presence (or lack) of unpleasant emotions, whereas we can see only a high level of dissimilarity between aggregations of areas and zones located along the vertical axis. That is also proved by the fact that the main dividing line is between the nodes situated in the upper area (1, 5, 2 and 6) and the lower area (3, 7, 4 and 8).

Although the horizontal axis is certainly less relevant than the vertical one, the results of our map seem to confirm what several authors have hypothesized: that positive and negative emotions/orientations cannot be reduced to a single dimension, but are instead polarized within two different factors that are only partially correlated.⁴⁰ In other words, unpleasant and pleasant emotions represent different and complementary contributions to well-being that enrich the interpretation of forms of unhappiness and ill-being, exclusively based on the presence of depression, anxiety, and unpleasant emotions.⁴¹

Another important result is the behavior of some indicators, such as the ability to concentrate on entertainment and reading, self-assessed health, suffering from chronic problems, physical limitation in daily activities, and satisfaction with life. These indicators represent broader constructs that are cognitive rather than emotional and do not seem to be revealed very much, if at all, along the horizontal axis, whereas they are revealed clearly along the vertical axis. It follows that such holistic indicators are not useful for revealing whether ill-being can be attributed to negative emotions or to a lack of positive emotions.

In going beyond the mapping stage, we consider the role of some important observable heterogeneity factors in relation to cluster membership. First of all, we concentrate on the probability of belonging to each of the eight areas, conditional upon the country of residence (Table 4). It is immediately clear that the strongest form of multidimensional well-being (**A4**) is found in Denmark (50%), Switzerland (45%), the Netherlands (39%), Austria (36%), and Sweden (33%), while the probability of belonging to **A5** (located in the diametrically opposite position and characterized by a lack of positive emotions) is particularly high in Portugal (15%), Estonia (14%), Hungary (13%), and Poland (11%).

The probability of belonging to A8, which indicates the highest protection from unpleasant affects, is higher in Slovenia (16%), Italy (14%), Spain (11%), and Austria (11%), while severe mental distress, represented by A1, seems quite widespread in Portugal (26%), Hungary (21%), Poland (21%), and Spain (20%).

There is a higher probability for individuals in Italy and Spain to belong to A7, which represents moderate well-being, whereas individu-

als in Germany, Estonia, France, the Czech Republic, and Belgium have a high probability of belonging to A2, which has a less-intense degree of unpleasant emotions than A1.

Finally, A3, which captures a condition of moderate multidimensional well-being, is widespread in the Netherlands, Sweden, Switzerland, and France; while a moderate lack of positive emotions seems to mark Portugal (18.6%), the Czech Republic (14%), and Italy (13%).

Table 4: Distribution of the different forms of multidimensional well-being in European countries.

	c1	c2	c3	c4	c5	c6	c7	c8
Denmark	5,56	8,85	21	50,12	1,45	2,81	4,5	5,71
Sweden	4,6	13,64	24,19	33,11	3,14	5,11	8,98	7,24
Switzerland	5,03	11,32	23,42	45,26	0,95	2,18	4,11	7,73
Austria	8,77	12,89	15,97	35,79	3,8	4,27	7,06	11,45
Netherlands	5,38	12,29	25,51	38,73	1,37	3,09	5,54	8,08
Germany	10,46	18,86	21,78	23,13	4,63	4,91	8,4	7,83
Belgium	13,76	17,62	19,91	20,99	3,9	8,24	8,28	7,29
Italy	15,06	14,11	12,81	8,01	8,55	13,35	14,52	13,6
Spain	19,82	11,96	12,57	13,28	8,44	8,89	13,76	11,28
Poland	20,55	17,16	16,63	12,07	11,09	9,78	6,59	6,13
Slovenia	9,03	13,32	19,37	20,65	5,49	6,51	9,32	16,3
Czech Republic	17,63	18,05	13,34	10,5	6,37	14,13	11,93	8,04
France	13,15	18,32	23,28	21,04	4,52	5,77	7,3	6,62
Portugal	26,02	13,92	6,51	2,58	14,73	18,66	10,32	7,26
Hungary	21,51	16,24	12,71	10,16	12,6	10,09	9,6	7,09
Estonia	15,84	18,85	15,12	8,95	14,15	11,83	8,93	6,33
Total	13,44	15,31	17,52	21,28	6,65	8,37	8,84	8,59

We run a multinomial logit regression model to make clear the importance how the patterns of cumulative SWB are shaped by socio-demographic characteristics (like age, gender, and marital status); traditional forms of social stratification (years of education and income quintile); health-risk factors (including body mass index, smoking, alcohol consumption, and physical activity); and social-capital indicators (receive help from outside the household and give help to others outside the household).

Since the outcome is a categorical variable, each of the seven macro-clusters is contrasted with area A4 (the biggest and best one in terms of cumulative well-being). Separate intercept and slope parameters are estimated for each contrast. Since the cumulative well-being state is the reference group in the model, a positive coefficient indicates that a specific heterogeneity factor is positively correlated with the likelihood that one will be in a given macro-cluster j (c1, c2, c3, c5, c6, c7, c8) rather than in area A4 (the

reference group). Below, we present the estimation results obtained by our model.

****c1**

The chances of being in A1 (the macro-cluster of negative emotion/depressive symptoms) rather than in A4 (the macro-cluster of cumulative well-being) are higher for females, for individuals who are separated or divorced, for individuals living in large families, and for individuals who receive help from outside the household. Logits are also higher for those who smoke and have a low level of physical activity. Being married, having a high level of education, belonging to the higher income quintiles, alcohol consumption, and being of normal weight or overweight are factors that significantly reduce the chances of belonging to this area.

****c2**

From the second contrast, an outline emerges that is similar to the first one: the factors that increase or decrease the chances of belonging to A2 are about the same as previously observed, although there is a reduction in the strength of the effects related to heterogeneity factors. An important difference is the positive effect linked to giving help to others, which in the previous contrast was of the opposite sign, although it was statistically non-significant.

****c3**

The likelihood of belonging to A3, which is spatially adjacent to A4, is higher for females, people living in larger families, individuals who receive help from outside the household and who have given help to others outside the household, obese people (BMI of 30 and above), people who have ever smoked daily and those who have a low level of physical activity. Again, the coefficients associated with years of education and income quintiles have a negative and statistically significant sign, although of a lower magnitude than in the previous contrast.

****c5**

In the contrast between A5 (a lack of positive emotions) and A4, the role of education and income is clear in protecting against this form of multidimensional ill-being: The inverse relationship between years of education and income quintile, on the one hand, and ill-being, on the other, is almost linear. Other factors that have a protective effect are being female (unlike in the previous contrasts), being married, separated/divorced or a widow(er), having a greater number of children, giving help to others, being of normal weight or overweight, and alcohol consumption. The factors that have a positive effect are house size, receiving help from outside the household, smoking, sedentariness, and physical inactivity.

****c6**

It is not surprising that the predictive characteristics of belonging to A6 are very similar to those of belonging to A5, given the spatial contiguity between the two macro-clusters. Once again, the inverse relationship between the number of years of education and the income quintile, on the one hand, and the chances of belonging to A6, on the other, is almost linear, although the correlation is lower than in the previous contrast. Also as with A5, being female, being married, separated/divorced or a widow(er), having a greater number of children, giving help to others, and alcohol consumption have negative and statistically significant effects; household size, receiving help from outside the household, smoking at the present time, and physical inactivity have the opposite effect.

****c7**

The estimates of the parameters referred to in the contrast between A7 and A4 are modelled once again on what came to light in the two previous comparisons, even if, as we move towards the bottom of the map, the discriminating strength of the factors of heterogeneity decreases: Being female, married or a widow(er),

and having a higher number of children reduce the chances of belonging to A7. Years of education, income quintile, giving help to others, and alcohol consumption have a negative effect, while smoking at the present time and physical inactivity have a positive one.

**c8

The final contrast concerns A8, which represents a macro-cluster with high protection from unpleasant affects and depressive symptoms and which is spatially contiguous to the area of reference (A4). Once again, being female, having a greater number of children, having a greater number of years of education, being in a higher income quintile, giving help to others, and alcohol consumption decrease the chances of belonging to A8, while smoking at the present time and physical inactivity have the opposite effect.

Table 5: Multinomial logit regression: Estimation results (n. id=47913). (Part 1)

	c1	c2	c3	c5	c6	c7	c8
Age (centred at 65 years)	0,016*** (0,00)	0,018** (0,00)	0,012*** (0,00)	0,049*** (0,00)	0,026*** (0,00)	0,016*** (0,00)	0,004 (0,00)
Age squared (divided by 100)	0,063*** (0,02)	0,045** (0,01)	0,024 (0,01)	0,113*** (0,02)	0,057** (0,02)	0,062*** (0,02)	0,058*** (0,02)
Female	0,330*** (0,04)	0,307*** (0,04)	0,129*** (0,03)	-0,545*** (0,05)	-0,564*** (0,05)	-0,509*** (0,04)	-0,562*** (0,04)
Never married (cat.ref.)							
Married and living together with spouse	-0,356*** (0,09)	-0,185* (0,08)	-0,074 (0,08)	-0,824*** (0,10)	-0,450*** (0,09)	-0,438*** (0,09)	-0,070 (0,09)
Living separated from spouse/divorced	0,222* (0,10)	0,028 (0,09)	0,038 (0,09)	-0,311** (0,12)	-0,187 (0,11)	-0,064 (0,10)	0,018 (0,11)
Widowed	-0,152 (0,10)	-0,201* (0,09)	-0,143 (0,09)	-0,551*** (0,11)	-0,441*** (0,11)	-0,443*** (0,11)	-0,112 (0,11)
Household size	0,107*** (0,02)	0,102*** (0,02)	0,074*** (0,02)	0,124*** (0,03)	0,119*** (0,02)	0,101*** (0,02)	0,018 (0,02)
Number of children	-0,019 (0,01)	-0,012 (0,01)	0,013 (0,01)	-0,069*** (0,02)	-0,052** (0,02)	-0,057*** (0,02)	-0,068*** (0,02)
Years of education	-0,113*** (0,00)	-0,044*** (0,00)	-0,019*** (0,00)	-0,133*** (0,01)	-0,083*** (0,01)	-0,046*** (0,01)	-0,026*** (0,00)
1. Income quintile (cat. ref.)							
2. Income quintile	-0,217*** (0,06)	-0,057 (0,06)	-0,023 (0,06)	-0,309*** (0,07)	-0,248*** (0,07)	-0,194** (0,07)	-0,115 (0,07)
3. Income quintile	-0,431*** (0,06)	-0,193*** (0,06)	-0,146** (0,06)	-0,646*** (0,07)	-0,520*** (0,07)	-0,419*** (0,07)	-0,363*** (0,07)

Table 5: Multinomial logit regression: Estimation results (n. id=47913). (Part 2)

4. Income quintile	-0,602***	-0,302***	-0,188***	-0,941***	-0,747***	-0,548***	-0,434***
	(0,06)	(0,06)	(0,06)	(0,08)	(0,07)	(0,07)	(0,07)
5. Income quintile	-1,043***	-0,631***	-0,315***	-1,338***	-1,158***	-0,849***	-0,574***
	(0,07)	(0,06)	(0,06)	(0,09)	(0,07)	(0,07)	(0,07)
Received help from outside the household	1,118***	0,686***	0,429***	0,967***	0,432***	-0,015	-0,076
	(0,05)	(0,05)	(0,05)	(0,06)	(0,06)	(0,06)	(0,07)
Given help to others outside the household	-0,035	0,182***	0,093**	-0,470***	-0,273***	-0,148**	-0,290***
	(0,04)	(0,04)	(0,03)	(0,06)	(0,05)	(0,05)	(0,05)
1. bmi: below 18.5 -underweight (cat.ref.)							
2. bmi 18.5 - 24.9 - normal	-0,686***	-0,556***	-0,193	-0,552**	-0,141	-0,262	-0,061
	(0,16)	(0,15)	(0,15)	(0,20)	(0,22)	(0,21)	(0,21)
3. bmi 25-29.9 -overweight	-0,541***	-0,338*	-0,007	-0,507*	0,090	-0,055	0,069
	(0,16)	(0,15)	(0,15)	(0,20)	(0,22)	(0,21)	(0,21)
4. bmi 30 and above -obese	-0,039	0,120	0,313*	0,070	0,356	0,134	0,124
	(0,16)	(0,15)	(0,16)	(0,20)	(0,22)	(0,21)	(0,22)
Smoke at the present time	0,444***	0,160***	0,006	0,528***	0,423***	0,324***	0,314***
	(0,05)	(0,05)	(0,05)	(0,07)	(0,06)	(0,06)	(0,06)
Ever smoked daily	0,189***	0,188***	0,125***	0,216***	-0,031	-0,052	-0,151**
	(0,04)	(0,04)	(0,04)	(0,06)	(0,05)	(0,05)	(0,05)
days a week consumed alcohol last 3 months: not at all (cat.ref.)							
less than once a month	-0,459***	-0,156**	-0,104	-0,507***	-0,236**	-0,047	-0,126
	(0,06)	(0,06)	(0,06)	(0,08)	(0,07)	(0,07)	(0,07)
once or twice a month	-0,602***	-0,253***	-0,140**	-0,809***	-0,311***	-0,192**	-0,338***
	(0,06)	(0,06)	(0,05)	(0,09)	(0,07)	(0,07)	(0,07)
once or twice a week	-0,842***	-0,353***	-0,190***	-0,915***	-0,452***	-0,284***	-0,412***
	(0,06)	(0,05)	(0,05)	(0,08)	(0,07)	(0,06)	(0,06)
three or four days a week	-0,687***	-0,325***	-0,086	-0,940***	-0,491***	-0,278**	-0,459***
	(0,09)	(0,07)	(0,06)	(0,13)	(0,09)	(0,09)	(0,08)
five or six days a week	-0,479***	-0,273**	-0,054	-0,845***	-0,125	-0,141	-0,494***
	(0,12)	(0,10)	(0,09)	(0,18)	(0,12)	(0,12)	(0,12)
almost every day	-0,660***	-0,260***	-0,142**	-0,673***	-0,438***	-0,217***	-0,375***
	(0,06)	(0,05)	(0,05)	(0,07)	(0,07)	(0,06)	(0,06)
1.sport							
sports or activities that are vigorous: more than once a week (cat.ref.)							

Table 5: Multinomial logit regression: Estimation results (n. id=47913). (Part 3)

once a week	0,502*** (0,06)	0,244*** (0,05)	0,214*** (0,04)	0,398*** (0,09)	0,451*** (0,06)	0,302*** (0,06)	0,222*** (0,06)
one to three times a month	0,840*** (0,07)	0,551*** (0,06)	0,389*** (0,06)	0,921*** (0,10)	0,694*** (0,07)	0,623*** (0,07)	0,462*** (0,07)
hardly ever, or never	1,490*** (0,05)	0,784*** (0,04)	0,427*** (0,04)	1,719*** (0,06)	0,909*** (0,05)	0,615*** (0,05)	0,304*** (0,05)
_cons	1,033 (0,73)	-0,018 (0,68)	-0,700 (0,65)	1,093 (0,96)	-0,052 (0,85)	1,191 (0,81)	2,665*** (0,79)

Robust standard errors in parentheses; significance levels: *** $p \leq 0.001$, ** $p \leq 0.01$, * $p \leq 0.05$

Estimates include (but don't show) country dummies

%Final quantization error: 5.057

%Final topographic error: 0.025

]According to the estimates of the parameters reported in Table 5, membership in these areas is deeply influenced by some important heterogeneity factors whose effect maintains the same sign in correspondence of the different contrasts, whereas the intensity follows a pattern of topological distance of the macro-cluster. More concretely, areas A1 and A5, which are further from the reference category (A4), show stronger effects (or discriminatory power) in relation to the number of years of education and income in respect to closer areas.

Finally, in all the contrasts, we observe a curvilinear relationship with age, with a positive instantaneous rate of change and a positive curvature. A positive coefficient for age and a positive coefficient for age squared cause the curve to increase at a increasing rate.

In conclusion, it is worth highlighting applying standard regression models to observational data precludes attributing a causal relationship to the parameters of evaluation. The analysis here is an associative rather than a causal one, and it would be highly naïve to make causal conclusions from data and identification strategies that are weak because they do not consider the problem of reverse causality, or check for unobserved individual heterogeneity (which is generally

greater than the differences between groups). In short, we cannot confirm whether people who do physical exercise, are married, do not smoke, are more educated, and belong to a higher income quintile are happier and healthier because they have intentionally chosen a certain lifestyle or whether, because they are happier and healthier, they benefit from a competitive advantage in terms of education and income, and have had more opportunities to choose a healthy lifestyle.

Conclusion

This paper proposes the application of an innovative technique of clustering and projection—the Self-Organizing Map—to identify multidimensional patterns of subjective well-being in contemporary Europe, and to overcome the limitations inherent in standard approaches based on a single measure of life satisfaction, or on synthetic indices that are unable to capture these multidimensional patterns. Starting from a rich set of hedonic and eudaimonic indicators from the fourth wave (2010–11) of SHARE, which refer to positive and negative affects, somatic disorders, vitality/apathy, self-efficacy, physical and mental health, and an evaluation of some important life domains, the study has extrapolated a topological map.

This map is composed of 48 micro-clusters that are subsequently grouped into eight prototypical macro-cluster or areas, each of which describes a specific profile. By and large, areas located on the upper part of the map indicate a greater degree of depression and psychophysical ill-being, while areas on the bottom identify a greater degree of SWB, characterized by pleasant emotions, self-determination, good health, and a high degree of satisfaction with life and life circumstances. More precisely, the analysis carried out here indicates that one in three Europeans enjoys a state of multidimensional well-being (areas A4 and A8), one in five has unpleasant or a lack of pleasant emotions (A1 and A5), one in five is in a condition of psychological fragility (A2 and A6), and the remaining 27 percent are in a state of moderate well-being (A4 and A7).

Although the vertical axis shows a discriminant power that is higher than the horizontal one, the latter is quite useful in enabling us to capture a certain degree of bipolarity between the presence of unpleasant emotions and the lack of pleasant emotions. More specifically, in the upper right area of the map we can find individuals who have no hopes for the future, have not enjoyed any activity recently, rarely look back on life with a sense of happiness, rarely think they can do the things they want to do, rarely look forward to each day, rarely feel that their life has meaning, rarely feel full of energy, rarely feel that life is full of opportunities, rarely feel that their future is bright, and are relatively dissatisfied with their free-time activities and their personal relationships. The area at the top left of the map indicates individuals who are more likely to have been sad or depressed within the last month, wish they were dead, blame themselves, have trouble sleeping, have less interest in things than usual, feel irritable, lack appetite, feel fatigue, have cried in the last month, have suffered from depression or other affective disorders, fear the worst most of the time, are nervous most of the time, have trembling hands,

are afraid of dying, feel faint, often think that family responsibilities prevent them from doing what they want to do, and believe that a shortage of money keeps them from doing the things they want to do.

As affirmed by some authors, it seems that the cause for such a polarization can be attributed to different neurobiological systems.⁴² Some indicators that represent holistic ideas of a cognitive or emotional nature, such as life satisfaction and self-assessed health, show a low degree of polarization on the map, which means that it is not possible to determine whether the type of detected ill-being (or well-being) is caused by the lack (or presence) of positive emotions or by the presence (or lack) of negative emotions.⁴³ In conclusion, in going beyond the mapping stage, we have discovered important variations in the distribution of the different forms of multidimensional well-being, in relation to some important observed heterogeneity factors.

In general, married individuals who maintain a healthy lifestyle; are well educated and wealthy; and reside in Denmark, Switzerland, the Netherlands, Austria, or Sweden are more likely to belong to the macro-cluster of highest well-being. Separated/divorced individuals with a low level of education and a low income who are exposed to health risks and reside in Portugal, Estonia, Hungary, or Poland have a high probability of belonging to the clusters of psychophysical discomfort and lack of positive emotions.

1. Arthaud-Day, Rode, Mooney, and Near (2005); Diener, Suh, Lucas, and Smith (1999).
2. Diener et al. (1999); Diener et al. (2003); Seligman and Csikszentmihalyi (2000); Seligman (2002); Waterman (1993); Ryan and Deci (2001).
3. Seligman et al. (2005).
4. Pavot and Diener (1993).
5. Ryff (1989); Seligman et al. (2005); Massimini and Delle Fave (2000); Steger et al. (2006); Waterman et al. (2010).
6. Ryff e Keyes (1995); Ryff and Singer (1998); Ryff, Singer and Love (2004).
7. Ryan and Deci (2000).
8. Boniwell (2012).
9. Waterman (1993).
10. Csikszentmihalyi (1992).
11. Diener et al. (1985); Diener (2000); Pavot and Diener (2008); Fredrickson (2001).
12. Nesse (2005).
13. Arthaud-Day et al. (2005); Bradburn and Caplovitz (1965); Bradburn (1969); Watson et al. (1988).
14. Diener et al. (1999).
15. Diener et al. (1999).
16. cf. Watson et al. (1999).
17. Bruder et al. (1997); Davidson (1992); Tomarken and Keener (1998).
18. Barbara Fredrickson (2001, 2009).
19. Fredrickson (2009, p. 234).
20. Diener et al. (1999).
21. Arthaud-Day et al., (2005).
22. Prince et al. (1999).
23. Lyubomirsky and Lepper (1999); Arthaud-Day et al. (2005).
24. Andrews and Withey (1976).
25. Campbell et al. (1976).
26. Diener et al. (1985).
27. Kammann and Flett (1983).
28. Bradburn (1969).
29. Watson et al. (1988).
30. Diener et al. (2010).
31. Beck et al. (1961).
32. Prince et al. (1999).
33. cf. Diener et al. (2010).
34. cf. Diener et al. (1999).
35. Kohonen (1982).
36. The target population for the baseline samples consists of *all persons born in 1960 or earlier* having their regular residence in the respective country, together with their current partners/spouses, independent of age (Börsch-Supan, 2013).
37. Scheier and Carver (1985).
38. Vesanto et al. (2000).
39. Kohonen (2001).
40. Diener et al. (1999); Watson et al. (1999).
41. Pavot and Diener (1993); Arthaud-Day et al. (2005); Prince et al. (1999).
42. Diener et al. (1999).
43. Diener and Emmons (1984); Veenhoven (1984).

References

- Andrews, F. M., & Withey, S. B. (1976). *Social Indicators of well-being: Americans' perceptions of life quality*. New York: Plenum.
- Arthaud-Day, M. L., Rode, J. C., Mooney, C.H., & Near, J. P. (2005). The subjective well-being construct: a test of its convergent, discriminant, and factorial validity. *Social Indicators Research*, 74, pp. 445–476.
- Beck, A.T., Ward, C. H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An inventory for measuring depression. *Archives of General Psychiatry* 4, pp. 561–571.
- Boniwell, I. (2012). *Positive psychology in a nutshell. The science of happiness*. Maidenhead: Open University Press.
- Börsch-Supan, A. (2013). *Survey of health, ageing and retirement in europe wave 4* (release version 1.1.1.). DOI: 10.6103/SHARE.w4.111
- Bradburn, N. M. (1969). *The structure of psychological well-being*. Chicago, IL: Aldine Publishing Company.
- Bradburn, N. M., & Caplovitz, D. (1965). *Reports on happiness*. Chicago, IL: Aldine Publishing Company.
- Bruder, G.E., Fong, R., Tenke, C.E., Leite, P., Towey, J.P., & Stewart, J.E. (1997). Regional brain asymmetries in major depression with or without an anxiety disorder: A quantitative electroencephalographic study. *Biological Psychiatry*, 41, pp. 939–948.
- Csikszentmihalyi, M. (1992). *Flow. The psychology of happiness*. London: Rider.
- Davidson, R. J. (1992). Emotion and affective style: Hemispheric substrates. *Psychological Science*, 3, pp. 39–43.
- Diener, E. (2000). Subjective well-being: The science of happiness, and a proposal for a national index. *American Psychologist*, 55, pp. 34–43.
- Diener, E., & Emmons, R.A. (1984). The independence of positive and negative affect. *Journal of Personality and Social Psychology*, 47, 1105–1117.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49, 71–75.
- Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin*, 125, pp. 276–302.
- Diener E., Oishi, S., & Lucas, R.E. (2003). Personality, culture and subjective well-being: Emotional and cognitive evaluations of life. *Annual Review of Psychology*, 59, pp. 229–259.
- Diener, E., Ng, W., Harter, J. & Arora, R. (2010). Wealth and happiness across the world: Material prosperity predicts life evaluation, whereas psychosocial prosperity predicts positive feeling. *Journal of Personality and Social Psychology*, 99, pp. 52–61.
- Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D. W., Oishi, S., & Biswas-Diener, R. (2010).
- New well-being measures: Short scales to assess flourishing and positive and negative feelings. *Social Indicators Research*, 97(2), 143–156.
- Fredrickson, B.L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotion. *American Psychologist*, 56, pp. 218–226.
- Fredrickson, B.L. (2009). *Positivity*. Crown Publishers.
- Kammann, N.R., & Flett, R. (1983). Affectometer 2: A scale to measure current level of general happiness. *Australian Journal of Psychology*, 35(2), 259–265.
- Kohonen, T. (1982). Self-organized formation of topologically correct feature maps. *Biological Cybernetics*, 43, pp. 59–69.
- Kohonen, T. (2001). *Self-Organizing Maps*. Berlin: Springer.
- Lyubomirsky, S., & Lepper, H. (1999). A measure of subjective happiness: Preliminary reliability and construct validation. *Social Indicators Research*, 46, pp. 137–155.
- Massimini, F., & Delle Fave, A. (2000). Individual development in a bio-cultural perspective. *American Psychologist*, 55, pp. 24–33.
- Nesse, R. M. (2005). Natural selection and the regulation of defenses: A signal detection analysis of the smoke detector principle. *Evolution and Human Behavior*, 26, pp. 88–105.
- Pavot, W., & Diener, E. (1993). Review of the satisfaction with life scale. *Psychological Assessment*, 5, pp. 164–172.
- Pavot, W., & Diener, E. (2008). The satisfaction with life scale and the emerging construct of life satisfaction. *The Journal of Positive Psychology*, 3, pp. 137–152.
- Prince, M.J., Reischies, F., Beekman, A.T.F (1999): Development of the EURO-D scale – a European Union initiative to compare symptoms of depression in 14 European centres. *British Journal of Psychiatry*, 174, pp. 330–38.
- Ryan, R.M., & Deci, E.L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, pp. 68–78.
- Ryan, R.M., & Deci, E.L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. In Fiske, S. (Ed). *Annual review of psychology* (Vol. 52, pp. 141–166). Palo Alto, CA: Annual Reviews Inc.

- Ryff, C.D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57, pp. 1069–1081.
- Ryff, C., & Keyes, C. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, 69, pp. 719–727.
- Ryff, C. D., & Singer, B. H. (1998). The contours of positive human health. *Psychological Inquiry*, 9, pp. 1–28.
- Ryff, C. D., Singer, B. H., & Love, G. D. (2004). Positive health: Connecting well-being with biology. *Philosophical Transactions of the Royal Society of London B*, 359, pp. 1383–1394.
- Scheier, M. F. & Carver, C. S. (1985). Optimism, coping, and health: assessment and implications of generalized outcome expectancies. *Health Psychology*, 4, pp. 219–247.
- Seligman, M.E.P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, 55(1), 5–14.
- Seligman, M.E.P. (2002). *Authentic happiness: Using the new positive psychology to realize your potential for lasting fulfillment*. New York: Free Press.
- Seligman, M.E.P., Steen, T.A., Park, N. & Peterson, C. (2005). Positive psychology progress: empirical validation of interventions. *American Psychologist*, 60, pp. 410–421.
- Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). The meaning in life questionnaire: Assessing the presence of and search for meaning in life. *Journal of Counseling Psychology*, 53, pp. 80–93.
- Tomarken, A. J., & Keener, A. D. (1998). Frontal brain asymmetry and depression: A self-regulatory perspective. *Cognition and Emotion*, 12, pp. 387–420.
- Veenhoven, R. (1984) *Databook of Happiness*. Dordrecht: Reidel Publishing Company.
- Vesanto, J., Himberg, J., Alhoniemi, E., & Parhankangas, J. (2000). *SOM toolbox for Matlab 5, Technical Report A57*. Finland: Helsinki University of Technology.
- Waterman, A.S. (1993). Two conceptions of happiness: Contrasts of personal expressiveness (eudaimonia) and hedonic enjoyment. *Journal of Personality and Social Psychology*, 64(4), 678–691.
- Waterman, A.S., Schwartz, S.J., Zamboanga, B.L., Ravert, R.D., Williams, M.K., Agocha, M.B., & Donnellan, V.B. (2010). The questionnaire for eudaimonic well-being: Psychometric properties, demographic comparisons, and evidence of validity. *The Journal of Positive Psychology*, 5(1), 41–61.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS Scales. *Journal of Personality and Social Psychology*, 54(6), 1063–1070.
- Watson, D., Wiese, D., Vaidya, J., & Tellegen, A. (1999). The two general activation systems of affect: Structural findings, evolutionary considerations, and psychobiological evidence. *Journal of Personality and Social Psychology*, 76, 820–838.



Edited by Jeffrey Sachs, Leonardo Becchetti, Anthony Annett

This publication may be reproduced using the following reference:

Sachs, J., Becchetti, L., & Annett, A. (2016). *World Happiness Report 2016, Special Rome Edition* (Vol. II). New York: Sustainable Development Solutions Network.

World Happiness Report management by Sharon Paculor and Anthony Annett, copy edit by Jill Hamburg Coplan, Aditi Shah and Saloni Jain, design by John Stislow and Stephanie Stislow, cover design by Sunghee Kim.

Full text and supporting documentation can be downloaded from the website:

[http://worldhappiness.report/
#happiness2016](http://worldhappiness.report/#happiness2016)

ISBN 978-0-9968513-4-3 Volume II

SDSN

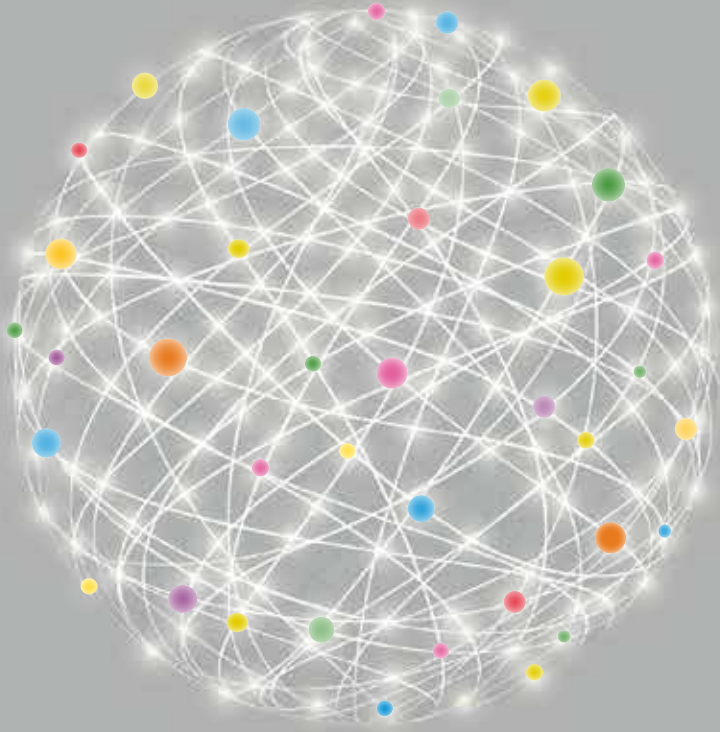
The Sustainable Development Solutions Network (SDSN) engages scientists, engineers, business and civil society leaders, and development practitioners for evidence based problem solving. It promotes solutions initiatives that demonstrate the potential of technical and business innovation to support sustainable development (www.unsdsn.org).

Sustainable Development Solutions Network
314 Low Library
535 W 116th Street
New York, NY 10027
USA



WORLD HAPPINESS REPORT 2016 | VOLUME II

Special Rome Edition



THE EARTH INSTITUTE
COLUMBIA UNIVERSITY

 CENTRE *for* ECONOMIC
P E R F O R M A N C E 



SUSTAINABLE DEVELOPMENT
SOLUTIONS NETWORK
A GLOBAL INITIATIVE FOR THE UNITED NATIONS

CIFAR
CANADIAN
INSTITUTE
FOR
ADVANCED
RESEARCH

ICRA
L'INSTITUT
CANADIEN
DE
RECHERCHES
AVANCÉES