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VALUES, INEQUALITY AND HAPPINESS

by Claudia Biancotti* and Giovanni D'Alessio*

Abstract

This paper examines the relationship between inequality and happiness through the lens of heterogeneous values, beliefs and inclinations. Drawing upon opinion data from the European Social Survey for twenty-three countries, we find that individual views on a wide range of themes can be effectively summarized by two orthogonal dimensions: moderation and inclusiveness. The former is defined as a tendency to take mild stands on issues rather than extreme ones; the latter is defined as the degree of support for a social model that grants equal rights to everyone who willingly subscribes to a shared set of rules, regardless of background and circumstances. These traits matter when it comes to how inequality affects subjective well-being; specifically, those who are either more moderate or more inclusive than their average compatriots prefer lower levels of inequality. In the case of moderation, inequality aversion can be read in terms of a desire for stability: people who are reluctant to take strong stands are especially wary of conflict, tension and unrest, which often go hand-in-hand with disparities. In the case of inclusiveness, the main element at play is likely to be distress accruing on a perception of unfairness.

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Contents

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1 Introduction

Is inequality desirable or undesirable? Does it have an effect on well-being, and is this effect uniform across countries and people? These are very important research questions, if only on account of the political relevance of debates on redistribution.

Different disciplines provide different answers. Economists generally seek to qualify inequality according to its effect on indicators of material welfare, such as the growth rate of GDP per capita; so far, results have been mixed [Alesina and Perotti, 1996; Bertola, 1999; Forbes, 2000; Keefer and Knack, 2002; Quah, 2003; Banerjee and Duflo, 2003]. Moral philosophers and social choice scholars, on the other hand, tend to evaluate income distributions based on their compliance with a theory of justice, again with varied conclusions [Rawls, 1971; Dworkin, 1981; Cohen, 1989; Lefranc, Pistolesi and Trannoy, 2006]. The two camps overlap only occasionally; when they do, discussions arise over the relative importance that should be attributed to economic performance and ethical concerns [World Bank, 2005; Roemer, 2006].

In recent years, a new perspective has emerged. Data on subjective well-being or 'happiness', once used almost exclusively in psychology, have gained credibility among economists in the wake of the success enjoyed by behavioural studies, and of improved techniques for the measurement of subjective states [Frey and Stutzer, 2002; Kahneman and Kruger, 2006; Di Tella and McCulloch, 2006]. Researchers can now ascertain how people feel about inequality and why, as a useful complement to asking whether a distributive rule is good or bad in the light of a general principle.

The happiness perspective appears to offer a major advantage in the analysis of a political and emotional wedge issue such as inequality: it is intrinsically focused on heterogeneity. Different individuals have been found to map the same events of life into happiness levels in a different way, depending on circumstances, attitudes, beliefs, and a host of other factors [Rojas, 2007][1]. In a sense, happines studies are naturally positioned at the

[1]For example, Frey and Stutzer [2005] show that a worker's ethnic background is important in determining how workplace policies in favour of racial integration affect their happiness. Becchetti, Castriota and Giuntella [2006] use data on subjective well-being to estimate how the trade-off between inflation and unemployment differs across social groups, following the idea of community group indifference maps originally provided by Chossudovsky [1972]. McFarlin and Rice [1992] prove that subjective facet importance is

final stage of the debate, already incorporating the idea that the ordering of distributions is better left to politics, at least until the weight assigned to notions such as equity or efficiency varies across the population.

This paper brings together in a simple model suggestions from different strands of thought. We hypothesize that inequality exerts an effect on subjective well-being, and focus on the role of personal values as a filter between the two. Looking at survey data for more than 32,000 individuals in twenty-three European countries, we perform multivariate analysis on eighteen statements related to diverse moral issues, and extrapolate two orthogonal dimensions: moderation, defined as a tendency to take mild stands on issues rather than extreme ones, and inclusiveness, defined as support for a social model that grants equal rights to everyone who willingly subscribes to a shared set of rules, regardless of background and circumstances. When regressing happiness on the interaction between values and distributive indicators, we find that individuals who are either more moderate or more inclusive than their representative compatriots prefer lower levels of inequality. In the case of moderation, we read this result in terms of a desire for stability: people who are reluctant to take strong stands are especially wary of conflict, tension and unrest, frequent companions to disparities. In the case of inclusiveness, the main element at play is likely to be distress accruing on a perception of unfairness.

The paper is structured as follows. Section 2 provides a review of the literature on inequality and happiness. Section 3 introduces our model. Section 4 describes the data. Section 5 presents the results. Section 6 concludes. The Appendix contains further tables.

2 The literature

Many papers have been written on the relationship between inequality and happiness, usually incorporating the idea that the connection is strongly subjective in nature. The individual filter has been analysed from a number of angles.

The approach closest to the one we propose here singles out the role played by interpretation: happiness is not influenced by the distribution of

a non-negligible factor in determining overall levels of job satisfaction. Kohler, Behrman and Skytthe [2005] find that the impact of parenthood on happiness can be different for mothers and fathers.

income *per se*, but rather by the social ordering observers read into it. Most authors highlight the relevance of cultural elements in shaping the interpretation process, thus falling into step with the growing literature devoted to how collective beliefs affect economic behaviours and outcomes [Guiso, Sapienza and Zingales, 2003; Tabellini, 2006; Férnandez and Fogli, 2006; Horii, Jin and Levitt, 2005].

Graham and Felton [2006] find that in Latin America the correlation between Gini coefficients and happiness is strongly negative, since most people perceive it as an indicator of persistent social rifts and poverty traps. Alesina, Di Tella and McCulloch [2004] analyse the differences between North America and Europe, also taking into account heterogeneity in social class and political positioning. They conclude that the American poor do not dislike inequality, because they believe that adequate effort will save them; the American rich who define themselves as left-leaning do, because they find it unfair, and possibly because they are afraid of losing their place. In Europe, on the contrary, aversion to inequality is found chiefly among the poor, who feel stuck in their situation independent of political orientation. While not directly tackling subjective well-being, Bénabou and Tirole [2006] present similar insights in their work on beliefs and redistributive policies: North Americans mostly see poverty as an indicator of laziness, and inequality as a signal of mobility, while Europeans tend to believe that the poor are mainly unlucky, and associate inequality with unearned fortunes.

Another popular point of view in the study of inequality and happiness is the positional one: people do not like to see inequality because it makes them feel bad about their own circumstances relative to others. The relatively poor resent their economic inferiority (envy), and the relatively rich resent their enjoyment of privileges that others do not have access to (guilt). In their seminal paper on cooperative behaviour in games, Fehr and Schmidt [1999] term the combination of these feelings 'self-centred inequity aversion'.

The theme of envy has illustrious precedents: the idea that upward comparison leads to dissatisfaction dates as far back as Veblen [1899], and was greatly expanded upon by Easterlin [1974] and Hirsch [1976] in their studies on adaptive expectations and status signalling. If we assume that individual desire for consumption is influenced by social standards, then the comparison with others becomes, to a certain extent, also a comparison with one's own aspirations; psychology offers a class of 'have-want' models for the

analysis of this phenomenon, recently adopted by economists interested in happiness [Stutzer, 2004; Easterlin, 2006]. Clark and Oswald [1996] find that the self-reported satisfaction of British workers is negatively related to their benchmark wage, i.e. the average wage earned by workers with the same qualifications and experience; Luttmer [2005] has similar results for the United States.[2] As for the role of guilt as an engine of inequality aversion on the part of the rich, results in behavioral economics appear to prove that downward comparison might curb happiness because of various factors, including but not limited to feelings of altruism, a yearning for justice, fear that a privileged place in society can make one the target of resentment and violence, and even an interest in allocative efficiency [Hoffman, McCabe and Smith, 1996; Fehr and Fischbacher, 2002; Henrich *et al*, 2004].

In this paper, we take into account both interpretation processes and positional concerns. Although the two have already been considered together in experiments based on modified Ultimatum Games [Hoffman, McCabe, Shachat, and Smith, 1994], to our knowledge there is only one work that does so in the context of the relationship between inequality and happiness: Clark [2003] estimates the effects of both relative income and absolute inequality in Britain, finding that happiness is increasing in both (people probably approve of competing, but disapprove of losing).

Moreover, while the importance of beliefs has been singled out in the past, our contribution appears to be the first that articulates the relationship between a wide array of core moral values and feelings on inequality at the individual level. The micro-level perspective, while common in sociology [Inglehart and Baker, 2000], so far has not been used frequently by economists, who prefer to typify individuals based on exogenous partitions that function as proxies for inherited culture and customs: religious denomination, nationality, ethnicity. There are valid reasons for this choice: most importantly, the set of priors and preferences accruing to a certain type of religious doctrine or to a certain national community has been shown to be so slow-moving that reverse causation from almost any dependent variable to those features can be ruled out, at least in the short run. We try simultaneously to preserve the high degree of freedom and detail allowed by

[2]There are even indications that this type of feeling might not be exclusive to humans, as the experiments on monkeys conducted by Brosnan and de Waal [2003] show: capuchin monkeys trained to exchange rock tokens for food react badly whenever they perceive that they are being shortchanged compared with their peers.

micro-level analysis and to avoid the problems of causality by limiting our study to beliefs and preferences that appear to be set deep in the psychological makeup of individuals or in their upbringing, and should therefore not be influenced by the level of happiness experienced in a given period.

3 The model

The model we propose integrates the suggestions of the literature discussed above with a systematic attempt to formalise the precise nature of the process through which agents filter perceptions of inequality into feelings of happiness.

The idea is as follows. Individuals look at the whole distribution of incomes in order to determine their well-being; in particular, they take into consideration, besides their own income, one or more measures of position, and one or more measures of dispersion. The former constitute a reference point for the determination of one's social status, while the latter are read as a description of the social ordering and its degree of persistence. Distributive features are then filtered into happiness on the basis of inclinations, beliefs and values, defined respectively as innate character traits, priors about how the world actually works, and preferences about how it should work [Guiso, Sapienza, and Zingales, 2006]. For the sake of simplicity, we will refer to these three concepts with the sole term 'values' in the following. In particular, we want to see whether heterogeneity in personal values implies heterogeneity in the links between inequality and happiness.

The idea can be formalized as follows:

$$H_i = h(g(f_i(x), v_i), q_i) \tag{1}$$

where H_i is the happiness level for agent i and h is the technology of happiness production. The function g describes how v_i, the vector of personal values for individual i, interacts with the perceived density function of income $f_i(x)$ in order to produce a judgement on distributive matters. Finally, q_i is a vector of known determinants of happiness, such as health and marital status.

From (1) we derive the following equation for estimation purposes:

$$\mathbf{H} = \beta[\mathbf{S} - \overline{\mathbf{S}}_c]'[\mathbf{Y} \;\; \overline{\mathbf{Y}}_r \;\; \overline{\mathbf{Y}}_c \;\; \mathbf{G}_r] + \gamma\mathbf{Q} + \varepsilon \tag{2}$$

where $\mathbf{H}$ is the vector of self-reported happiness levels; $[\mathbf{S} - \overline{\mathbf{S}}_c]$ is a matrix of synthetical indicators of personal values, resulting from multivariate analysis of elementary value items and expressed as deviations from national medians; $\mathbf{Y}$, $\overline{\mathbf{Y}}_r$, $\overline{\mathbf{Y}}_c$ and $\mathbf{G}_r$ are respectively the vectors of personal incomes, median incomes in the respondent's region and country, and standardized interquartile ranges for incomes in the respondent's region. Finally, $\mathbf{Q}$ is a matrix of controls.

We choose to estimate a few synthetical indicators from a large array of elementary value items, rather than directly picking a group of values small enough to generate an economical specification of the regression. We want to eschew self-fulfilling intuitive priors, such as the idea that a favourable disposition to solidarity matters more than, say, the level of trust towards others in determining what kind of income distribution a person desires.

Values are expressed in terms of deviations from the national median because we know, from results in public choice theory first derived by Meltzer and Richard [1981] and subsequently refined, that the distribution of income is influenced by the institutional and political features of a country. Those, in turn, can be held to reflect prevailing preferences through electoral mechanisms, a particularly relevant aspect for a sample consisting entirely of democratic countries. While the derivation of a voting model is beyond the goal of this paper, we need to neutralize potential endogeneity problems arising from the correlation between mainstream opinions and observed inequality levels; looking at relative rather than absolute values appears to be the most natural solution. In doing so, we also follow the insight offered by psychologists Sagiv and Schwartz [2000], according to whom 'well-being [also] depends upon congruence between personal values and the prevailing value environment'. Our reference unit for calculating deviations is the country because, to the best of our knowledge, the large majority of welfare policies in the area we consider are decided at the national level.

Where income is concerned, we use positional and distributive indicators at the regional level instead, so as to better represent the idea of *perceived* income distribution expressed in (1). We follow an insight that is present throughout the literature reviewed in Section 2: people are imperfectly informed about the income of others, and in general the knowledge that person A has about the standard of living of person B is inversely proportional to the geographical distance between the two, both because of direct exposure

and the impact of local news media. This idea is incorporated in our model by assuming that people derive their distributive facts from short-range information only.[3] We add the national median of incomes as a proxy of the quality of public goods and the general standards of living.

4 The data

The empirical analysis is based on data from the second round of the European Social Survey, carried out in 2004. The Survey, funded by the European Commission, the European Science Foundation and several national partners, 'has been mapping long-term attitudinal and behavioural changes in Europe's social, political and moral climate' since 2001 [`www.europeansocialsurvey.org`, 2007]. It is directed by an international Central Co-ordinating Team based in London, and carried out every two years by independent national teams; a single questionnaire is created in English, then translated into several languages. Contrary to other surveys of a similar nature, the sampling design is entirely probabilistic. In countries where lists of households are available, the sampling unit is the household; otherwise, the sampling unit is the street address, then a household living at that address is chosen at random. In both cases, the final respondent is an adult chosen at random among the members of the household.

Each round has a core module covering twelve broad topics, ranging from demographics and financial circumstances to political engagement and subjective well-being. Several rotating modules, which vary from round to round, complement the core module. We focus on the second round only, disregarding the first, not only because it covers a larger number of countries,

[3]This strategy ignores the suggestion provided by public choice theory according to which perceptions such as the one we are studying should be reconstructed based both on where an agent lives and on their degree of interest in the phenomenon at hand: someone who follows economic news closely might have a precise idea of the national and even international distribution of income, while someone who is uninterested in the matter might have a knowledge that is limited to the immediate neighbourhood. The hypothesis has been proven correct in several occasions, but we cannot employ it in our empirical work for two reasons. Even if we were able to identify groups with different informational scopes, which may be possible in the light of available data, the sample size would not allow us to estimate inequality at the appropriate level for the less informed, say town or district. Also, we would need assumptions concerning not only the relationship between the self-reported degree of information and the scope of knowledge about incomes, but also the distribution of the error term, which would probably be both higher and more variable for the less informed. These two processes appear to introduce a degree of arbitrariness that offsets the gains.

but also because it offers a rotating module on economic morality, which helps to ascertain individual attitudes towards a wide range of economic behaviours. At the time of writing this paper, data for twenty-six countries had been released to the public; we included twenty-three.[4] Most national samples comprise between 1,500 and 2,500 observations, for a total of 43,650, and all come with design weights for national estimates. For Europe-wide estimates, population weights are provided that correct for the imbalance in sampling fractions.

Item non-response is a serious problem in the ESS; data on income and on personal values, both of which are essential for our model, are particularly affected. We tried to balance quality and quantity through a mixture of model-based imputation, variable selection and data deletion, as discussed in Sections 4.1 and 4.2. The final sample includes 35,335 observations, or 80.95 per cent of the original ESS sample (Tables 1 and A.1), with national samples ranging from 507 households for Iceland to 2,370 households for Germany.

Table 1: **Sample size and sampling fraction, by country**$^{+}$

Country	**N**	**Sampling fraction** (‰)	**Country**	**N**	**Sampling fraction** (‰)
Austria	1,602	0.197	Luxembourg	1,295	2.868
Belgium	1,636	0.157	Netherlands	1,745	0.107
Czech Republic	1,781	0.174	Norway	1,710	0.374
Denmark	1,248	0.231	Poland	1,307	0.034
Estonia	1,289	0.954	Portugal	1,626	0.155
Finland	1,887	0.362	Slovakia	1,022	0.190
France	1,404	0.023	Slovenia	1,152	0.577
Germany	2,430	0.029	Spain	1,321	0.031
Greece	2,048	0.185	Sweden	1,754	0.195
Hungary	1,153	0.114	Switzerland	1,860	0.253
Iceland	507	1.745	United Kingdom	1,755	0.029
Ireland	1,803	0.448	**Total**	**35,335**	**0.087**

$^{+}$Sampling fractions are computed based on population statistics for 1.1.2004, as provided by Eurostat in *Population and Social Conditions, 2005/15.*

The ESS questionnaire can be found on the Web, along with methodological documentation. In the following, we skip a detailed discussion of variables that were merely taken in their original state and inserted in our estimates as controls; instead, we focus on the treatment of income variables,

[4]Italy, Turkey and Ukraine were excluded on account of heavy item non-response for questions related to values and beliefs.

and on the choice of indicators for beliefs and values.

4.1 Income variables

The ESS questionnaire features the following item:

> [I]f you add up the income from all sources, which letter describes your household's total net income? If you don't know the exact figure, please give an estimate.

Respondents are shown a card listing twelve brackets of weekly income, each labelled with a different letter; the scale is also converted to monthly and yearly equivalents for the sake of clarity. The brackets are of unequal size, smaller at the bottom and larger at the top; the extreme ones are open-ended, respectively including any income below 40 euros per week and any income above 2,310 euros per week.

The item non-response rate for this question totals 19.61 per cent of the final sample and is unevenly distributed across countries: in Norway and Sweden it is below 3 per cent, while in Portugal and Greece it exceeds 30 per cent. Since the willingness to provide income information is very likely to be correlated with culture and values, as suggested on an intuitive level by the geographical distribution of response rates, the mere elimination of observations with missing values would probably introduce selection bias and distort the results of subsequent analyses.

For each country, we estimate a simple logistic regression linking income class with household size and with the answer to the following question:

> Which of the[se] descriptions comes closest to how you feel about your household's income nowadays: living comfortably on present income, coping on present income, finding it difficult on present income, or finding it very difficult on present income?

The model turns out to have good explanatory power for all countries, with the share of concordant observation-prediction pairs ranging from 68.2 to 87.0 per cent depending on the country. We therefore employ it to impute missing values: the resulting distribution is close to the original one (Table 2).

Even after taking care of missing data we still are left with income classes, not income levels: the only information available on those is limited to the

Table 2: **Count and distribution of income classes**

Class	Absolute frequencies			Relative frequencies		
	Imputed	**Not Imputed**	**Total sample**	**Imputed**	**Not Imputed**	**Total sample**
1	96	409	505	1.39	1.44	1.43
2	331	1,394	1,725	4.78	4.91	4.88
3	608	2,176	2,784	8.77	7.66	7.88
4	1,185	4,068	5,253	17.10	14.32	14.87
5	919	4,033	4,952	13.26	14.20	14.01
6	804	3,255	4,059	11.60	11.46	11.49
7	645	2,772	3,417	9.31	9.76	9.67
8	678	2,799	3,477	9.78	9.85	9.84
9	980	4,540	5,520	14.14	15.98	15.62
10	406	1,941	2,347	5.86	6.83	6.64
11	147	605	752	2.12	2.13	2.13
12	132	412	544	1.90	1.45	1.54
Sample total	**6,931**	**28,404**	**35,335**	**100.00**	**100.00**	**100.00**
Row frequencies	**-**	**-**	**-**	**19.62**	**80.38**	**100.00**

five per cent of the original sample who answered a question on the individual net pay of the respondent alone for his or her main occupation. However, classes are not adequate for the estimation of position and dispersion measures, and neither are simple imputation procedures based on random draws from uniform distributions within the classes. First, the distribution of income is generally log-normal, implying that the distribution within classes is skewed to the left for low incomes and to the right for high incomes; the assumption of uniformity results in (probably asymmetrical) overestimation of the weight on distribution tails, yielding in turn unpredictable effects on inequality measures. Also, we need to take demographic structure into account, especially because our sample includes both Western and Eastern European countries; if, say, larger households are routinely closer to the upper bound of their income class than smaller households, neglecting household size and composition will lead to underestimation of incomes in countries with higher fertility rates.

In order to take these important issues into account, we undertake a further imputation step based on stratified density estimation. For each country and for each household size a Gaussian kernel of the whole distribution is estimated; the resulting density is then normalized within each class, so that household incomes can be drawn at random. In order to perform this operation in the extreme classes, we apply bottom-coding and top-coding:

the lowest bracket is closed at null income and the upper bracket is closed at 150,000 euros.[5]Amounts thus obtained are equivalized with the modified OECD equivalence scale. The weighted mean, median and standardized interquartile range for the distribution of equivalent incomes are then computed both at the national level and separately for each region, following the EU-NUTS2 partition where the data allows, and the EU-NUTS1 partition otherwise.

4.2 Values

The ESS offers hundreds of value-related questions, but most of them are only answered by a share of the sample. We need to select a subset of variables that strike a reasonable balance between the richness of individual information and the availability of valid observations. Once this goal is attained, a small number of synthetic indicators must be produced so as to provide convenient input for regression analysis.

We go about the first task by classifying available information on beliefs and values into six broad thematic categories: trust, solidarity, legality, civic engagement, the family, and diversity. Within each domain, the three variables with the lowest incidence of item non-response are chosen, for a total of eighteen variables (Table A.2). The eighteen items are then subjected to multiple correspondence analysis, a form of multivariate analysis suitable for qualitative data. This technique is essentially a version of principal component analysis based on the chi-square metric rather than on the euclidean metric; for details see Benzécri [1973] and Lebart, Morineau and Warwick [1984]. In layman's terms, we study how opinions expressed by individuals on a large set of topics combine along a limited number of orthogonal dimensions called factors, which are entirely endogenous to the data, and should serve as a way of summarizing and interpreting them.

The estimation of multiple correspondences yields a reasonably good fit, with the first two factors explaining 79.4 per cent of the total variance generated by the eighteen individual variables (Table 3). Factor loadings are reported in Table A.3, complete with relevant fit statistics.

Factor 1 explains 48.9 per cent of total variance. For the question 'Gen-

[5]Different choices, including the use of country-specific brackets and alternative kernel functions, have been subjected to testing and do not appear to exert any considerable influence on the final estimates.

Table 3: **Inertia and explained variance for multiple correspondence analysis**$^{+}$

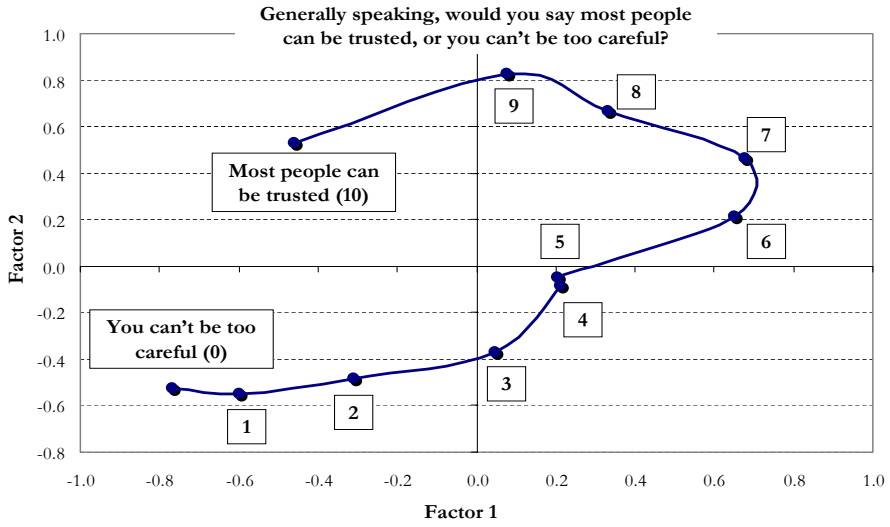
Factor	Inertia	Adjusted inertia (Benzécri)	Variance explained (per cent)	Cumulative variance explained	Goodness of fit
1	0.16374	0.01312	48.88	48.88	**********
2	0.14101	0.00819	30.5	79.38	**********
3	0.09443	0.00169	6.31	85.69	***
4	0.08447	0.00094	3.49	89.18	**
5	0.08029	0.00069	2.56	91.74	*
6	0.07641	0.00049	1.82	93.55	*
7	0.07391	0.00038	1.41	94.96	*
8	0.07245	0.00032	1.19	96.15	*
9	0.07198	0.00030	1.13	97.28	*

+Only factors that explain one per cent or more of global variance are included in the table.

erally speaking, would you say that most people can be trusted, or that you can't be too careful?', for which an 11-point response scale is offered where 0 means 'You can't be too careful' and 10 means 'Most people can be trusted', positive factor loadings are estimated on scores of 4 to 9; they are highest for scores of 6 and 7. Negative loadings appear for very low scores and for the top score (Figure 1). For the question 'When jobs are scarce, men should have more right to a job than women', positive loadings are observed for 'Agree', 'Neither agree nor disagree', and 'Disagree', with the latter option also being the one with the highest estimate; negative loadings are found for 'Strongly agree' and 'Strongly disagree'. In the case of 'How wrong is it for someone to sell something second-hand and conceal some or all of its faults?', positive loadings again apply for the intermediate response options 'A bit wrong' and 'Wrong', while 'Not wrong at all' and 'Seriously wrong' are associated with negative estimates. A similar U-shaped profile for loadings emerges for the five-point agreement scale proposed for 'Society would be better off if everyone just looked after themselves', for the four possible answers to 'To what extent do you think your country should allow people of a different race to come and live here?', and for nearly all other questions.

The picture painted by the analysis of loadings suggests that Factor 1 can be tentatively interpreted as an indicator of *moderation*, defined as the tendency to express mild opinions rather than extreme ones: individuals who score high on this factor are more likely to report agreement, disagreement or (less frequently) lack of opinion with respect to any given statement

Figure 1: **An example of factor loadings**



than to express strong agreement or strong disagreement. The inclination towards moderation measured by the factor turns out to be independent of the specific beliefs held: negative loadings are consistently estimated for extreme values of the agreement scale on items as different as 'A woman should be prepared to cut down on her paid work for the sake of her family' and 'Gay men and lesbians should be free to live as they wish'.

Factor 2 explains 30.5 per cent of total variance. Positive factor loadings are associated with high levels of trust (score from 6 or above), disagreement or strong disagreement with a men-first policy in the job market, thorough condemnation of fraud, disagreement or strong disagreement with the idea that society would be better if everyone looked after themselves, and openness towards immigrants of different races. Individuals who score high on this axis also believe that citizens should spend some of their free time helping others, state that they are not afraid of being treated dishonestly, appear supportive of gender equality from a number of perspectives, and actively participate in politics.

The joint consideration of these elements hints at a possible interpretation of Factor 2 in terms of *inclusiveness*, defined as support for the extension of rights and opportunities to everyone, regardless of background and circumstances. There is also an element of social cohesion based on the consistent subscription to a shared set of rules.

Figure 2: **Country medians for factor scores**

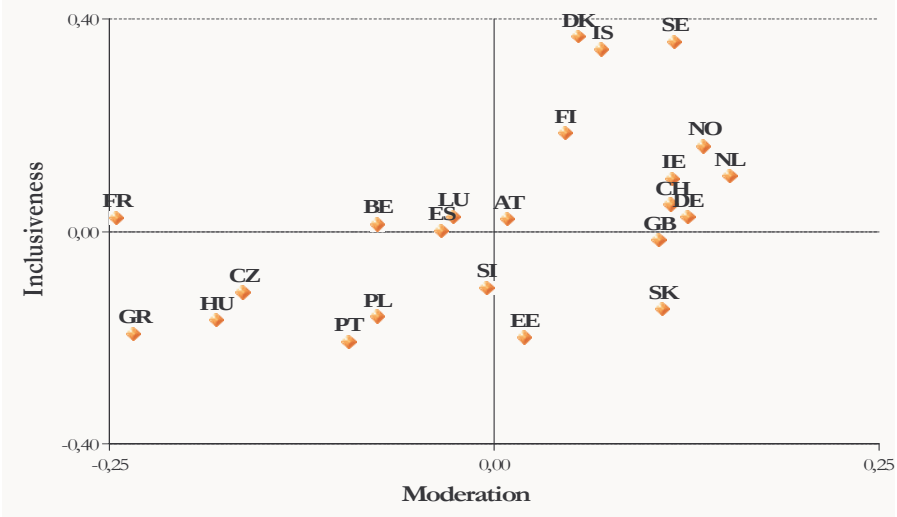


Figure 2 represents country medians on the two factor axes. Scandinavia scores high on both moderation and inclusiveness, while Mediterranean countries and Eastern European ones are located in the opposite quadrant. Central European and Anglophone countries display positive scores for moderation, and hover around the mean with respect to inclusiveness.

The analysis of the correlation matrix between factor scores and other individual traits reveals that associations between values, demographics and social class are weak, with the Pearson correlation coefficient reaching a maximum of 0.39 in the case of inclusiveness and the number of years spent in formal education. Age seems to have no correlation with moderation (-0.07) and a slightly negative correlation (-0.14) with inclusiveness. Income also feebly correlates with both (0.12 and 0.23 respectively).[6]

5 Results

We want to test whether heterogeneity in values, as summarized in our two-factor representation, also implies heterogeneity in the links between

[6]In the case of income, correlations are bound to be artificially weakened by the imputation process. When computed on just raw data, however, the coefficients change only slightly.

inequality and happiness. To this end, we run a set of ordered logits where the degree of happiness in a scale ranging from 0 to 10 appears on the left-hand side, while a number of variables related to the distribution of income at the regional level appear on the right-hand side, both in raw form and interacted with deviations from national medians in terms of moderation and inclusiveness. These core variables are supplemented by a large number of controls that are routinely used in happiness regressions.

Table 4 presents our results. When estimating the specification in (2), the regression coefficient for our indicator of inequality amounts to 0.24, and after correction of standard errors for clustering at the regional level it is barely significant at the 10 per cent level. However, the interaction between the same indicator and individual deviation in moderation from the national median has a coefficient of -1.27, significant at the 1 per cent level; the interaction between inequality and individual deviation in inclusiveness from the national median has a coefficient of -0.63 and is significant at the 5 per cent level.[7]

Table 4: **Ordered logit estimates for happiness**

	Estimate	**Std Err$^+$**	**Pr>ChiSq**
Equivalent income			
Log own	0.144	0.024	0.000
*Moderation *(deviation from median)*	-0.081	0.070	0.248
*Inclusiveness *(deviation from median)*	-0.160	0.073	0.028
Std interquartile range, regional	0.248	0.150	0.098
*Moderation	-1.272	0.282	0.000
*Inclusiveness	-0.627	0.307	0.041
Log median, national	0.466	0.171	0.006
*Moderation	-0.026	0.252	0.917
*Inclusiveness	-0.469	0.330	0.156
Log median, regional	-0.105	0.165	0.525
*Moderation	-0.201	0.253	0.426
*Inclusiveness	0.225	0.349	0.520
Demographics			
Gender: female	0.115	0.038	0.002
Age	-0.066	0.009	0.000
Age squared	0.001	0.000	0.000
Self-reported health (baseline = very good)			
Good	-0.578	0.053	0.000
Fair	-1.062	0.075	0.000
Bad	-1.756	0.114	0.000
Very bad	-2.447	0.334	0.000
Marital status (baseline = married or in registered cohabitation)			

[7]Table A.4 in the Appendix shows that when values are not considered the effect of inequality on happiness is not significant.

Table 4: **Ordered logit estimates for happiness (continued)**

	Estimate	**Std Err**$^{+}$	**Pr>ChiSq**
Separated	-0.964	0.148	0.000
Divorced	-0.635	0.073	0.000
Widowed	-0.927	0.076	0.000
Never married	-0.647	0.049	0.000
Children			
Children living at home	-0.058	0.049	0.233
Children living outside the home	0.146	0.051	0.004
Social ties			
At least one close friend	0.588	0.080	0.000
Frequency of social activity	0.157	0.017	0.000
Location (baseline = city center)			
Suburbs or outskirts of big city	-0.004	0.072	0.957
Town or small city	0.065	0.062	0.291
Country village	0.125	0.063	0.047
Farm or home in countryside	0.288	0.108	0.008
Feeling of safety in own neighbourhood (baseline = very safe)			
Safe	-0.084	0.043	0.053
Unsafe	-0.180	0.061	0.003
Very unsafe	-0.332	0.115	0.004
Job status (baseline = employee)			
Student	0.060	0.080	0.453
Unemployed, looking for job	-0.558	0.116	0.000
Unemployed, not looking	-0.374	0.148	0.011
Permanently sick or disabled	0.085	0.139	0.540
Retired	0.168	0.067	0.012
Community or military service	0.258	0.279	0.355
Housework	0.051	0.066	0.439
Other	-0.206	0.183	0.259
Other factors			
Years in formal education	-0.002	0.006	0.775
Intensity of religious belief	0.054	0.009	0.000
Belongs to discriminated group	-0.538	0.091	0.000
Homeowner	0.102	0.044	0.021
Marginal effect of deviation from the median in values			
Moderation	3.922	0.715	0.000
Inclusiveness	5.062	1.065	0.000
Model fit statistics:			
Prob > Chi Square (Wald)		0.000	
Pseudo R^2		0.061	

+Standard errors are adjusted for clustering at the regional level.

In other words, people who are more moderate or more inclusive than their fellow citizens tend to dislike inequality more. Since we are discussing moral traits, it is hard to put a strict quantitative interpretation on the absolute values of regression coefficients; but the deviations from national medians in terms of moderation and inclusiveness have similar standard deviations, respectively estimated at 0.38 and 0.35, and it is therefore rea-

sonable to say that, for a given relative distance from the mainstream, increases of inequality have an effect more or less twice as bad on those who are distant because of moderation than on those who are distant because of inclusiveness.

The result can be interpreted as follows: those who are more moderate than their compatriots might dislike inequality because it acts as a trigger for social tension, conflict and unrest, as described by the literature referenced in Section 1; those who are particularly inclusive might dislike inequality because they perceive it as morally unfair. The former motive, known in the literature as instrumental inequality aversion, appears to be stronger than the latter, i.e. substantive inequality aversion.

Values also appear to be significant when it comes to deriving happiness from one's own income. The net effect of the logarithm of equivalent income is positive, but turns negative when interacted with inclusiveness: this may be an example of the guilt effect outlined in Section 2. The interaction elements are not significant when it comes to the impact exerted on happiness by the general standard of living, as expressed by the national median of equivalent incomes: the marginal effect is positive and significant, the interaction terms are not significant. Finally, no comparative effects, as measured by the effect of the regional median of equivalent income, emerge from our model.

Moderation and inclusiveness in excess of the general reference level also have a positive marginal impact on happiness, with coefficients of 3.92 and 5.06 respectively. Where inclusiveness is concerned, this is consistent with studies that show how higher levels of trust and of general openness towards other people are associated with greater happiness. In the case of moderation, the result might reflect a comfortable distance from events, inducing an ability to filter them into feelings in a more level-headed manner. The intuition is particularly suitable to our sample, entirely composed of European countries where disastrous phenomena such as famine, epidemics, war on domestic territory, and destruction wrought by extreme weather conditions are virtually unknown. While a strong disposition towards moderation might not be able to curb unhappiness from such occurrences, it can reduce the impact of run-of-the-mill unpleasant happenings. This explanation is, however, entirely speculative.

Finally, results on the set of controls are entirely aligned with previous

literature. Among the circumstances positively associated with happiness we find good health, marriage or cohabitation, residence in a safe neighbourhood, intense religious belief, and the enjoyment of close friendships. On the other hand, belonging to a discriminated group, having limited social interaction, and living in a large city exert a negative impact.

We have so far looked at moderation and inclusiveness as separate dimensions. In the spirit of understanding whether the interaction of the two might impact on happiness directly, and also as a manner of carrying out sensitivity analysis, we estimated two further specifications of our regression: the first is based on the simple consideration of the Cartesian quadrants defined by the two orthogonal factors, the second is founded on non-hierarchical *k-means* cluster analysis [Anderberg, 1973; Everitt, 1980].

Table A.5 shows that significant inequality aversion is found in the two high-moderation quadrants; high inclusiveness intensifies the phenomenon slightly, but it is not a requisite for its existence. The coefficient for interaction between inequality and the high-inclusiveness, low-moderation quadrant dummy is not significant, although it has the expected negative sign.

Cluster analysis reveals the presence of four clusters, described in Table A.6. Regressions that include cluster dummies (Table A.7) give insights similar to those presented above: significant inequality aversion is found for Cluster 2, which comprises people with high moderation scores, while a non-significant negative coefficient is found for the highly inclusive individuals in Cluster 4.

In general, when below-average moderation is accompanied by above-average inclusiveness, the impact of the former appears to outweigh the impact of the latter, consistently with the results presented above. It is also possible that intra-class variability affects the estimates more when it comes to inclusiveness than when it comes to moderation, notwithstanding similar distributions and independent of whether standardization procedures are employed to neutralize outliers. This suggests that the effect of relative inclusiveness goes in the same direction but is both weaker and more markedly non-linear than the effect of relative moderation.

As a further exercise of sensitivity analysis, we included country dummies in the estimation of 2, to control for idiosyncratic effects; in order to do that, we need to take out the national median of incomes, lest we incur perfect collinearity. The results on inequality and values are stable, and

only about half of the dummies are significant. We favour the specification that includes the national median of income because, although potentially less comprehensive in meaning than a country dummy, it measures a dimension that is clearly understandable, and its effect can be easily estimated in interaction with values.

6 Conclusions

This paper set out to understand whether it is possible to model the relationship between inequality and happiness in a way that is consistently appropriate across domains and takes into account both positional and interpretational effects. We looked at the heterogeneity of values, inclinations and beliefs as a possible unifying explanation for the existence of different reactions to inequality.

Drawing on data for twenty-three countries from the second round of the European Social Survey, carried out in 2004, we found that individual views on a wide range of themes can be effectively summarized by two orthogonal dimensions: moderation and inclusiveness. The former is defined as a tendency to take mild stands on issues rather than extreme ones; the latter is defined as the degree of support for a social model that grants equal rights to everyone who willingly subscribes to a shared set of rules, regardless of background and circumstances.

We ran a set of ordered logits where the degree of happiness on a 0-10 scale appears on the left-hand side, while distributive indicators interacted with individual deviations from country medians in terms of moderation and inclusiveness appear on the right-hand side, supplemented by a set of standard controls. We chose to look at deviations from country medians rather than raw levels in order to account for the fact that all the countries in the sample are democracies, where redistributive policies are endogenous with respect to values insofar as they capture, at least to some extent, the opinions and desires of the representative voter.

Values turn out to matter when it comes to determining the sign and the intensity of the relationship between inequality and happiness. In particular, individuals who are either more moderate or more inclusive than their average compatriots tend to prefer lower levels of inequality. In the case of moderation, inequality aversion can be read in terms of a desire for sta-

bility: people who are reluctant to take strong stands probably also resent social tension and unrest, which often accompany inequality. In the case of inclusiveness, the main element at play is likely to be a negative reaction to perceived unfairness. The effect of moderation appears to be stronger than the effect of inclusiveness: instrumental inequality aversion is more frequent and more intense than substantive inequality aversion.

Worldview effects appeared to be significant also with reference to the impact of personal income on happiness. The net effect of the logarithm of own equivalent income is positive for all clusters, but it is remarkably less intense, approximating zero, for people with a strong drive towards inclusion.

The marginal effect of values was found to be positive and significant for those who exceed either average moderation or average inclusiveness. While the result on inclusiveness is expected, on account of a well-known relationship between openness towards others, trust and happiness, the positive sign on moderation was somewhat unanticipated. One possible explanation may start with the observation that the sample only includes developed countries, largely immune from disastrous phenomena such as widespread extreme poverty or war on domestic territory. Most events that can be perceived as unpleasant, barring health conditions that are controlled for in our regressions, are probably minor; if moderation is associated with a comfortable emotional distance from mundane disruptions, then it is bound to have a positive impact on happiness.

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A Appendix

Table A.1: **Deleted observations and imputed incomes, by country**

Country	Starting size	Deleted observations		Imputed incomes	
		N	Fraction	N	Fraction
Austria	2,256	654	0.29	627	0.28
Belgium	1,778	142	0.08	343	0.19
Czech Republic	3,026	1245	0.41	473	0.16
Denmark	1,487	239	0.16	127	0.09
Estonia	1,989	700	0.35	232	0.12
Finland	2,022	135	0.07	121	0.06
France^{+}	1,806	402	0.22	0	0.00
Germany	2,870	440	0.15	480	0.17
Greece	2,406	358	0.15	630	0.26
Hungary	1,498	345	0.23	131	0.09
Iceland	579	72	0.12	57	0.10
Ireland	2,286	483	0.21	379	0.17
Luxembourg	1,635	340	0.21	457	0.28
Netherlands	1,881	136	0.07	197	0.10
Norway	1,760	50	0.03	39	0.02
Poland	1,716	409	0.24	198	0.12
Portugal	2,052	426	0.21	678	0.33
Slovakia	1,512	490	0.32	325	0.21
Slovenia	1,442	290	0.20	208	0.14
Spain	1,663	342	0.21	446	0.27
Sweden	1,948	194	0.10	98	0.05
Switzerland	2,141	281	0.13	348	0.16
United Kingdom	1,897	142	0.07	337	0.18
Total	**43,650**	**8,315**	**0.19**	**6,931**	**0.16**

+ There are no imputed incomes for France on account of the unavailability of subjective quality-of-life measures. All observations lacking income information were therefore deleted.

Table A.2: **Elementary value input for multiple correspondence analysis**

Thematic area	**ESS variable**	**Question text**	**Response scale**
Trust	PPLTRST	Generally speaking, would you say that most people can be trusted, or that you can't be too careful?	11-point
	WRYTRDH	How worried are you of being treated dishonestly?	4-point
	BSNPRFT	Businesses are only interested in making profits and not in improving service or quality (agreement)	5-point
Solidarity	CTZHLPO	Citizens should spend at least some of their free time helping others (agreement)	5-point
	SCBEVTS	Society would be better off it everyone just looked after themselves (agreement)	5-point
	GINCDIF	The government should take measures to reduce differences in income levels (agreement)	5-point
Compliance with law	SLCNFLW	How wrong: someone selling something second-hand and concealing some or all of its faults?	4-point
	PBOFVRW	How wrong: a public official asking someone for a favour or bribe in return for their services?	4-point
	CTZCHTX	Citizens should not cheat on their taxes (agreement)	5-point
Civic engagement	POLINTR	How interested would you say you are in politics?	4-point
	VOTE	Did you vote in the last national election?	YES/NO/NE
	NWSPTOT	On an average weekday, how much time, in total, do you spend reading newspapers?	8-point
Family and gender roles	WMCPWRK	A woman should be prepared to cut down on her paid work for the sake of her family (agreement)	5-point
	MNRSPHM	Men should take as much responsibility as women for the home and children (agreement)	5-point
	MNRGTJB	When jobs are scarce, men should have more right to a job than woman (agreement)	5-point
Minorities	FREEHMS	Gay men and lesbians should be free to live their own life as they wish (agreement)	5-point
	IMWBCNT	Is [cntry] made a worse or a better place to live by people coming to live here from other countries?	11-point
	IMDFETN	To what extend do you think [cntry] should allow people of a different race to come and live here?	11-point

Table A.3: **Item factor loadings and goodness-of-fit statistics**

Var	Response	Dim1	Dim2	Contr1	Contr2	Quality	Mass	Inertia
PPLTRST	You can't be too careful	-1.0472	-0.6244	0.0200	0.0082	0.0889	0.0030	0.0118
	1	-0.7413	-0.6472	0.0069	0.0061	0.0371	0.0020	0.0120
	2	-0.3746	-0.5753	0.0034	0.0093	0.0363	0.0040	0.0116
	3	-0.0504	-0.4469	0.0001	0.0088	0.0258	0.0062	0.0111
	4	0.0684	-0.1335	0.0002	0.0008	0.0091	0.0064	0.0111
	5	0.0649	-0.0901	0.0003	0.0007	0.0118	0.0125	0.0097
	6	0.3329	0.2008	0.0042	0.0018	0.0191	0.0062	0.0111
	7	0.3465	0.4755	0.0059	0.0129	0.0585	0.0080	0.0107
	8	0.1474	0.7028	0.0007	0.0187	0.0618	0.0053	0.0113
	9	-0.0292	0.8783	0.0000	0.0063	0.0227	0.0012	0.0122
	Most people can be trusted	-0.5470	0.5488	0.0014	0.0016	0.0103	0.0007	0.0123
WRYTRDH	Not at all worried	-0.0698	0.1976	0.0004	0.0041	0.0175	0.0148	0.0092
	A bit worried	0.1844	0.0043	0.0056	0.0000	0.0439	0.0271	0.0064
	Fairly worried	-0.1263	-0.2282	0.0011	0.0040	0.0179	0.0108	0.0101
	Very worried	-0.9168	-0.2029	0.0145	0.0008	0.0571	0.0028	0.0119
BSNPRFT	Disagree strongly	-0.8050	0.5514	0.0035	0.0019	0.0159	0.0009	0.0123
	Disagree	0.2462	0.3586	0.0029	0.0072	0.0402	0.0079	0.0107
	Neither agree nor disagree	0.3516	0.1400	0.0077	0.0014	0.0692	0.0102	0.0102
	Agree	0.2379	-0.1426	0.0084	0.0035	0.0668	0.0243	0.0070
	Agree strongly	-0.8574	-0.1037	0.0554	0.0009	0.2129	0.0123	0.0097
CTZHLPO	Disagree strongly	-1.8246	-0.5613	0.0075	0.0008	0.0253	0.0004	0.0124
	Disagree	-0.1412	-0.2036	0.0003	0.0008	0.0402	0.0079	0.0107
	Neither agree nor disagree	0.2652	-0.0840	0.0046	0.0005	0.1277	0.0106	0.0101
	Agree	0.2099	-0.0637	0.0089	0.0010	0.1152	0.0330	0.0051
	Agree strongly	-0.9893	0.4282	0.0525	0.0114	0.2289	0.0088	0.0105
SCBEVTS	Disagree strongly	-0.4747	0.7168	0.0158	0.0418	0.2050	0.0115	0.0099
	Disagree	0.3744	0.0197	0.0224	0.0001	0.1385	0.0261	0.0066
	Neither agree nor disagree	0.1633	-0.3549	0.0013	0.0069	0.1202	0.0077	0.0108
	Agree	-0.1897	-0.6238	0.0017	0.0207	0.0690	0.0075	0.0108
	Agree strongly	-1.5097	-0.4811	0.0384	0.0045	0.1354	0.0028	0.0119
GINCDIF	Disagree strongly	-0.4795	0.4171	0.0022	0.0019	0.0143	0.0016	0.0122
	Disagree	0.3883	0.2069	0.0067	0.0022	0.0462	0.0072	0.0109
	Neither agree nor disagree	0.3859	0.0336	0.0078	0.0001	0.0657	0.0086	0.0106
	Agree	0.2717	-0.1119	0.0106	0.0021	0.0670	0.0235	0.0072
	Agree strongly	-0.8008	0.0132	0.0575	0.0000	0.2306	0.0147	0.0092
SLCNFLW	Not wrong at all	-1.2506	-0.7478	0.0056	0.0023	0.0694	0.0006	0.0124
	A bit wrong	0.0369	-0.3399	0.0000	0.0031	0.0948	0.0038	0.0116
	Wrong	0.2431	-0.1340	0.0094	0.0033	0.0841	0.0260	0.0067
	Seriously wrong	-0.2266	0.2063	0.0079	0.0076	0.1817	0.0252	0.0068
PBOFVRW	Not wrong at all	-0.9787	-0.6764	0.0032	0.0018	0.0791	0.0005	0.0124
	A bit wrong	0.0886	-0.5233	0.0001	0.0033	0.0722	0.0017	0.0121
	Wrong	0.1646	-0.3626	0.0025	0.0139	0.0935	0.0149	0.0092
	Seriously wrong	-0.0536	0.1725	0.0007	0.0081	0.1818	0.0385	0.0038
CTZCHTX	Disagree strongly	-1.0103	0.1576	0.0073	0.0002	0.0227	0.0012	0.0122
	Disagree	-0.1183	-0.1650	0.0003	0.0007	0.0063	0.0035	0.0117
	Neither agree nor disagree	0.1516	-0.0422	0.0010	0.0001	0.1012	0.0073	0.0108
	Agree	0.3489	-0.1135	0.0220	0.0027	0.1696	0.0295	0.0059
	Agree strongly	-0.6997	0.2880	0.0420	0.0083	0.2119	0.0141	0.0093
POLINTR	Not at all interested	-0.5556	-0.0617	0.0176	0.0240	0.1637	0.0093	0.0104
	Hardly interested	0.0690	-0.2231	0.0006	0.0072	0.0646	0.0203	0.0079
	Quite interested	0.2306	0.2756	0.0065	0.0108	0.1059	0.0201	0.0080
	Very interested	-0.1455	0.7950	0.0008	0.0260	0.1193	0.0058	0.0112
VOTE	No	-0.2534	-0.4323	0.0044	0.0149	0.1104	0.0112	0.0100
	Yes	0.0562	0.1087	0.0008	0.0033	0.1940	0.0399	0.0035
	Not eligible to vote	0.1353	0.1165	0.0005	0.0004	0.1148	0.0044	0.0115

Table A.3: **Item factor loadings and goodness-of-fit statistics (cont.)**

Var	Response	Dim1	Dim2	Contr1	Contr2	Quality	Mass	Inertia
NWSPTOT	No time at all	-0.3160	-0.2320	0.0093	0.0058	0.0812	0.0152	0.0091
	Less than 0.5 hour	0.0942	0.0590	0.0009	0.0004	0.0370	0.0174	0.0086
	0.5 to 1 hr	0.1648	0.1330	0.0026	0.0020	0.0663	0.0158	0.0090
	1 to 1.5 hr	0.1326	0.0888	0.0004	0.0002	0.0094	0.0042	0.0116
	1.5 to 2 hr	0.0398	-0.0503	0.0000	0.0000	0.0040	0.0016	0.0121
	2 to 2.5 hr	0.1277	0.0559	0.0001	0.0000	0.0046	0.0006	0.0124
	2.5 to 3 hr	-0.1789	0.1822	0.0001	0.0001	0.0052	0.0003	0.0124
	More than 3 hr	-0.1673	0.0554	0.0001	0.0000	0.0047	0.0005	0.0124
WMCPWRK	Disagree strongly	-0.8380	1.2236	0.0180	0.0445	0.2253	0.0042	0.0116
	Disagree	0.2911	0.3848	0.0062	0.0125	0.0636	0.0119	0.0098
	Neither agree nor disagree	0.3271	0.0005	0.0082	0.0000	0.0991	0.0125	0.0097
	Agree	0.1859	-0.3655	0.0044	0.0196	0.1814	0.0207	0.0078
	Agree strongly	-1.2744	-0.3475	0.0615	0.0053	0.2263	0.0062	0.0111
MNRSPHM	Disagree strongly	-1.6401	-0.6477	0.0070	0.0013	0.0242	0.0004	0.0124
	Disagree	-0.2740	-0.7251	0.0010	0.0083	0.0332	0.0022	0.0120
	Neither agree nor disagree	0.1796	-0.4752	0.0009	0.0071	0.0427	0.0044	0.0115
	Agree	0.4558	-0.1885	0.0368	0.0073	0.2974	0.0290	0.0060
	Agree strongly	-0.6524	0.4855	0.0506	0.0326	0.3767	0.0195	0.0081
MNRGTJB	Disagree strongly	-0.5052	1.0501	0.0179	0.0900	0.4080	0.0115	0.0099
	Disagree	0.4894	0.1273	0.0272	0.0021	0.1416	0.0186	0.0083
	Neither agree nor disagree	0.3018	-0.3207	0.0059	0.0077	0.0772	0.0106	0.0101
	Agree	0.0171	-0.7548	0.0000	0.0426	0.1760	0.0106	0.0101
	Agree strongly	-1.5151	-0.7071	0.0614	0.0155	0.2503	0.0044	0.0115
FREEHMS	Disagree strongly	-1.2129	-0.7597	0.0284	0.0129	0.1406	0.0032	0.0118
	Disagree	-0.0919	-0.7940	0.0003	0.0217	0.0759	0.0049	0.0114
	Neither agree nor disagree	0.0906	-0.5395	0.0004	0.0153	0.0571	0.0074	0.0108
	Agree	0.4130	-0.0809	0.0241	0.0011	0.1559	0.0231	0.0073
	Agree strongly	-0.3482	0.7124	0.0126	0.0613	0.3391	0.0170	0.0087
IMWBCNT	Country made worse	-1.3786	-0.9029	0.0066	0.0134	0.0566	0.0023	0.0120
	1	-0.6843	-0.9044	0.0304	0.0151	0.1353	0.0026	0.0119
	2	-0.3571	-0.7839	0.0031	0.0175	0.0607	0.0040	0.0116
	3	-0.0137	-0.5541	0.0000	0.0126	0.0401	0.0058	0.0112
	4	0.2465	-0.2781	0.0022	0.0033	0.0167	0.0060	0.0112
	5	0.1702	0.0958	0.0031	0.0011	0.0406	0.0173	0.0086
	6	0.3740	0.2714	0.0049	0.0030	0.0247	0.0058	0.0112
	7	0.2782	0.5574	0.0026	0.0119	0.0423	0.0054	0.0113
	8	-0.0119	0.8448	0.0000	0.0204	0.0576	0.0040	0.0116
	9	-0.2717	1.1180	0.0005	0.0101	0.0285	0.0011	0.0122
	Country made better	-0.8320	1.2718	0.0052	0.0141	0.0522	0.0012	0.0122
IMDFETN	Allow none	-0.8013	-0.9506	0.0284	0.0464	0.2337	0.0072	0.0109
	Allow a few	0.0142	-0.3260	0.0000	0.0144	0.0575	0.0191	0.0082
	Allow some	0.2946	0.2731	0.0120	0.0120	0.1135	0.0226	0.0074
	Allow many	-0.1737	1.0522	0.0012	0.0516	0.1540	0.0066	0.0110

Table A.4: **Ordered logit estimates for happiness: benchmark**

	Estimate	**Std Err**$^{+}$	**Pr>ChiSq**
Equivalent income			
Log own	0.175	0.031	0.000
Std interquartile range, regional	0.198	0.190	0.297
Log median, national	0.225	0.164	0.169
Log median, regional	0.095	0.136	0.484
Demographics			
Gender: female	0.187	0.036	0.000
Age	-0.070	0.007	0.000
Age squared	0.001	0.000	0.000
Self-reported health (baseline = very good)			
Good	-0.574	0.042	0.000
Fair	-1.122	0.103	0.000
Bad	-1.860	0.125	0.000
Very bad	-2.527	0.366	0.000
Marital status (baseline = married or in registered cohabitation)			
Separated	-0.893	0.162	0.000
Divorced	-0.581	0.053	0.000
Widowed	-0.960	0.102	0.000
Never married	-0.565	0.071	0.000
Children			
Children living at home	-0.052	0.058	0.372
Children living outside the home	0.146	0.028	0.000
Social ties			
At least one close friend	0.622	0.060	0.000
Frequency of social activity	0.123	0.007	0.000
Location (baseline = city center)			
Suburbs or outskirts of big city	-0.021	0.052	0.688
Town or small city	0.016	0.073	0.828
Country village	0.048	0.070	0.494
Farm or home in countryside	0.179	0.095	0.059
Feeling of safety in own neighbourhood (baseline = very safe)			
Safe	-0.181	0.044	0.000
Unsafe	-0.332	0.036	0.000
Very unsafe	-0.472	0.144	0.001
Job status (baseline = employee)			
Student	0.202	0.089	0.022
Unemployed, looking for job	-0.584	0.125	0.000
Unemployed, not looking	-0.442	0.143	0.002
Permanently sick or disabled	0.105	0.176	0.550
Retired	0.136	0.073	0.064
Community or military service	0.353	0.315	0.263
Housework	0.052	0.052	0.316
Other	-0.108	0.211	0.609
Other factors			
Years in formal education	0.017	0.009	0.047
Intensity of religious belief	0.051	0.009	0.000
Belongs to discriminated group	-0.484	0.118	0.000
Homeowner	0.132	0.052	0.011
Model fit statistics:			
Prob > Chi Square (Wald)		0.000	
Pseudo R^2		0.048	

+Standard errors are adjusted for clustering at the regional level

Table A.5: **Ordered logit estimates for happiness: quadrants**

	Estimate	**Std Err**$^{+}$	**Pr>ChiSq**
Equivalent income			
(baseline for interaction terms: SW Quadrant, *Mod < median; Incl < median*)			
Log own	0.283	0.064	0.000
*NW Quadrant *Mod < median; Incl > median*	-0.163	0.086	0.057
*NE Quadrant *Mod > median; Incl > median*	-0.227	0.079	0.004
*SE Quadrant *Mod > median; Incl < median*	-0.117	0.062	0.057
Std interquartile range, regional	0.740	0.279	0.008
*NW Quadrant	-0.293	0.298	0.325
*NE Quadrant	-0.883	0.307	0.004
*SE Quadrant	-0.640	0.265	0.016
Log median, national	0.732	0.306	0.017
*NW Quadrant	-0.417	0.348	0.230
*NE Quadrant	-0.302	0.282	0.284
*SE Quadrant	-0.310	0.277	0.264
Log median, regional	-0.278	0.324	0.391
*NW Quadrant	0.300	0.394	0.446
*NE Quadrant	0.097	0.295	0.742
*SE Quadrant	-0.160	0.278	0.566
Demographics			
Gender: female	0.134	0.037	0.000
Age	-0.062	0.009	0.000
Age squared	0.006	0.000	0.000
Self-reported health (baseline = very good)			
Good	-0.583	0.052	0.000
Fair	-1.077	0.075	0.000
Bad	-1.784	0.115	0.000
Very bad	-2.420	0.336	0.000
Marital status (baseline = married or in registered cohabitation)			
Separated	-0.932	0.146	0.000
Divorced	-0.624	0.072	0.000
Widowed	-0.924	0.077	0.000
Never married	-0.631	0.049	0.000
Children			
Children living at home	-0.067	0.048	0.169
Children living outside the home	0.144	0.051	0.004
Social ties			
At least one close friend	0.606	0.080	0.000
Frequency of social activity	0.162	0.017	0.000
Location (baseline = city center)			
Suburbs or outskirts of big city	-0.008	0.075	0.912
Town or small city	0.051	0.061	0.408
Country village	0.103	0.062	0.096
Farm or home in countryside	0.249	0.107	0.020
Feeling of safety in own neighbourhood (baseline = very safe)			
Safe	-0.107	0.045	0.016
Unsafe	-0.217	0.062	0.001
Very unsafe	-0.364	0.113	0.001
Job status			
Student	0.099	0.078	0.204
Unemployed, looking for job	-0.561	0.114	0.000
Unemployed, not looking	-0.380	0.148	0.010
Permanently sick or disabled	0.085	0.140	0.610
Retired	0.159	0.066	0.015
Community or military service	0.295	0.266	0.268
Housework	0.042	0.064	0.512
Other	-0.193	0.179	0.279

Table A.5: **Ordered logit estimates for happiness: quadrants (cont.)**

	Estimate	**Std Err**$^{+}$	**Pr>ChiSq**
Other factors			
Years in formal education	0.004	0.006	0.424
Intensity of religious belief	0.054	0.009	0.000
Belongs to discriminated group	-0.516	0.090	0.000
Homeowner	0.094	0.044	0.034
Marginal effect of deviation from the median in values (baseline = SW Quadrant)			
NW Quadrant	3.349	0.849	0.000
NE Quadrant	5.200	0.701	0.000
SE Quadrant	3.116	0.849	0.000
Model fit statistics:			
Prob > Chi Square (Wald)		0.000	
Pseudo R^2		0.059	

+ Standard errors are adjusted for clustering at the regional level.

Table A.6: **Cluster means, standard deviations and descriptions**

Cluster	**N**	**Deviation from country median:**				**Description**
		Moderation		**Inclusiveness**		
		Mean	St Dev	Mean	St Dev	
1	12,500	-0.268	0.335	-0.032	0.205	- Mod (weak)
2	11,484	0.360	0.137	-0.076	0.191	++ Mod
3	4,332	-0.110	0.342	-0.540	0.144	- Mod (weak), – Incl
4	7,019	-0.062	0.296	0.511	0.209	++ Incl

Table A.7: **Ordered logit estimates for happiness: clusters**

	Estimate	**Std Err**$^{+}$	**Pr>ChiSq**
Equivalent income (baseline for interaction terms = Cluster 1 *Mod* < *median*)			
Log own	0.219	0.049	0.000
*Cluster 2 *Mod* > *median*	-0.068	0.057	0.238
*Cluster 3 *Mod* < *median (weak); Incl* < *median*	-0.058	0.075	0.436
*Cluster 4 *Incl* > *median*	-0.156	0.075	0.039
Std interquartile range, regional	0.584	0.201	0.004
*Cluster 2	-0.734	0.197	0.000
*Cluster 3	0.261	0.336	0.439
*Cluster 4	-0.652	0.289	0.024
Log median, national	0.504	0.221	0.023
*Cluster 2	-0.017	0.213	0.935
*Cluster 3	0.213	0.447	0.633
*Cluster 4	-0.344	0.296	0.246
Log median, regional	-0.140	0.214	0.512
*Cluster 2	-0.063	0.210	0.763
*Cluster 3	-0.078	0.465	0.866
*Cluster 4	0.195	0.281	0.487
Demographics			
Gender: female	0.132	0.037	0.000
Age	-0.063	0.009	0.000
Age squared	0.001	0.000	0.000

Table A.7: **Ordered logit estimates for happiness: clusters (cont.)**

	Estimate	Std Err^{+}	Pr>ChiSq
Self-reported health (baseline = very good)			
Good	-0.579	0.052	0.000
Fair	-1.070	0.074	0.000
Bad	-1.755	0.114	0.000
Very bad	-2.447	0.339	0.000
Marital status (baseline = married or in registered cohabitation)			
Separated	-0.936	0.151	0.000
Divorced	-0.617	0.071	0.000
Widowed	-0.923	0.075	0.000
Never married	-0.634	0.048	0.000
Children			
Children living at home	-0.061	0.048	0.196
Children living outside the home	0.143	0.051	0.005
Social ties			
At least one close friend	0.615	0.080	0.000
Frequency of social activity	0.162	0.017	0.000
Location (baseline = city center)			
Suburbs or outskirts of big city	-0.018	0.074	0.806
*fino a qui Town or small city	0.045	0.062	0.463
Country village	0.093	0.063	0.143
Farm or home in countryside	0.244	0.109	0.025
Feeling of safety in own neighbourhood (baseline = very safe)			
Safe	-0.114	0.043	0.008
Unsafe	-0.224	0.061	0.000
Very unsafe	-0.375	0.112	0.001
Job status			
Student	0.096	0.080	0.228
Unemployed, looking for job	-0.555	0.114	0.000
Unemployed, not looking	-0.407	0.146	0.005
Permanently sick or disabled	0.086	0.143	0.548
Retired	0.154	0.066	0.020
Community or military service	0.259	0.284	0.361
Housework	0.033	0.066	0.610
Other	-0.194	0.182	0.287
Other factors			
Years in formal education	0.006	0.006	0.298
Intensity of religious belief	0.053	0.009	0.000
Belongs to discriminated group	-0.514	0.093	0.000
Homeowner	0.097	0.045	0.030
Marginal effect of deviation from the median in values (baseline = Cluster 1)			
Cluster 2	1.934	0.542	0.000
Cluster 3	-1.393	1.068	0.192
Cluster 4	3.662	0.823	0.000
Model fit statistics:			
Prob > Chi Square (Wald)		0.000	
Pseudo R^2		0.059	

+ Standard errors are adjusted for clustering at the regional level.

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