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Beyond the Joneses: Inter-country income comparisons and happiness

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ABSTRACT

Our paper provides novel evidence on the burgeoning literature on life satisfaction and relative comparisons by showing that in the last 30 years comparisons with the well being of top income neighboring countries have generated negative feelings on a large sample of individuals in the Euro barometer survey. The paper shows that neighboring countries, and not just our individual neighbors or peers, can be reference groups and that the above mentioned effect depends on the intensity of media exposure.

1. Introduction

Economists have become progressively aware of the importance of others and of relative comparisons for individual wellbeing. Such relevance has been recently confirmed by multi country experiments (Corazzini et al., 2010; White, 2013) where individuals face trade-offs between group ranking and absolute payoffs. These experiments document that many of them prefer being first, even at the cost of a lower income, and that such preference is associated to male gender, higher education and residence in a high income country.

While a first traditional field in which relative preferences were taken into account was the literature of wage fairness in labor economics (see, among others, Rees, 1993 and Fehr et al., 2007), a more recent field of inquiry in which the same question has been investigated is the life satisfaction literature. The merit of this new burgeoning literature has been not just that of assuming a priori a structure of preferences which include others, but rather that of illustrating directly how objective measures of differences in performance with respect to reference groups may affect our satisfaction.

From a theoretical point of view contributions from this literature (Duesenberry, 1949; Frank, 2005 and Layard, 2005) argue that positional competition with peers may generate "treadmill effects", up to the extreme case of fully relative preferences where only relative - and not absolute - income matters. In such case it may paradoxically happen that an increase in personal income, if paralleled by an equal increase in income of all individuals in the reference group, does not affect individual life satisfaction.

From an empirical perspective a starting point in this literature has been the introduction, in standard life satisfaction estimates, of the income of variously defined reference groups. Such groups have been generally created by combining geographical location, gender, age cohorts and professional characteristics (Ferrer-i-Carbonell, 2005; Dorn et al., 2008; Clark and Senik, 2010), even though systematic biases may arise from the extrapolation of information about the income distribution extracted from reference groups (Cruces et al., 2013). This literature has shown that, while relative income matters, positional effects do not fully crowd out the positive impact of personal income on individual well being (Barrington-Leigh and Helliwell, 2008). Furthermore, several studies have documented that an increase in the reference group income may become not necessarily bad news for individuals living (or perceiving to live) in socio economic environments characterized by high vertical mobility (Senik, 2004; Jiang et al., 2009; Becchetti

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and Savastano, 2009). The same literature has been extended to the role played by various inequality dimensions (income, weight) between partners and to that exerted by regional unemployment on the satisfaction of the unemployed (Clark, 2012).

Summing up, the main question in the agenda of the literature on life satisfaction and relative comparisons remains: who compares with whom and with which intensity (constant or time varying)?

Our paper aims to provide a novel contribution in this field. The two considerations from which we start are that: (i) individuals do not just look at others, but conventionally tend to compare the quality of life of their country with that of others and (ii) the effects of comparisons with other countries depend on media exposure of each individual. Based on these considerations we document, with an econometric analysis on the Euro barometer survey, that life satisfaction has been increasingly negatively affected by the national gross disposable per capita income (GDI) of neighboring countries. In order to obtain our findings, we follow the literature in constructing measures of average income but for different "levels" of geography (see, for example, Aslam and Corrado, 2012) by including own individual absolute income along with relative income in the same region, mean income in the same country and mean (max) income of the neighboring countries. In doing so we expect coefficients on mean income and GDI variables relative to neighboring countries to be negative, but decreasing in absolute value as one gets further away (geographically) from the individual under consideration.[1] This is what we find in our results.

Based on what considered above the contribution of our paper is fourfold. First, we consider that countries, and not just group of peers, may be reference groups. When doing so, we obviously control whether the country relative effect persists after controlling for various types of standard reference group effects[2]. In this respect our findings provide additional insights on the well known treadmill effects and Easterlin paradox. In fact, it has been mentioned above that, under the extreme case in which only relative and not absolute income matters, an equiproportional increase in individual economic well being leaves individual life satisfaction unaffected. Our results imply that life satisfaction may even fall if this event is paralleled by a higher increase in per capita income of peer countries.

Second, we show that the mean is not the only relevant moment of the distributions on which relative comparisons are drawn. More specifically, we document that the neighboring country with the maximum national gross disposable income is important since, in our case, it identifies a peak of average well being which has been achieved in some parts of the world and becomes desirable for those who have lower living standards.

Third, we show that there are asymmetric responses as neighboring countries get richer. We measure this effect by estimating an Ordered Probit model with Generalized Thresholds (see Kapteyn et al., 2007 and Boes and Winkelmann, 2010). Heterogeneity in this generalized model enters by allowing the cut-off points associated with the different response categories for life satisfaction to be a linear function of the same set of regressors of the (latent) mean equation for life satisfaction, therefore making the vector of parameters in the threshold equation category specific. Following this approach we find that, as neighboring countries get richer, this impacts more negatively individuals who are either "Fairly satisfied" or "Very satisfied" than those who are "Not very satisfied".

Fourth, by exploiting within-country differences in accessibility to information about the income distribution in other countries we document that the salience of comparisons of domestic well being with that of other countries grows with the intensity of media use (reading newspaper, listening to radios, watching television, using internet). According to our reasoning, individuals with reduced contact with the rest of the world (i.e. never read newspapers, etc.) should be significantly less affected by changes in the income of other neighboring countries. We test this hypothesis by considering an interaction term between the "media exposure variable" (which varies across individuals) and the maximum national gross disposable per capita income of neighboring countries.

In our conclusions we leave to further research the investigation of the possible missing link between our results and the determinants of migration. As it is well known several empirical contributions demonstrate that migratory flows are function of the income gap between country of origin and country of destination. Todaro (1969) and Harris and Todaro (1970) are the seminal papers claiming that migration is determined by wage differentials among geographical areas: these works document that migration is driven by *expected* rather than *actual* wage differentials[3]. However, if we rule out cases of absolute necessity, the wage differential is a non sufficient condition for triggering migratory movements since the decision to move occurs if the income gap between countries has negative effects on individual well being: such negative relationship is the main result of our paper.

2. Database

Our source of data is the Euro barometer Survey on Western European countries from 1973 to 2003 (except 1974 and 1996). The database contains information on individual characteristics and self-declared happiness and it is available until 2009 also for new EU members and for candidate countries. However, after 2003 personal income has not been recorded anymore[4]. For this reason, we prefer to rely only on data for Western European countries. We also have some country-year gaps since data for Norway is available from 1990 to 1996, for Finland from 1993 onwards, for Sweden and Austria from 1994. Tables 1a and 1b provide a detailed description of the variables used.

Data for our dependent variable, self-declared life satisfaction, is drawn from the question "*On the whole, are you very satisfied, fairly satisfied, not very satisfied or not at all satisfied with the life you lead?*". The original values have been rescaled from descending to ascending order of life satisfaction intensity in order to have more intuitive

[1] We could also consider how the richest European country (by year) affects individual happiness. However, this would be perfectly collinear with the year dummies and dropped from our estimations.

[2] The implication that an improvement in well being occurred abroad may reduce life satisfaction of individuals in a given country is that well being innovations which historically originate in a first pioneering country may generate protests and manifestations in others where individuals feel worse off until they can catch up. This argument may be supported by several historical anecdotes. To provide an example, the eight hour working day was introduced in countries such as New Zealand before the 20th century while it became law in many others only between 1916 and 1925. Before its gradual implementation in other countries the introduction of the reform in New Zealand generated protests and manifestations outside it. A similar historical process can be observed for the introduction of the vote for women which occurred first in New Zealand in 1893 and, later, in other high income countries after demonstration and popular unrest.

[3] For later works see, among others, Mundell (1957), Borjas (1989, 1999a,b) and Venables (1999). These papers document that, beyond the gap in economic well-being, a number of other variables can influence migratory flows such as quality of life, differences in political stability, human rights situations, and the general rule of law which may be considered as a proxy for the level of individually perceived insecurity.

[4] After 2003 we cannot rely anymore on information related to "household before taxes per month nominal income" (this variable was surveyed on a national base with categories created according to the national distribution of income). Although we deal with household income, in the paper we often refer to it as personal or individual income. This underlines the financial situation which is relevant to the individual in comparison with other groups.