

The role of reference income in shaping Europeans' well-being in the last two decades.

Evaluation of comparison and information effects

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1. Introduction

The reference income is the average income in one's reference group. It has been proved to influence individuals' subjective well-being, or happiness, multiple times on different samples and periods. Furthermore, it seems that this measure of economic distance (Stranges et al., 2021) matters more than absolute income when it comes to the evaluation of one's life (Senik, 2004). From the theoretical point of view, the relationship between reference income and one's happiness should be negative meaning that if one's reference group is well off than an individual's well-being should be lower. Existing research, however, suggests that in Central and Eastern European (CEE) countries, this relationship was positive for many years at the beginning of the 21st century i.e., higher income of our reference group increased our happiness. (Caporale et al., 2009). This outcome is called the "tunnel effect" and is believed to appear in uncertain or highly mobile environments, such as the economic transition.

In this study, we describe the trends in the relationship between the happiness and one's economic position measured by reference income and absolute income in the context of the "tunnel effect" observed in CEE countries. This paper adds to the existing research on the topic in several respects. First, we investigate the changes in the relationship between the reference income and the subjective well-being of Europeans from 32 countries over the last two decades. In particular, we examine whether the "tunnel effect" still exists in the Eastern European context or if it has diminished over time, as some scholars have expected. Second, we investigate the regional differences in the relationship between two different metrics of one's economic position – reference income and absolute income – and one's happiness. Third, we analyze how different contextual factors, such as the pandemic, have influenced the observed trends and to what extent these changes are uniform across Europe.

2. Theoretical considerations and literature review

There is a vast literature on the "happiness gap" in Eastern Europe (for example Djankov et al., 2016). The phenomenon of lower levels of happiness among post-transition populations was explained by two main factors. The first source of this gap might be poor governance and corruption, which are the relics of the communist system. Second, this gap might be related to the orthodox religion that is common in these countries. Nevertheless, according to some authors, the gap should close over time with the convergence process with West European countries and further economic and institutional development (Nikolova, 2016).

Another dimension of the uniqueness of the CEE countries with respect to the well-being is visible in its relationship with the reference income, the average income in one's reference group. In general, it has been argued that the reference income matters more than absolute income when it comes to the happiness of a society, emphasizing the role of social comparisons and relative deprivation (Stranges et al., 2021). The reference income can influence individuals' well-being through two different effects – information and comparison – and the predominance of one of them might indicate whether the economy faces uncertain conditions or increased socio-economic mobility (Senik, 2008). Easterlin (1974) in his seminal study proclaimed that people compare themselves to others and are less happy if they are in a worse material situation than their reference group which is in line with the relative income hypothesis. According to this hypothesis, there should be a negative relationship between the reference income and happiness, as the comparison effects should dominate the information effects.

However, in the late 20th and early 21st centuries, economists discovered the so-called "tunnel effect" that distinguished post-transition countries from the rest of Europe (Caporale et al., 2009; Senik, 2004). The "tunnel effect" conjecture has been formulated by Hirschman and Rothschild (1973) who argued that in the early stages of economic development individuals gain utility by observing that other people are better off. This is because they use reference income as a valuable source of information about future prospects (Senik, 2008). Therefore, the information effects (hope) predominate the comparison effects (envy). Nevertheless, as CEE countries converge to Western Europe, it is expected that this effect might decline or even disappear. Therefore, we hypothesize that the "tunnel effect" has had a diminishing trend over time in CEE countries in 21st century. Furthermore, the global pandemic in 2020 caused a great

deal of multidimensional uncertainty in all Europeans' lives, making the economic conditions less stable. Thus, the information effects of the reference income might start to predominate the comparison effects, as the relative importance of these effects is based on the individuals' perception of the economic environment (Senik, 2008). Hence, our hypothesis is that the "tunnel effect" might have reappeared during the pandemic in all European societies.

Finally, the impact of income on happiness has been extensively studied since Easterlin's seminal paper (1974) where he described the "Easterlin Paradox". However, the findings with regard to the direction and magnitude of the effect of income on happiness are mixed. Some studies report positive but rather small effect whereas other report no significant effect (for example Yu et al., 2020). Importantly, increasing absolute income has a diminishing marginal utility on happiness (Frey & Stutzer, 2002), which means that income brings less gains in happiness in wealthier countries as compared to developing countries (Biswas-Diener & Diener, 2009). Thus, we anticipate that the effects of absolute income might vary across European regions due to the differences in wealth.

3. Data and methods

We use data coming from all 10 waves of the European Social Survey, which is an international, academically driven cross-national survey. Waves are conducted biennial with the first wave conducted in 2002 and the most recent wave conducted during the COVID-19 pandemic. This dataset provides a large set of socio-economic variables including information about marital status, employment, and economic situation as well as subjective well-being. Our dependent variable is happiness defined as an ordinal variable in which 0 stands for "extremely unhappy" and 10 stands for "extremely happy". The key explanatory variable is the reference income measured as the average income decile in one's reference group, which we define as people living in the same country in the same age group and level of education. In addition we consider absolute income measured as one's income decile within the country since ESS data do not include other monetary variables. We control for the usual covariates of subjective well-being such as subjective health status, gender, education, age, employment status, religiousness, and marital status.

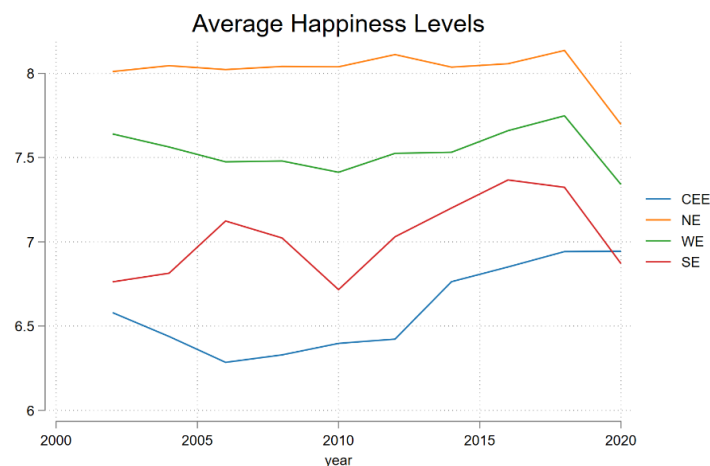
Given the data structure and the dependent variables, we model the happiness levels using multi-level linear model, for simplicity of interpretations, since previous analyses report similar results based on linear and ordered probit models (for example Clark & Senik, 2010; Strangers, 2020). Using multi-level modelling allows us to include country-level variables (e.g., Gini coefficient) in order to better account for the cultural differences in perceiving happiness. Since the data are not longitudinal, we included wave dummies and interactions with reference as well as absolute income for each wave. We run separate analyses for regional groups of countries to spot the regional differences both in reference income and absolute income effects. We group the available countries into four sets – CEE, Western, Nordic, and Southern countries – based on the country division proposed by the United Nations with the exception that we treat three Baltic states and former Yugoslavia as CEE countries because of their communist history. As a robustness check, we perform analyses for measures of reference income based on various definitions of a reference group. We also perform ordered probit and both for the whole sample as well as for the regions.

4. Preliminary findings

4.1 Trends in happiness and over the last two decades

First, we evaluate the regional average levels of happiness for each ESS wave (see Fig. 1). We observe clear regional differences in reported happiness levels with the averages for CEE countries being the lowest. Interestingly, the happiness during the first year of the pandemic decreased in all regions except for CEE countries where the average happiness remained stable. This might be a result of the differences in the level of pandemic restrictions or the increased availability of flexible work arrangements that were limited in this region before 2020. Not surprisingly, the highest average happiness levels are observed in Nordic countries who systematically report being the happiest in Europe.

Figure 1. Trends in average happiness between 2002 and 2020, by region



Source: own calculations based on ESS data, waves 1-10

4.2 The impact of reference income on happiness

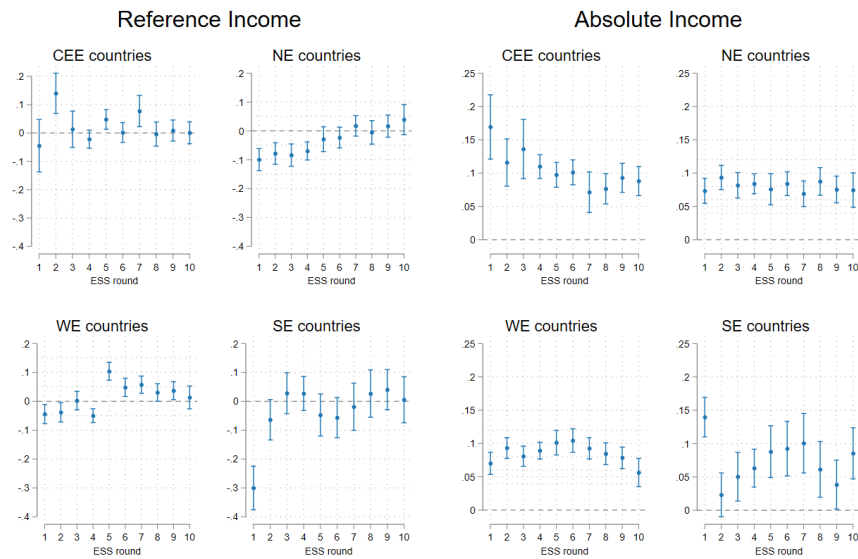
Looking at the obtained estimates (see Fig 2), we can see that the effect of absolute income for all regions but CEE has been positive and relatively stable across waves. For post-communist countries, we observe a decreasing importance of absolute income in the region and convergence of the absolute income coefficients to those observed in other European regions. Moving to the reference income, there are visible differences in the impact of this metric on happiness in the four analyzed European regions. Starting with Nordic countries, the trajectory of coefficients reveals that the negative effect of reference income on happiness was weakening over time (from 2002 to 2008) to finally lost its significance in 2010. The trajectory of reference income coefficients for other regions are not that straightforward. For example, the “tunnel effect” (positive relationship between the reference income and happiness) with the greatest magnitude is observed for CEE countries for 2004. This is the year when many CEE countries joined the EU increasing economic and migration opportunities. Later occurrences of the “tunnel effect” are for 2010 in both CEE and Western countries and they hold significant for later two more waves. During this period, these countries were slowly recovering from the 2008 crisis according to Eurostat¹. Finally, the reappearance of the “tunnel effect” among CEE countries in 2014 might be a result of the outbreak of the Russia-Ukrainian war marked by the annexation of Crimea. The military operation undoubtedly increased uncertainty of Eastern Europeans.

As regards the COVID-19 pandemics, although, we suspected that the uncertainty caused by its outburst resulted in the reappearance of the “tunnel effect” among all societies, our results do not support this anticipation. We do not observe any universal change in reference income coefficients between the last two waves. However, the 10th wave of ESS was conducted during the first months of the pandemic and its effect on reference income-happiness relationship might be lagged. The initial shock after the outburst of the pandemic might have caused mainly increased health risk and negative affect due to the uncertainty. The economic consequences came to the fore with a delay which may be the reason why we do not observe the “tunnel effect” for the 10th wave. Nevertheless, this effect might be spotted in the later waves.

Therefore, our results demonstrate that the way income of others affects people’s happiness is influenced by current economic and social circumstances. Specifically, the “tunnel effect” appears after major events increasing hope or uncertainty such as EU accession, recovering from crises, or military conflicts in the neighboring country. Nevertheless, the result universal for all European regions is that the reference income tend to be insignificant in more recent years. One potential reason for that is the equality of comparison and information effects operating in opposite directions (Fitz Roy et al., 2014). The other one is that with greater wealth and social equality in European societies, social comparisons do not influence happiness since comparisons matter more in poorer and unequal societies.

¹ <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/ddn-20191023-1>, access: 10.05.2024

Figure 2. Estimates of multi-level linear models for reference and absolute income, by wave and European region between 2002-2020



Source: own calculations based on ESS data, waves 1-10

Note: the first ESS round corresponds to 2002 and the following rounds were conducted biennial

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