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# FACTORS INFLUENCING LIVING STANDARDS IN THE EU

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**Abstract.** GDP per capita is often criticized for the fact that it does not reflect all the various determinants influencing living standards of inhabitants. In the paper presented, these 99 determinants, based on the evaluation of alternative indicators of living standards, are classified into eight main groups, i.e. public life, place of residence, economic area, educational area, health care, environment, interpersonal relations, and personality. The main source of data is the results of a questionnaire survey performed in 2013 and 2014 in the Czech Republic, Finland, France, Spain, and Great Britain, focusing on people's opinions regarding how much individual determinants influence their living standards. Using Principal Component Analysis made it possible to determine which of these 99 selected variables should be considered during a complex evaluation of living standards. It was determined that only 19 variables were of importance and that they could be merged into 8 factors. Furthermore, the material side of life is not prioritized to spiritual extension by respondents, which again brings us to the idea that GDP per capita is really not the right measurement for standard of living.

**Key words:** European Union, living standards indicators, standards of living, well being.

**JEL code:** I31, O15

## Introduction

The issue of standard of living and its composition has, for many years, been engaged by many researchers, state authorities, institutions etc. Knowledge of the factors that should make up standard of living is significant not only for its measurement and subsequent comparison of a state's level of socio-economic development but also for the priorities of policy makers as well as understanding population satisfaction and its behavior. (Stávková et al., 2013; Gotowska and Jakubczak, 2013; Shumakova et al., 2014). On the basis of the many definitions of standard of living, there are a number of suggested approaches to measuring it. Currently, the most common approach is to measure the standard of living by real GDP per capita (Dorwick et al., 2003). Based on this criticism a number of alternative approaches has been created, such as Net Economic Welfare (Nordhaus and Tobin, 1972), Genuine Progress Index (Anielski, 2001), Human Development Index (UNDP, 2013), Better Life Index (OECD, 2013), Happy Planet Index, Actual Individual Consumption based on the Stiglitz-Sen-Gitoussi report, and many others (Stávková et al., 2013).

The way to measure living standards should be based on both objective and subjective sites. The main aim of this article is to find out which factors have influence on living standards according to inhabitants, and as such should be included in evaluation of living standards. The main source of data for the purposes of this paper are the results of the questionnaire survey performed in 2013 and 2014 in five countries of the European Union selected based on zones of cultural affinity. For each zone, one representative was selected, i.e. the Czech Republic, Finland, France, Spain, and Great Britain. The respondents assessed individual determinants using the 1–10 scale (1 – minimum, 10 – maximum) based on how important they considered them in terms of their living standards. In total, 99 determinants were assessed after being selected based on various indicators of living standards and welfare. The results were assessed using Principal Component Analysis (PCA). This multidimensional statistical method enables the reduction of the number of variables (called principal components) that describe the variability of all the variables and their mutual relations. The principal components are based on a linear combination of the original variables. For the purposes of this paper, the analysis was processed in the STATISTICA statistics software, ver. 12.

## Research

Monitoring the living standards of people is quite a difficult and demanding task a number of major authors deal with. Living standards are affected by a number of factors and it is mainly through variables that these factors are monitored. The aim of this paper is to use one of the multidimensional methods – an analysis of the main components – to reduce these variables while trying to mark those of unquestionable significance.

Opinions on the living standards of people and how these people perceive the determinants affecting it were surveyed in 2 713 households in 5 European countries, i.e. 1 164 households in the Czech Republic, 311 in Finland, 473 in France, 584 in Spain, and 181 in Great Britain. The importance and significance of each factor were expressed by the respondents using a 10 - point scale. The set of data was perceived as a whole unit, as monitoring the differences among individual countries was not the main topic of this paper.

Of all the monitored variables, the ones of spiritual and emotional character were marked as the most important, i.e. relationships within the family, health of loved ones, feeling of love, and the balance of work and leisure time. These are followed by variables such as safety and protection, health of the individual, and air quality, and then by factors of a material character (income, prices of food, housing etc.). At the very end of the significance scale are factors related to the activities of political and executive representation.

In order to resolve the issue related to measuring the living standards of people, choosing the most suitable factors, and to the decision on the suitability of the indicators for their quantification, the authors used the results of a questionnaire survey processed using an analysis of the main components. From the correlation matrix of variables, the authors specified numbers (factors), range of variability explained by each main component, and a

cumulative share of variability. Based on the Kaiser Criterion (Eigenvalue must be higher than 1) and through the use of the scree plot, the number of variables was reduced to 19.

Table 1

**Total Variance Explained**

| **Eigenvalues (Factors)<br>Extraction: Principal Components** | | | | |
|---|---|---|---|---|
| Component | Eigenvalues | % of Variance | Cumulative (Eigenvalue) | Cumulative (%) |
| 1 | 26.162 | 26.426 | 26.162 | 26.426 |
| 2 | 6.856 | 6.925 | 33.017 | 33.351 |
| 3 | 4.988 | 5.039 | 38.006 | 38.390 |
| 4 | 3.770 | 3.808 | 41.775 | 42.197 |
| 5 | 3.251 | 3.284 | 45.026 | 45.481 |
| 6 | 2.634 | 2.661 | 47.661 | 48.142 |
| 7 | 2.464 | 2.489 | 50.124 | 50.631 |
| 8 | 2.246 | 2.268 | 52.370 | 52.899 |
| 9 | 1.854 | 1.873 | 54.224 | 54.772 |
| 10 | 1.801 | 1.819 | 56.026 | 56.592 |
| 11 | 1.643 | 1.660 | 57.669 | 58.251 |
| 12 | 1.585 | 1.601 | 59.254 | 59.852 |
| 13 | 1.479 | 1.494 | 60.733 | 61.346 |
| 14 | 1.361 | 1.375 | 62.094 | 62.721 |
| 15 | 1.226 | 1.238 | 63.319 | 63.959 |
| 16 | 1.217 | 1.229 | 64.536 | 65.188 |
| 17 | 1.122 | 1.133 | 65.659 | 66.322 |
| 18 | 1.099 | 1.110 | 66.757 | 67.432 |
| 19 | 1.069 | 1.080 | 67.827 | 68.512 |

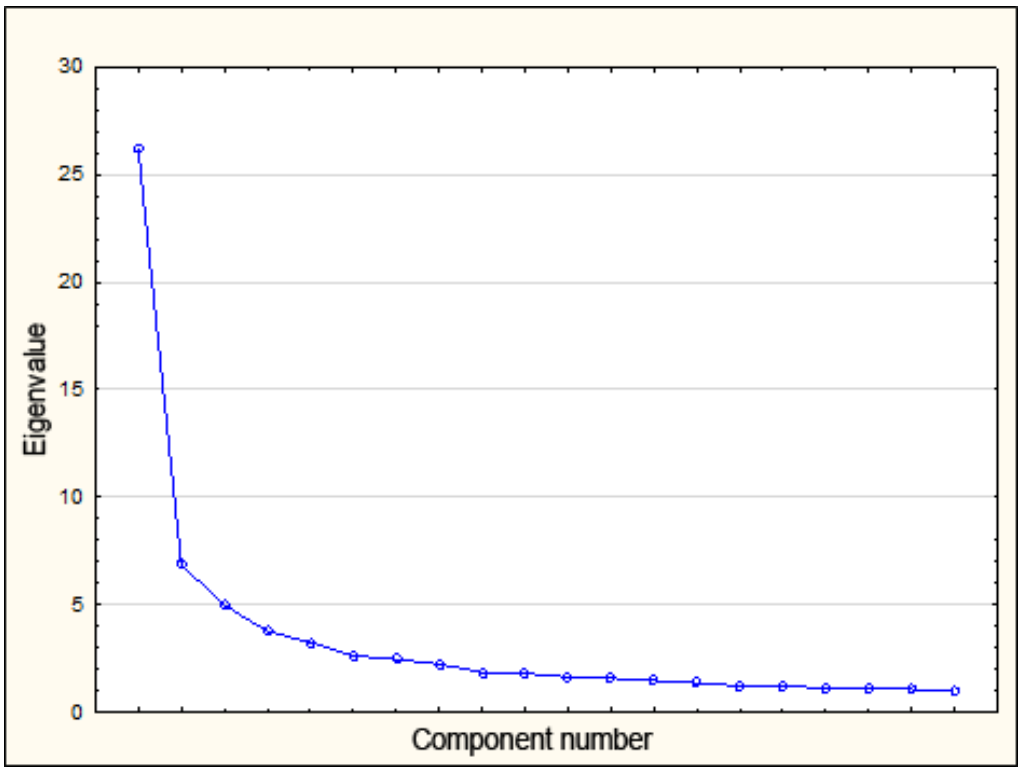


Fig. 1. **Scree plot**

By rotating the factors, the authors were able to specify the variables for the common factors:

Factor 1 – contains variables related to the quality of air and water, amount of green vegetation, level of noise etc.; thus, it is called technical quality of life;

Factor 2 – includes the variables related to education and its form, quality, and length, including other leisure time activities; thus, it is called a factor of educational activities;

Factor 3 – this factor is called quality of public life, as it contains activities related to political parties and movements, state administration, and justice;

Factor 4 – the factor of public services; it includes the availability of shops, services, sports facilities, cultural activities, and other leisure time activities;

Factor 5 – called the health factor; it includes variables related not only to the availability but also the quality of medical services and materials and their financial demands;

Factor 6 – this factor contains a number of variables related to the quality and price of food and food products and the quality and price of services; thus, it is called the commercial factor;

Factor 7 – factor of the above-standard; it contains dispensable variables, such as foreign products and services, inheritance etc.;

Factor 8 – a factor of spiritual extension; it contains variables expressing the general level of satisfaction, feeling of security, love, recognition, and self-realization.

## Conclusions

1. Interestingly enough, the results of the survey show that the respondents significantly prefer placing the factor of spiritual extension into the category of living standards, which contains variables such as the feeling of security, love, and human relations. This may be considered to influence the shape of Maslow's hierarchy. The variables of material character are not that significant even though society is called material. Besides, the results contribute to more intense questioning of the most frequently used indicator of the living standard, i.e. GDP per capita.

2. The least significant factor is that of quality of public life; this shows the lack of interest by people and reflects their dissatisfaction with the political situation and activities of the politicians.

3. The results of the analysis of the main components made it possible to reduce the considered number of 99 variables expressing living standards and quality of life to 19 merged into 8 factors, while concretizing measurable variables for the factors that include all the areas of lives of people. Their general variability represents almost 70% of overall variability, and given the character and number of the variables this result may be considered sufficient.

4. The authors verbally named the 8 established factors - technical quality of life, educational quality of life, quality of public life, public services, health factor, commercial factor, factor of the above-standard, and spiritual extension. All these factors were specified based on the various people's opinion, which is, in fact, the most significant point as they know the best what does and what does not have influence on their living standards. However, these results should be combined with an objective way as well, which is the next step of the authors' research activities.

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