

ECONOMIC SENTIMENT LEVEL VERSUS THE QUALITY OF LIFE IN EUROPEAN UNION MEMBER STATES

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Abstract

The purpose of this paper is to evaluate the interplay between variables pertaining to the satisfaction of life and economic sentiments of citizens of selected European countries. The analysis of the connections will be conducted based on existing subjective primary data. The data in question are results of international comparative surveys (European Social Survey, ESS; the OECD's Better Life Initiative) and results of consumer economic sentiment surveys ordered by the European Commission. The research procedure also benefitted from the selected items of literature available in the form of books and articles.

Population economic sentiments are subject to cyclical changes connected with the changes in economic situation in individual countries. The analysis of secondary data allows for the conclusion that there is a statistically significant direct or indirect strong relationship between assessments of life satisfaction and consumer confidence indicator. The grouping of the researched countries based on secondary data has made it possible to capture the similarities between individual states.

Keywords: economic sentiment, life satisfaction, European Union

JEL Classification: D12, I31

1. Introduction

The beginnings of an interest in the concept of the “quality of life” can be traced back to the teachings of Hippocrates (happy life expressed in the form of a state of internal balance) and Aristotle (the primary goal is to strive for eudaimonia). In the modern period at the turn of the 1970s and 1980s quality of life was introduced into the scope of research of sociology, psychology and medicine. Within social sciences quality of life has been associated with such categories as life style, the sense of individual wellbeing, satisfaction with the conditions and possibilities to fulfil the most significant human needs. Whereas within medicine researchers have been trying to establish why the subjective perception of the quality of life of people suffering from chronic, sometimes incurable

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conditions resulting in limitations to their daily functioning is often more positive than that of healthy individuals (Trzebiatowski, 2011).

Currently the concept of 'quality of life' is also present in issues concerning philosophy and social economy. Campbell is considered to be the founder of research into the quality of life. In 1971, together with Converse and Rodgers he conducted research that was intended to measure the satisfaction with one's life among the citizens of the United States (Campbell, 1976; Campbell, Converse and Rogers, 1976). The measured indicators were the subjective level of satisfaction and the quality of life within an organized society that were used to assess the changes taking place in individuals' lives. One of the first definitions of the quality of life was provided by Dalkey and Rourke and was based on the premise that its constitutive elements are life satisfaction and sense of happiness (Dalkey and Rourke, 1972). Whereas, the most comprehensive taxonomy of quality of life was given by Farquhar (Farquhar, 1995). According to her all the definitions of quality of life can be divided into professional definitions developed by researchers looking into quality of life and layman's definitions. The first group of definitions is highly diversified, since the author of the research incorporated all the following definitions into it:

- global definitions – they focus on the quality of life as a whole, the assessment of general life satisfaction, wellbeing in different areas of life, sense of happiness.
- component definitions – apart from the global assessment they also take into consideration different individual areas of life the assessment of which has an impact on the global quality of life.
- focussed definitions – their essential focus is on individual areas of life.
- combination definitions – they encompass the assessment of the global quality of life as well as external factors such as: the surrounding environment, economical conditions, participation in social life and individual expectations.

The second group of definitions, the so-called layman's definitions, encompasses the definitions that perceive the quality of life as a highly subjective concept to such a degree that it renders it impossible to be expressed in the form of specific norms or standards. Since the authors of this paper are aware of a lack of commonly accepted definition of quality of life within social sciences for the purposes of this research article they assume that quality of life is a view of one's life based on a specific system of values (axiological system). An established view should be thought of as a collective attribute of an individual or a group of people depending on the means used to describe it. The presented view can be expressed subjectively or objectively, one-dimensionally and multi-dimensionally (Borys, 2008).

Aside from theoretical deliberations (*e.g.* Land, Michalos and, Sirgy, 2012; Ostasiewicz, 2004; Sirgy, 2012) and results of quality of life surveys (*e.g.* Moller, Huschka and Michalos, 2008; Perek-Bialas, 2013; Shek, Chan and Lee, 2005; Alves, Vázquez, 2013) the literature on the topic also contains examples of research looking into connections between the quality of life, and decisions on business location (Salvesen and Renski, 2003), amenities and local economic performance (Deller *et al.*, 2001), economic growth (Max-Neef, 1995), economics and environmental protection (Baumol and Oates, 1993) and earnings (Roback, 1982).

The impact of psychological factors on economic attitude of people and economic indicators is among the areas of growing interest of research. According to Sekizawa, Yoshitake and Goto study life satisfaction together with such variables as general trust and level of optimism influence consumer confidence. Estimated multiple regression equation proves that the higher level of life satisfaction the higher level of consumer confidence (Sekizawa, Yoshitake and Goto, 2016).

Frank and Enkawa examined in their work whether economic growth enhances life satisfaction in Germany. According to the result obtained the relationship is not direct. They found mediating role of consumer confidence (Frank and Enkawa, 2009a). In another work Frank and Enkawa found, that environmental satisfaction and satisfaction with family relations mediate influences of aggregate income on dwelling satisfaction in Germany (Frank and Enkawa, 2009b). Rodriguez-Pose and Maslauskaitė analysed macro-level determinants of individual life satisfaction in 10 Central and Eastern European countries. They found that *per capita* GDP and life satisfaction were positively correlated in 1999 and 2008 (Rodriguez-Pose and Maslauskaitė, 2012). In another cross-country study Welsch found that life satisfaction is negatively correlated to macroeconomic variables – inflation and unemployment (Welsch, 2007).

The purpose of this article is to evaluate the relationship between the variables relating to the quality of life (such as overall life satisfaction and subjective evaluation of happiness), and economic moods of the residents of selected European countries¹. The analysis of the relationship will be carried out on the original basis of existing data of the subjective nature. These were the results of international comparative studies (European Social Survey, ESS; the OECD's Better Life Initiative) and studies of consumer sentiment in the selected years.

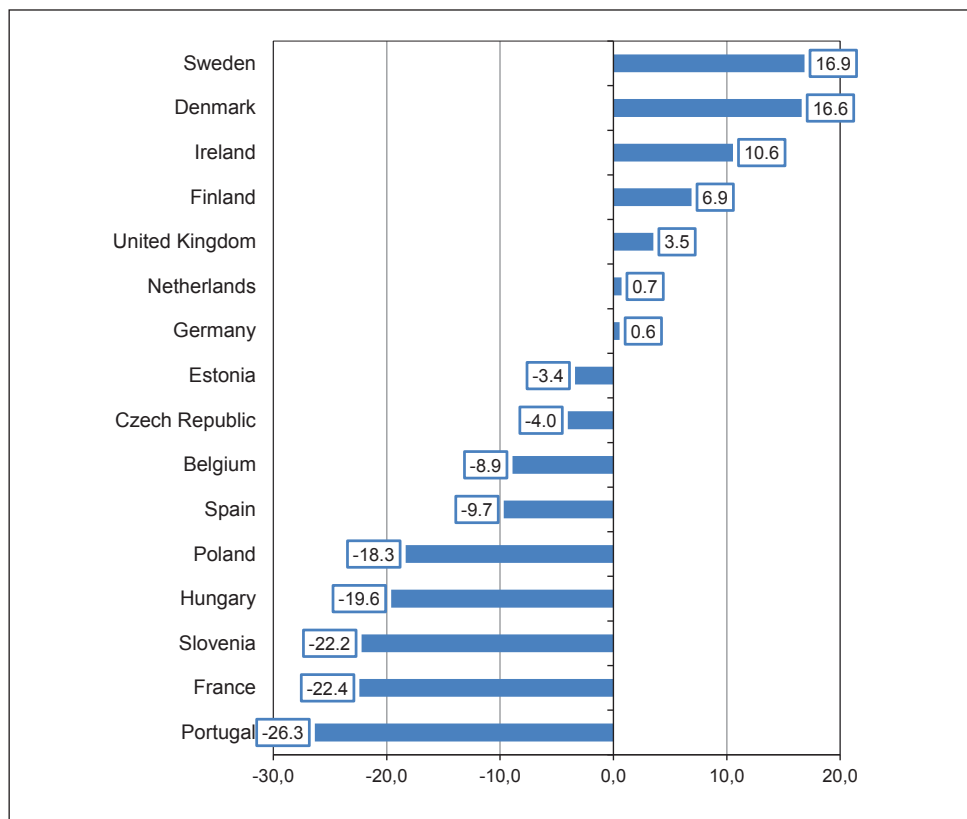
2. Population Economic Sentiments in 2004, 2010 and 2014

According to Curtin (2007) study consumer sentiment surveys were conducted in at least 45 countries worldwide in 2017. Consumer economic sentiment indicators play a major role in evaluating the current economic situation as well as in forecasting future changes to the economy. Especially significant among them are indices of consumer confidence calculated as synthetic indicators. Variables originating from surveys into population economic sentiments render it possible to forecast the evolution of macroeconomic factors, especially consumer spending, with a greater accuracy (*e.g.* Michelle and Giovanni, 2013; Meiihøvs and Rusakova, 2005; Ludvigson, 2004). Consumer sentiment indicators are useful in forecasting economic activity and households purchases of durable goods (Throop, 1992; Souleles, 2001). Moreover, empirical analyses indicate that in case of some countries (*e.g.* the USA, Japan, Germany) consumer confidence indices display pre-emptive qualities in relation to the cyclical component of GDP, whereas for other countries (*e.g.* Canada, France) they are concurrent indicators (Santero and Westerlund, 1996). In connection with the advancing globalization and the transfer of crises between countries a certain similarity in cyclicity

¹ Within the group of analysed countries the authors have included Belgium, the Czech Republic, Germany, Denmark, Estonia, Spain, Finland, France, the United Kingdom, Ireland, Hungary, the Netherlands, Poland, Portugal, Sweden, Slovenia.

of changes in population economic sentiment indicators can be noticed in different countries (Adamowicz *et al.*, 2012). The research that has been conducted indicates that the following factors have a major influence on the cyclical variations in these indicators: financial stability, price stability and political stability in a given country (Neisingh and Stokman, 2013).

Figure 1 | Average Consumer Confidence Index Values in Selected European Union Countries in 2014



Source: own calculations based on existing data http://ec.europa.eu/economy_finance/db_indicators/surveys/time_series/index_en.htm

The empirical analyses contained in the paper are based on the results of population economic sentiments survey commissioned by the European Union and conducted in 28 European countries. The main indicator of the level of population economic sentiments in each country is the consumer confidence index established based on economic situation balance figures for four prognosis questions pertaining to the expected state of a household's financial situation in 12 months, the expected economical situation of the country in 12 months, the expected level of unemployment in 12 months and household's savings level in 12 months (A User Guide to the Joint Harmonised EU..., 2014).

Population economic sentiments were subject to cyclical changes connected with the changes in economical situation in individual countries that were included in the research. In 2004, the highest level of optimism was identified among households in Finland, which is ascertained by a higher annual average consumer confidence index result than in the remaining 15 countries (+13.5 points). Among countries with the highest optimism level there were also two other Scandinavian countries – Sweden and Denmark. In 2014, the highest level of population economic sentiments was noted in Sweden, Denmark and Ireland.

Table 1 | Selected EU Countries Ranked according to the Average Annual Values of the Consumer Confidence Index in 2004, 2010 and 2014

Country	2004	2010	2014	Average place
Sweden	3	1	1	1.7
Denmark	2	3	2	2.3
Finland	1	2	4	2.3
Ireland	4	10	3	5.7
Netherlands	7	4	6	5.7
United Kingdom	5	9	5	6.3
Estonia	9	6	8	7.7
Belgium	6	7	10	7.7
Germany	12	5	7	8.0
Czech Republic	10	8	9	9.0
Spain	8	13	11	10.7
Poland	15	11	12	12.7
France	11	12	15	12.7
Slovenia	13	14	14	13.7
Hungary	14	15	13	14.0
Portugal	16	16	16	16.0

Source: own calculations based on the following data http://ec.europa.eu/economy_finance/db_indicators/surveys/time_series/index_en.htm

In 2014, the countries with the lowest level of population economic sentiments were Poland, Hungary, Portugal, Slovenia and Germany. In 2004, the lowest consumer confidence index value was recorded in Portugal – it amounted to –28.9 points. In 2010, top five countries with the highest level of pessimism included Portugal, Hungary, Slovenia, Spain and France. In 2010, Portugal was the country with the pessimistic sentiments expressed most vocally – the average annual consumer confidence index was calculated at –40.8 points. In 2014, Poland, Hungary, Portugal, Slovenia and France were among the countries with the lowest level of population economic sentiments. In 2014, the worst economic sentiments were

pervasive among households in Portugal and the value of the average annual consumer confidence index for that country amounted to –26.3 points.

Based on the rankings of countries created on the grounds of consumer confidence index values noted in 2004, 2010 and 2014 average places of each of the countries were calculated (Table 1).

3. Quality of Life Evaluation on the Basis of the ESS and the OECD Surveys

The purpose of the ESS study is to observe the social changes taking place in Europe, *i.e.* the attitudes towards the key problems, changes in values and behaviour. Some of the questions used in the individual rounds of the survey are the same; some of the questions (rotary modules) are variable. In the analysis the answers were used to the questions relating to the evaluation of life satisfaction and happiness contained in the standing part. The measurement of these variables took place based on 11 point ordinal scale². For the needs of further analysis the assumption was adopted of *quasi*-quantitative nature of these scales. This analysis is supplemented by answers to the questions from the rotary part on subjective mental well-being. The measurement of these variables was held on the basis of a four point ordinal scale³.

Summary of the results of the ESS study from the three time points (year 2004, 2010 and 2014) shows that the highest level of satisfaction can be observed in Denmark. The average value of satisfaction level at each time point exceeds the value of 8.0 on 11 point scale. Then, the other Scandinavian countries (Sweden and Finland) can be indicated as well as Belgium and the Netherlands. In these cases, the average rating of the subjective life satisfaction is lower but not less than the average value 7.4. It is also possible to indicate Germany as a country, in which over the previous and current decade the assessment of life satisfaction increases gradually. We can see a stable increase in the level of satisfaction from 6.74 in 2004 up to the level of 7.38 in 2014. A similar situation can be observed in the case of Poland, where the level of life satisfaction is significantly lower (average rating of 6.22 in 2004; 7.01 in 2014.). This country, together with the Czech Republic, Hungary, Portugal, Estonia and Slovenia can be classified in a group, where the average life satisfaction is the lowest of all the analysed countries (it is within the range of 5.7–7.0). The detailed data on the average assessment of life satisfaction is presented in Table 2.

Data analysis based on the ranking of countries confirms the high level of satisfaction with life in the Scandinavian countries. The results of the subsequent rounds of survey indicate that the position of some countries is increasing *e.g.* Germany, Poland. The opposite situation, *i.e.* lowering of the place in ranking can be seen in the case of Ireland, France, Spain and Slovenia. In other cases we can see the maintaining of the same position or with some minor changes.

2 The scale from 0 to 10, where 0 means extreme dissatisfaction and 10 extreme satisfaction.

3 Where 1 means never or almost never, 2 – only for a part of time, 3 – for most of this time, 4 for all the time or almost all the time.

Table 2 | The Average Assessment of Life Satisfaction in Analysed Countries on Basis of ESS Survey

Position	Country	2004		2010		2014	
		Average assessment of life satisfaction	Place in the ranking	Average assessment of life satisfaction	Place in the ranking	Average assessment of life satisfaction	Place in the ranking
1	Belgium	7.42	6	7.46	5	7.41	5
2	Czech Republic	6.50	11	6.38	13	6.63	11
3	Germany	6.74	10	7.24	7	7.38	6
4	Denmark	8.43	1	8.29	1	8.27	1
5	Estonia	5.92	14	6.57	12	6.47	13
6	Spain	7.11	7	7.32	6	6.96	10
7	Finland	7.99	2	7.92	2	7.89	2
8	France	6.44	12	6.33	14	6.43	14
9	United Kingdom	7.08	8	7.04	8	7.26	7
10	Ireland	7.67	4	6.61	11	7.06	8
11	Hungary	5.61	16	5.83	16	5.76	16
12	Netherlands	7.59	5	7.77	4	7.61	4
13	Poland	6.22	13	6.98	9	7.01	9
14	Portugal	5.73	15	6.09	15	5.79	15
15	Sweden	7.83	3	7.90	3	7.86	3
16	Slovenia	6.90	9	6.97	10	6.57	12

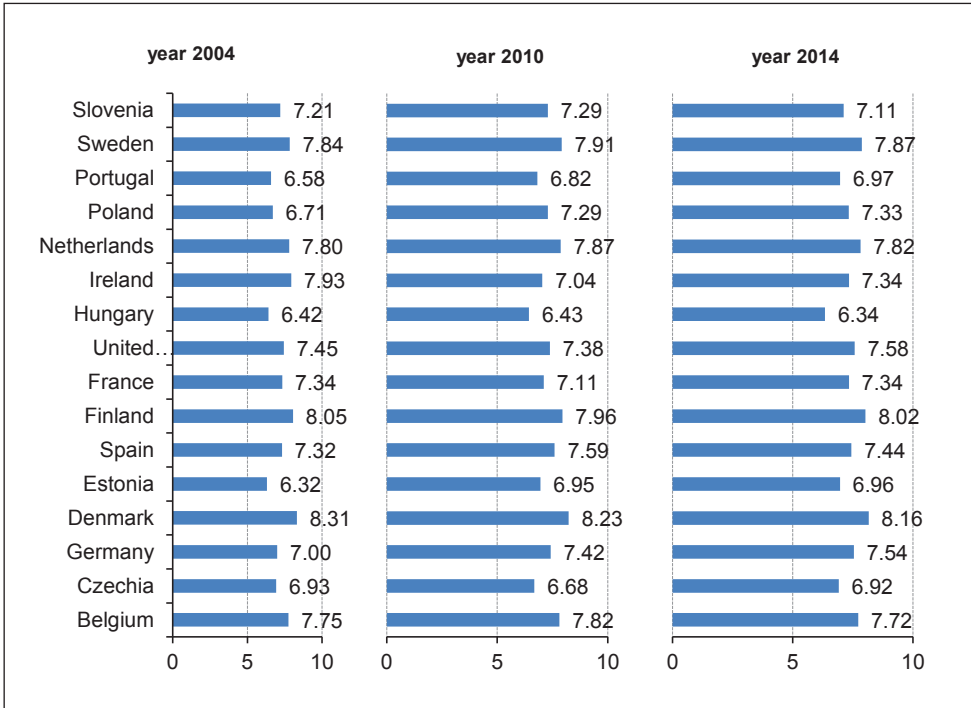
Source: Own compilation based on results of ESS survey (http://www.europeansocialsurvey.org/about/project_specification.html)

Results of satisfaction with life are reflected in the level of happiness. The highest level can be observed in the Scandinavian countries. In this case, the mean value of happiness is higher than 7.9 on an 11-point scale. The high level of happiness is also evident in Belgium and the Netherlands. The observed level of happiness in other countries is also a reflection of the ratings of life satisfaction. The detailed distribution of the data is presented in Figure 2.

The basic measure of subjective mental well-being is the satisfaction with life, and its supplement may be experienced through various emotional states. In the ESS respondents were asked to determine the level of, among others, gloom, happiness, sadness or apathy in the week preceding the survey. The results of the last measurement show that the lack

of gloom to a greater extent has been declared by the respondents in Finland. In this country, more than 80% of the respondents claimed that they almost or almost never felt depressed. Also in these countries, a large proportion of respondents (nearly 80%) declare the lack of feeling of loneliness. A similar situation exists in Denmark and the Netherlands. The feeling of happiness in the week preceding the survey was declared by the residents of Belgium, Ireland and the Netherlands. In each of these countries more than 80% of the respondents declared feeling of happiness all the time or most of the time. The lowest level can be observed among the respondents in Portugal and Hungary (66% and 67%). Declaration of the joy of life is the domain of people in Ireland. 83% of respondents say that in the week preceding the survey they have experienced the joy of life over the most of time. The high level of the joy of life is also characteristic for the inhabitants of the Netherlands, France and Belgium. In each of these countries more than 80% of respondents say so. The lowest declaration of the joy of life of all of the analysed countries can be observed as in the case of feeling of happiness among inhabitants of Hungary and Portugal (62% and 64% of respondents, respectively). The detailed results of other emotional states included in the survey are presented in Table 3.

Figure 2 | Declared Happiness Level in Individual Countries in the Selected Years



Source: Own compilation on basis of ESS survey in years 2004, 2010 and 2014 (http://www.europeansocial-survey.org/about/project_specification.html)

Table 3 | Results of Other Emotional States in the Analysed Countries on Basis of ESS Survey

Pos.	Country	I feel that everything comes to me with difficulty				Bad sleep				Feeling of sadness				No mood for anything (apathy)			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1	Belgium	50.6	37.9	8.3	3.2	38.2	40.7	14.2	6.8	56.8	36.6	4.7	1.8	55.9	35.5	5.7	3.0
2	Czech Republic	44.1	36.8	13.1	6.0	47.1	35.2	12.3	5.4	49.2	39.5	7.7	3.6	39.0	41.1	14.5	5.4
3	Germany	39.4	45.0	11.7	3.9	41.2	38.8	13.2	6.8	61.5	33.1	4.2	1.2	60.1	34.6	3.9	1.3
4	Denmark	51.5	37.7	8.1	2.8	49.3	34.0	11.5	5.1	65.7	30.4	3.2	.8	57.7	34.3	6.1	1.9
5	Estonia	36.7	43.9	15.5	3.9	43.4	38.7	12.9	5.1	43.6	48.1	6.4	1.9	49.5	40.7	7.6	2.2
6	Spain	50.4	35.6	8.9	5.1	44.9	35.1	12.5	7.5	42.8	46.5	6.8	3.9	48.2	41.3	7.0	3.5
7	Finland	65.8	28.1	4.0	2.1	46.9	41.9	8.2	3.0	72.2	24.8	2.0	1.0	52.2	38.2	7.2	2.5
8	France	52.3	36.1	8.0	3.6	41.6	36.7	13.0	8.7	50.8	42.8	3.9	2.6	70.7	24.3	3.2	1.9
9	United Kingdom	49.2	37.5	9.4	3.9	41.6	37.7	12.9	7.8	57.8	37.5	2.7	2.0	56.0	37.1	4.5	2.4
10	Hungary	42.7	42.4	11.6	3.3	23.1	56.3	16.0	4.6	43.7	45.2	8.6	2.6	43.9	42.6	10.2	3.3
11	Ireland	57.6	34.8	5.7	1.9	54.4	34.5	8.5	2.6	62.0	33.4	3.0	1.6	63.2	32.0	3.5	1.4
12	Netherlands	57.0	33.8	6.6	2.5	46.5	38.3	10.8	4.4	61.8	34.6	2.6	1.0	48.6	40.2	8.1	3.1
13	Poland	55.0	32.0	10.4	2.6	60.3	24.1	11.3	4.3	58.5	30.8	7.4	3.3	56.7	32.5	7.4	3.4
14	Portugal	31.3	34.6	18.6	15.5	41.6	35.1	13.1	1.,2	41.0	49.0	5.0	4.9	36.3	52.5	5.1	6.0
15	Sweden	59.4	33.1	5.5	1.9	52.5	33.1	10.0	4.4	62.9	32.7	2.9	1.6	53.3	37.4	6.5	2.8
16	Slovenia	59.6	29.7	8.3	2.4	51.3	31.3	14.0	3.4	54.8	38.3	5.7	1.2	52.2	38.1	8.6	1.1

Notes: 1 means never or almost never, 2 – only for a part of time, 3 – for most of this time, 4 – for all the time and almost all the time.

Source: Own compilation on basis of ESS survey in the years 2004, 2010 and 2014.

Life Satisfaction Index according to the OECD shows the subjective assessment of satisfaction with life of residents of the surveyed countries. It is a weighted-sum of different response categories based on people's rates of their current life relative to the best and worst possible lives for them on a scale from 0 to 10. Analysis of the satisfaction index also indicates a high assessment of the satisfaction with life of the inhabitants of the Scandinavian countries as well as improving opinions on life satisfaction in Germany. Like in the case of ESS not only the top countries on the list as regards satisfaction are the same, but also a group of countries with the lowest values is the same. Among this group there are included: Portugal, Slovenia, Poland, Hungary and Estonia. A detailed breakdown of results is presented in Table 4.

Table 4 | OECD Life Satisfaction Index in 2013-2016

Pos.	Country	2013		2014		2015		2016	
		Life Satisfaction	Position in ranking	Life Satisfaction	Position in ranking	Life Satisfaction	Position in ranking	Life Satisfaction	Position in ranking
1	Belgium	6.9	6	7.1	5	6.9	7	6.9	6
2	Czech Republic	6.3	10	6.7	9	6.5	9	6.6	8
3	Denmark	7.5	2	7.6	1	7.5	1	7.5	1
4	Estonia	5.4	14	5.4	14	5.6	14	5.6	14
5	Finland	7.4	4	7.4	2	7.4	2	7.4	2
6	France	6.6	9	6.7	9	6.5	9	6.4	10
7	Germany	6.7	8	7	6	7	5	7	5
8	Hungary	4.7	16	4.9	16	4.9	16	5.3	15
9	Ireland	7	5	6.8	8	7	5	6.8	7
10	Netherlands	7.5	2	7.4	2	7.3	3	7.3	3
11	Poland	5.9	13	5.7	13	5.8	12	6	12
12	Portugal	5	15	5.2	15	5.1	15	5.1	16
13	Slovenia	6.1	12	6	12	5.7	13	5.7	13
14	Spain	6.3	10	6.2	11	6.5	9	6.4	10
15	Sweden	7.6	1	7.4	2	7.2	4	7.3	3
16	United Kingdom	6.8	7	6.9	7	6.8	8	6.5	9
17	OECD - Total	6.6		6.6		6.6		6.5	

Source: Own compilation on basis of OECD survey for the years 2013–2016

4. Population Economic Sentiments versus Quality of Life in 2004, 2010 and 2014

The level of population economic sentiments indicates a connection with the overall life satisfaction. Pearson's correlation coefficient between the values of consumer confidence index and the assessments of life satisfaction in 2004, 2010 and 2014 adopts values between 0.815 and 0.911, which is consistent with a strong or even very strong positive relationship. These relationships can be considered statistically significant at the level of significance equalling $\alpha = 1\%$. At the same time it is worth pointing out that in 2004 and 2010 there was a stronger positive relationship between the overall assessment of life satisfaction and the level of consumer confidence index than in the case of other economic sentiment indicators.

Table 5 | Correlation between the Assessment of Life Satisfaction and Economic Sentiment Indicators in 2004, 2010 and 2014

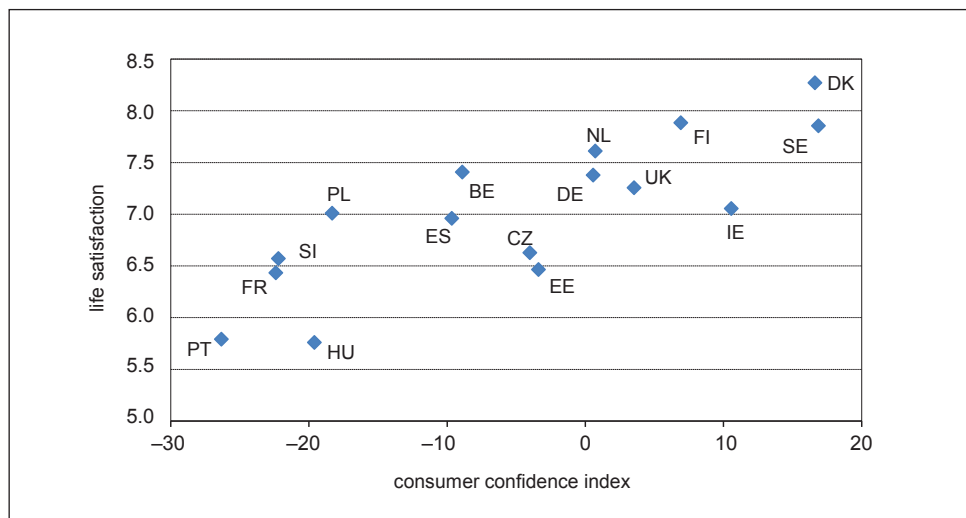
Economic sentiment indicators	2004		2010		2014	
	Pearson's correlation coefficient	significance level (p)	Pearson's correlation coefficient	significance level (p)	Pearson's correlation coefficient	significance level (p)
Confidence Indicator	0.9111	0.000	0.8171	0.000	0.8149	0.000
Financial situation over last 12 months	0.7073	0.002	0.7534	0.001	0.6474	0.007
Financial situation over next 12 months	0.8131	0.000	0.7915	0.000	0.7267	0.001
General economic situation over last 12 months	0.4527	0.078	0.6245	0.010	0.5048	0.046
General economic situation over next 12 months	0.6675	0.005	0.728	0.001	0.5847	0.017
Unemployment expectations over next 12 months	-0.4322	0.095	-0.5646	0.023	-0.2907	0.275
Major purchases at present	0.3505	0.183	0.6119	0.012	0.7177	0.002
Major purchases over next 12 months	0.4327	0.094	0.5325	0.034	0.5593	0.024
Savings at present	0.7221	0.002	0.7246	0.001	0.7566	0.001
Savings over next 12 months	0.8739	0.000	0.7967	0.000	0.8506	0.000
Statement on financial situation of household	0.8299	0.000	0.7125	0.002	0.7598	0.001

Source: Own elaboration based on the ESS results (http://www.europeansocialsurvey.org/about/project_specification.html) and consumer sentiment research results http://ec.europa.eu/economy_finance/db_indicators/surveys/time_series/index_en.html)

Among 11 economic sentiment indicators another variable that seems worth noting is indicator of savings over next 12 months. Pearson's correlation coefficient for this variable and the overall life satisfaction indicator is relatively high and falls between 0.7967 and 0.8739. These results prove that there is a strong positive relationship between life satisfaction and intentions to save money over next 12 months.

While analysing correlations between other economic sentiment indicators with assessment of life satisfaction one should pay attention to the indicator of financial situation over next 12 months, indicator of financial situation over last 12 months, indicator of savings at present and statement on financial situation of household. The correlation coefficients in case of these variables fall into the range between 0.6474 and 0.8299 in all three periods (2004, 2010 and 2014) and point to statistically significant correlations at the significance level equalling $\alpha = 1\%$.

Figure 3 | Assessments of Life Satisfaction Correlated with the Level of Consumer Confidence Index in 2014



Source: Own elaboration based on the ESS results (http://www.europeansocialsurvey.org/about/project_specification.html) and consumer sentiment research results http://ec.europa.eu/economy_finance/db_indicators/surveys/time_series/index_en.html)

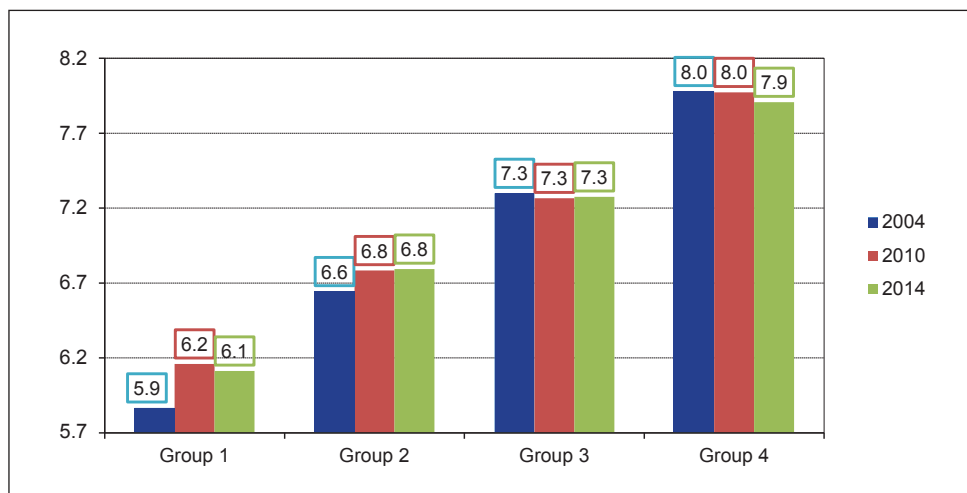
Slightly weaker correlations are present in case of the relationship between the indicator of general economic situation over next 12 months and the assessment of life satisfaction. In different periods the correlation coefficients adopted values within the range between 0.5847 and 0.7280 (Table 3).

In the case of one variable – indicator of unemployment expectations over next 12 months there was found negative relationship with the assessments of life satisfaction. The values of Pearson's correlation coefficient fall into the range between -0.5646 and -0.2907 . It is worth noting, that only in 2010 the relationship between the both variables can be considered statistically significant at the level of significance equalling $\alpha = 5\%$. Moreover in 2014 the relationship between the variables is statistically insignificant even at the level of significance $\alpha = 10\%$.

In order to present detailed differences between the economic sentiments and the satisfaction of life the countries where the research had taken place have been divided into four groups, according to the level of assessment of life satisfaction. Group 1 contains the countries with the level of assessment of life satisfaction below quartile 1. In Group 2 there are the countries with the level of assessment of life satisfaction between quartile 1 and median. The countries with the level of assessment of life satisfaction between median and quartile 3 were assigned to Group 3. In the last Group 4 there are the countries with the level of assessment of life satisfaction over quartile 3. The Figure 4 included below shows average values of assessment of life satisfaction for each group of countries in a given year.

In the Group I there are the countries with the lowest values of Confidence Indicator. In the following years covered by the analysis (2004, 2010 and 2014) in the Group I among the four countries, Hungary and Portugal had their permanent place. Twice in the Group I France and Estonia appeared, and once Poland and the Czech Republic. The average value of Confidence Indicator reached the lowest level in 2010 (–25.2 points) and the most favourable level it reached in 2014 (–17.9 points). Of the 10 analysed simple indicators of consumer sentiment from 7 to 8 in the years 2004, 2010 and 2014 for the countries of the Group I it takes the least favourable value compared to other groups of countries.

Figure 4 | Average Values of Assessment of Life Satisfaction in 2004, 2010 and 2014



Source: Own elaboration based on the ESS results (http://www.europeansocialsurvey.org/about/project_specification.html) and consumer sentiment research results http://ec.europa.eu/economy_finance/db_indicators/surveys/time_series/index_en.html)

In Group IV there are the countries with the highest values of the Confidence Indicator. Group IV is characterized by a very high stability of the countries composition. In each of the analysed periods in this group there were three countries – Denmark, Finland and Sweden. Composition of the group was completed once by Ireland (2004) and the Netherlands twice (2010 and 2014). In the case of Group IV the Confidence Indicator assumed the highest average value for 2010 (13.4 points), and the lowest for 2004 (7.3 points). It is worth noting that both in 2004 and 2010 all of the 10 simple consumer sentiment indicators for the countries of Group IV take the best values compared to other groups of countries. While in 2014, only 3 simple indices of consumer sentiment take slightly better values for the countries of Group III.

Of all the four groups, Group II is characterized by the least stable composition of the countries, in which the only country classified three times (2004, 2010 and 2014) is Slovenia. Two more countries – Poland and the Czech Republic were in the Group II twice. As many as five additional countries were classified in Group II only once – Germany, France, Estonia, Ireland, and Spain.

Table 6 | Characterization of Countries Groups in 2004, 2010 and 2014

	Group 1	Group 2	Group 3	Group 4
2004	EE, HU, PL, PT	CZ, DE, FR, SI	BE, ES, NL, UK	DK, IE, FI, SE
2010	CZ, FR, HU, PT	EE, IE, PL, SI	BE, DE, ES, UK	DK, NL, FI, SE
2014	EE, FR, HU, PT	CZ, ES, PL, SI	BE, DE, IE, UK	DK, NL, FI, SE
Average values of consumer tendency survey variables				
2004				
Confidence Indicator	−23.4	−15.7	−5.9	7.3
Financial situation over last 12 months	−17.3	−17.2	−8.8	3.6
Financial situation over next 12 months	−9.4	−7.6	2.4	9.6
General economic situation over last 12 months	−26.6	−33.2	−26.4	−3.5
General economic situation over next 12 months	−14.4	−14.0	−6.4	2.1
Unemployment expectations over next 12 months	28.4	32.4	26.8	14.1
Major purchases at present	−12.4	−7.7	−8.7	15.3
Major purchases over next 12 months	−15.8	−14.8	−17.2	−5.0
Savings at present	−42.1	8.7	9.0	27.4
Savings over next 12 months	−41.3	−8.9	7.4	31.7
Statement on financial situation of household	−1.8	17.4	20.6	27.1
2010				
Confidence Indicator	−25.2	−16.9	−11.4	13.4
Financial situation over last 12 months	−24.1	−27.6	−13.2	−0.2
Financial situation over next 12 months	−11.9	−11.2	−2.5	7.9
General economic situation over last 12 months	−47.3	−46.4	−38.7	−6.6
General economic situation over next 12 months	−23.0	−12.8	−7.6	12.6
Unemployment expectations over next 12 months	37.2	25.2	30.8	6.2
Major purchases at present	−39.7	−9.1	−8.1	5.8
Major purchases over next 12 months	−24.6	−24.7	−28.2	−8.7
Savings at present	−32.7	−3.9	−3.3	40.8
Savings over next 12 months	−28.6	−18.5	−4.5	39.4
Statement on financial situation of household	6.8	11.4	16.3	31.7
2014				
Confidence Indicator	−17.9	−13.6	1.4	10.3
Financial situation over last 12 months	−17.2	−21.5	−7.6	−2.3

Table 6 | Continuation

	Group 1	Group 2	Group 3	Group 4
2014				
Financial situation over next 12 months	−7.7	−5.2	1.8	5.8
General economic situation over last 12 months	−26.8	−27.8	−3.7	−7.9
General economic situation over next 12 months	−12.5	−6.5	5.9	6.0
Unemployment expectations over next 12 months	18.9	17.6	7.9	9.4
Major purchases at present	−33.1	−20.2	3.4	−0.1
Major purchases over next 12 months	−23.5	−18.2	−17.6	−9.1
Savings at present	−28.4	−22.8	−5.0	29.2
Savings over next 12 months	−32.7	−24.9	6.0	38.6
Statement on financial situation of household	4.2	8.5	20.8	31.9

Note: The assessments of satisfaction and happiness were made on a 10-point scale, where 1 was the lowest assessment and 10 the highest.

Source: Own elaboration based on the ESS results (http://www.europeansocialsurvey.org/about/project_specification.html) and consumer sentiment research results http://ec.europa.eu/economy_finance/db_indicators/surveys/time_series/index_en.html

When analysing the differences between the range of the highest and lowest values of each of 10 economic indicators for the four separate groups of countries, it is also possible to observe certain regularities, sustained in subsequent years. Each year, the largest differences occurred in terms of savings at present (from 57.6 points in 2014 to 73.5 points in 2010) and savings over next 12 months (from 68.0 points in 2010 to 73.0 points in 2004). The smallest differences related twice to the average values of the indicator of major purchases over next 12 months (in 2004: 12.2 points, and in 2010: 19.5 points) and once to unemployment expectations over next 12 months (in 2014: 11.0 points).

5. Conclusion

Population economic sentiments are subject to cyclical changes connected with the changes in economic situation in individual countries. The highest level of consumer confidence index among the European Union member states was observed in the Scandinavian countries - Sweden, Denmark and Finland. The lowest values are characteristic for Slovenia, Hungary and Portugal.

Assessments of life satisfaction, happiness and different aspects of life such as standard of living, employment, education, health condition and social life change over time as well. The assessments of life satisfaction indicate the possibility of identifying two distinct groups of countries based on the difference in average assessment. The first group of countries with the highest level of assessments includes almost all the Western European states (besides Portugal) and the Scandinavian countries. A lower level of quality of life is present in the states of Central European, which make up the second group of countries.

The analysis of secondary data allows for the conclusion that there is a statistically significant direct or indirect strong or even very strong relationship (Pearson's correlation coefficient within the range 0.8–0.9) between the level of consumer confidence and the overall degree of life satisfaction. Similar or a little bit lower correlation coefficient values are noted for the relationship between satisfaction of life and other economic sentiment indicators, concerning financial situation over next 12 months, savings over next 12 months and statement on financial situation of household.

Moreover, the conducted analyses permit finding the occurrence of further regularity. Despite the passage of time, in the years 2004–2014 for the individual countries it is difficult to achieve significant changes in their position compared to other countries in terms of level of economic sentiment of the population and life satisfaction. Additionally, countries with a high level of satisfaction with life are classified in groups characterized also by the favourable values of the indicators of economic sentiment of population. Differences in life satisfaction and consumer confidence between the four separate groups of countries translate throughout the period 2004–2014 most strongly to the differences in the propensity to save in the future and subjective assessment of the possibilities to make savings in the current period.

It should be stressed that due to the lack of available data on life satisfaction for all European Union countries, a set of countries covered by the analysis in the article was limited. The possibility of including by the analysis of a wider set of countries would certainly allow to verify the conclusions made.

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