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Quality of Life - Evidence from Romania

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Abstract
This study investigates the quality of life in Romania and the relative position in the European Union for the key indicators measuring QOL. In addition, a key objective is to highlight the most stringent problems and propose solutions for improving and reducing the gap of quality vs. Europe developed countries. We used Eurostat data base to obtain the set of data related to Quality of life. From a statistical point of view, in order to highlight the position of Romania in EU, we are comparing the absolute value of indicators for Romania with EU average, and we measure the intensity of gap or advantage by comparing the Romanian score with the standard deviation for all the EU 28 countries.
Keywords: quality of life (QOL), living conditions, health, education, environment.

Introduction

Quality of life (QOL) includes several dimensions: physical, economic, social, health, political or cultural. In the economic literature we find many ways of calculating quality of life, and lots of international organizations/institutions are interested in analyzing and developing studies in this direction (Eurostat, United Nations, World Bank).

It has long been accepted that material wellbeing, as measured by GDP per capita, cannot alone explain the broader Quality of life in a country. One strand of the literature has tried to adjust GDP by quantifying facets that are omitted by the GDP measure various nonmarket activities and social ills, such as environmental pollution. But the approach has faced insurmountable difficulties in assigning monetary values to the various factors and intangibles that comprise a wider measure of socio-economic wellbeing (Eurostat, 2010). Also, quality of life should not be confused with standard of living concept, which is primarily based on income.

Looking at the Romanian case, measuring the quality of life is a relatively new approach. Until 1990, due to the communist regime, there were not many studies on QOL. The first study was conducted in the 70s and published years later (inspired from a study conducted by Andrews and Whitney in US, the questionnaire consisted on 250 items of both, subjective and objective quality of life questions, applied on a sample of 3000 individuals).

Professor Cătălin Zamfir published a book in 1984 by using the data collected from the questionnaire (data modeled using advanced statistical tools). Few studies followed until 1989, containing also theoretical treaties. This was the background for the extensive studies in the last 26 years. Starting with 2007, when Romania became part of European Union, a rich set of indicators is published by Eurostat. The statistic is very useful, as we can measure and interpret data cross all the European Union members.

Literature Review

Our main goals in this article are not directed on analyzing in depth the studies conducted on quality of life in Romania, but we will highlight the main ones in this section.

Immediately after the communism fall, in January 1990, the Institute for Quality of Life was created under the aegis of the Romanian Academy. (Bălţătescu, 2001).

As described by the institute for quality of life (ICCV), the major research program aims to:

- create a full image for the quality of life status, by taking into account numerous components, such as: material status, health, education, family life, housing, public services, etc;
- monitor social changes;
- explore cross-relations between various life components, in order to understand which of these combine and create a qualitative life;
- identify vulnerable groups.

All data produced by ICCV research is published in the Quality of life Diagnosis.

In 1994, another study named Public Opinion Barometer was including substantial information about the quality of life in Romania. The surveys and results publishing were conducted by The Foundation for an Open Society. All data's are published and available for free. As we can observe, the Academic and NGO environment was very much interested and involved in measuring and proposing ways of improving the quality of life. Unfortunately, as we will see in the next sections, these efforts were not accompanied by coherent policies, and Romania is ranked with one of the lowest quality of life in the European Union.

Methodology and Context for the Research

Romania had a slow and painful transition from communism to democracy. This affected severely the quality of life for most Romanians. Even if we are for 9 years members of EU, our average net income is almost 8 times lower than the European Union average. We decided to conduct this research in order to highlight the gap or advantage we have compared with the rest of EU members and to propose solutions for narrowing the gaps in the future.

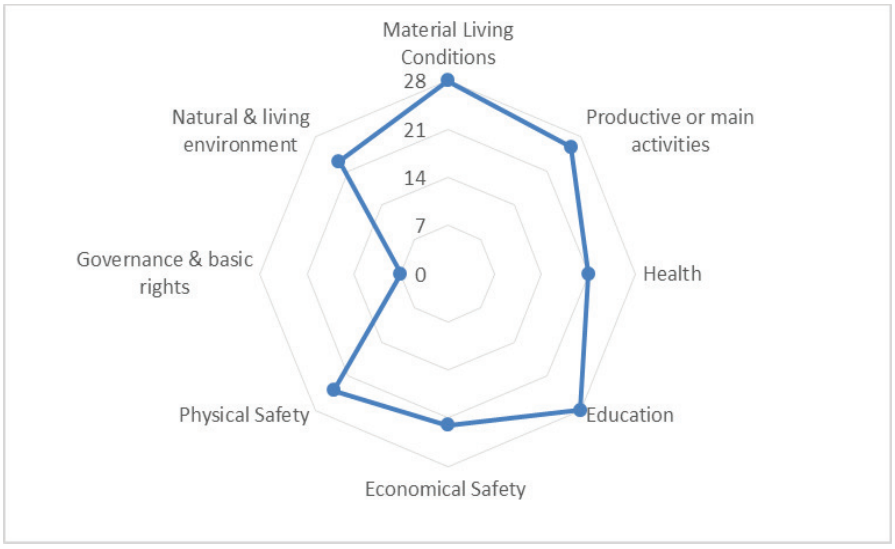
The quantitative analysis is based on statistical data, which compare the Romanian results with the EU average results. In addition, we will compare the gap or advantage of all analyzed indicators with the standard deviation of the entire data set (data related to all EU countries), in order to determine if the gap/advantage is manifesting an intensity in normal limits or a strong intensity. By applying this model,

we want to identify the key areas needed to be improved and what actions could be taken in this direction.

In order to have a consistent view of the Romanian results and our relative position in the EU, we decided to use as source of data, Eurostat. The main groups of indicators are:

- Material living conditions;
- Productive or main activities;
- Health;
- Education;
- Economical and Physical Safety;
- Governance and basic rights;
- Natural and living environment.

Fig. no. 1. Quality of Life - Romanian position in the EU 28



Source: Eurostat, author's own adaptation

We can notice that, with small exceptions, Romania has very low scores across the main categories, being on the last position in the European Union for two important categories: material living conditions and education.

Table no. 1. Quality of life - Romanian position in the EU 28

Category	Indicator	Rating
Material Living Conditions	At risk of poverty rate total	28
Productive or main activities	Low-wage earners a proportion of all employees	26
Health	Health life years	21
Education	Participation rate in educations & training	28
Economical Safety	Inability face unexpected financial expenses	22
Physical Safety	Death due to homicide, assault	24
Governance basic & rights	Gender pay gap	7
Natural & living environment	Pollution, gripe or other environmental problems	23

Source: Eurostat, authors' own adaptation

In the next sections, we will present the situation for each quality of life category, and also our remarks and recommendations.

Findings

A. Material living conditions

In order to evaluate the material living conditions, we analyzed a set of 4 indicators: mean equivalised net income; risk of poverty rate; severely materially deprived people; households' ability to make ends meet.

The results for Romania and the gap/advantage vs EU average are represented in the table, below:

Table no. 2. Material living conditions

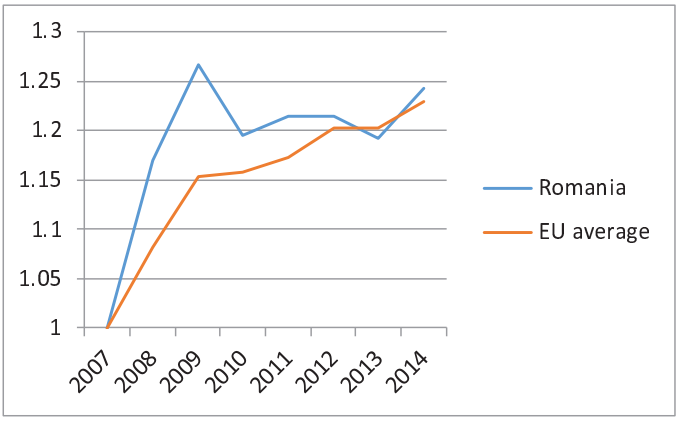
	Advantage	Gap
Intensity in normal limits		- at risk of poverty rate (<65 years);
Strong intensity		- mean equivalised net income; - risk of poverty rate (<18 years); - severely materially deprived people; - households ability to make ends meet very difficult.

Source: Eurostat, authors' own adaptation

A very important indicator for measuring material living conditions is the mean equivalised net income. The indicator is taking into account the impact of rences in household size and composition. The equivalised income attributed to each member of the household is calculated by dividing the total disposable income of the household by the equivalisation factor. Eurostat applies an equivalisation factor calculated according to the OECD-modified scale first proposed in 1994 - which gives a weight of 1.0 to the first person aged 14 or more, a weight of 0.5 to other persons aged 14 or more and a weight of 0.3 to persons aged 0-13. (Eurostat)

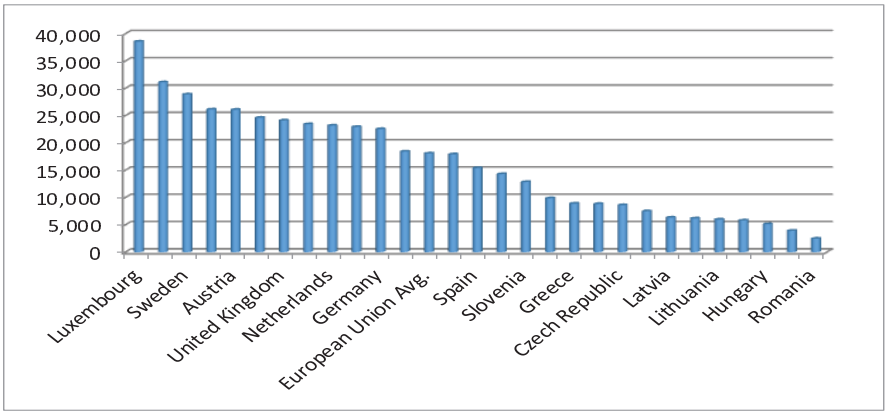
In absolute value, Romanian mean equivalized net income is 2.470 Euros, the lowest among EU members, and more than 7 lower comparing with EU average. Also the trends are worrying; we can observe in figure no. 2 that from 2007, Romania was not catching up too much comparing with the EU average.

Fig. no. 2. Mean equivalised net income - Evolution (2007 – 2014)



Source: Eurostat, http://ec.europa.eu/eurostat/data/database

Fig. no. 3. Mean equivalised net income (2014, absolute values)



Source: Eurostat, http://ec.europa.eu/eurostat/data/database

Another important indicator is at risk of poverty rate. Romania has the biggest rate among the EU members, and the most crucial problem is among young population (under 18 years), where the rate is around 40% (almost double vs EU average).

Table no. 3. At risk of poverty rate (% of total)

	At risk of poverty rate% (Total)	**At risk of poverty rate% (<18 years)**	**At risk of poverty rate%(>65 years)**
Romania	25,4	39,4	15,5
European Union Avg.	17,2	21,1	13,8
Standard Deviation	3,9	6,7	6,7
Romania vs E.U. Avg.	8,2	18,3	1,7

Source: Eurostat, authors' own adaptation

Table no. 4. Severely materially deprived people

	Severely materially deprived people % (Total)	Severely materially deprived people % (<18 years)	Severely materially deprived people % (>65 years)
Romania	25,0	30,4	24,8
European Union Avg.	8,9	10,4	6,2
Standard Deviation	7,9	9,4	9,2
Romania vs E.U. Avg.	16,1	20,0	18,6

Source: Eurostat, authors' own adaptation

According to Eurostat methodology, severely materially deprived persons have living conditions greatly constrained by a lack of resources and cannot afford at least four of the following: to pay rent or utility bills; to keep their home adequately warm; to pay unexpected expenses; to eat meat, fish or a protein equivalent every second day; a week holiday away from home; a car; a washing machine, a TV or a telephone.

For this indicator, only Bulgaria is scoring worse. Combined with the previously presented indicators, we have the worst material living conditions in the European Union. It's also very worrying that the 2 critical type of population (children and seniors (over 65)) are severely materially deprived or they are at risk of poverty, all of this driven by a very low income

A. Productive or main activities

For this category, we took into consideration the following indicators: Unemployment rate; Low wage earners; Persons reporting an accident at work; Persons reporting a work-related health problem; Persons reporting exposure to physical health risk factors; Average hours worked per week.

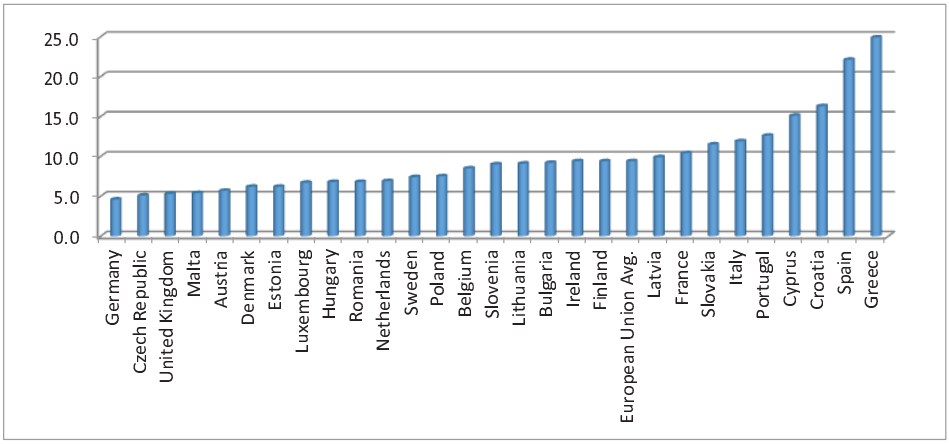
Table no. 5. Productive or main activities

	Advantage	Gap
Intensity in normal limits	- unemployment rate - low wage earners (higher education) - persons reporting an accident at work - persons reporting a work–related health problem - persons reporting exposure to physical health risk factors	
Strong intensity		- low wage earners - average hours worked per week

Source: Eurostat, authors' own adaptation

Romania is very well ranked in the quality of life section "productive or main activities". In particular, the unemployment rate was in the last 10 years one of the lowest across EU countries.

Fig. no. 4. Unemployment rate in EU (Year 2015)



Source: Eurostat, http://ec.europa.eu/eurostat/data/database

Regardless the low unemployment, the total percentage of low wage earners is one of the lowest in the EU. We can translate the correlation in a very simple fashion: even if most of the people have a work place, the compensation is not allowing then to have an increased life quality. The most affected categories are the lower education.

In this regard, we need to continue the transformation of Romania in a real developed economy, with high value added industries and well paid jobs. Off course, this is possible only with a big contribution from the government. But is not our aim to enter in public policies debates, so we will just resume our proposals in the conclusions/discussion section. A good score, better than the EU average, was recorded for the indicators related to work safety and conditions. This is increasing the quality of life for workers, but is not sufficient to ensure an increased overall quality

B. Health

The main indicators for Health category are:
- Healthy years of females and males;
- Life expectancy;
- Long-standing illness or health problem.

Table no. 6. Health

	Advantage	Gap
Intensity in normal limits		- Healthy years of life Females - Healthy years of life Males
Strong intensity	People having a long - standing illness health problem	- Females life expectancy - Males life expectancy

Source: Eurostat, authors' own adaptation

As we can see in Table no. 6, Romania records a gap to Europe average if we refer to healthy years of life (both genders) and a strong intensity gap for Life expectancy.

While the trend at EU level is quite constant between 2007 and 2014 for Healthy years of life, Romania is decreasing the value by 3.5 years for women's and 1.5 years for men's. This is pretty much related to material conditions and a very poor health system.

On the other side, we categorized the people having a long-standing illness or health problem as having a strong intensity advantage vs EU average.

C. Education

Education is a key factor for a healthy, developed society. The overall quality of life depends in a big extent on the level of education. As we saw in the previous categories, people with higher education have a small percentage of low wage earners and don't have a high material deprivation (Ungureanu, Burcea, 2010).

Table no. 7. Education

	Advantage	Gap
Intensity in normal limits		
		- tertiary level attainment - participation rate in education & training

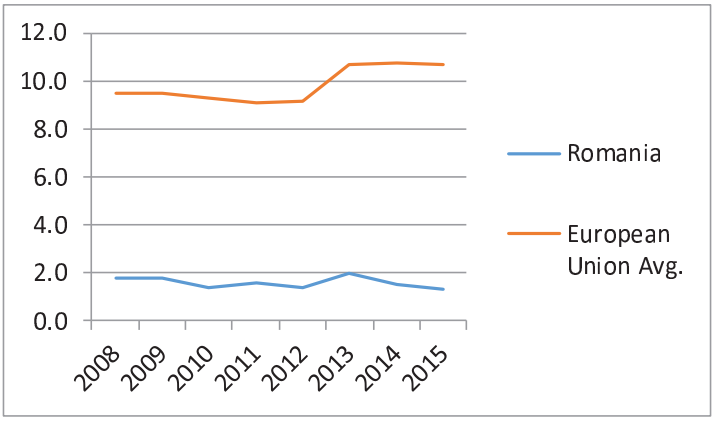
Source: Eurostat, authors'own adaptation

Unfortunately, for Romania, the Tertiary level attainment is very low compared with other EU countries and with the EU average. Only 15% of the people are absolvent of tertiary education, compared with a 25% EU average. At the opposite pole, UK has an attainment percentage of around 38% from the total population.

According to Europe 2020 strategy, EU leaders have agreed a target that 40% of those aged 30-34 should have a higher education or equivalent qualification by 2020. In order to achieve this EU-level "headline" target, EU countries have set their own national attainment targets to be reached by 2020. These targets are measured by eight headline indicators, which contribute to the development of evidence based policies.

A very important indicator, capable to highlight the time invested in education and training, is derived from a statistic measuring the attainment rate for people participating in any form of education or training in the last month. (Over 25 years old). We register for this indicator the lowest score in the EU, with a level of under 2%, comparing with 10-11% in average for EU countries, and more than 30% in Denmark.

Fig. no. 5. Participation Rate in education & training (2008-2015)



Source: Eurostat, http://ec.europa.eu/eurostat/data/database

D. Economical and Physical Safety

Coming to Safety, and measured in both economical and physical form, Romania has a gap in normal limits for death due to homicide and assault, while for the inability to face unexpected financial expenses, Romania registers a strong intensity gap.

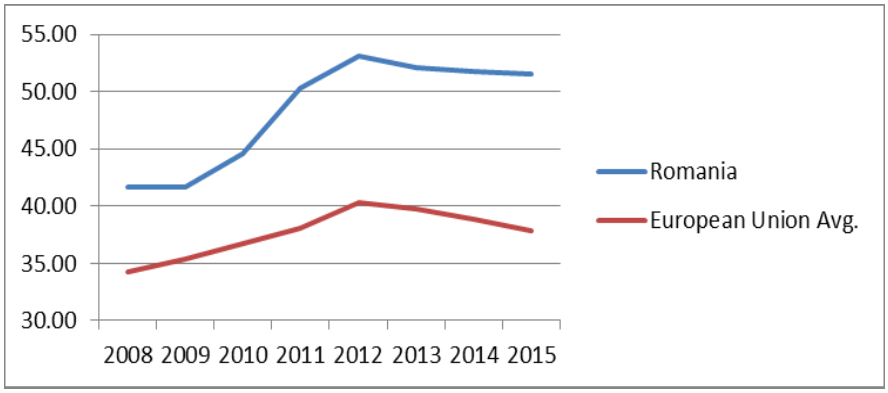
Table no. 8. Economical and Physical Safety

	Advantage	Gap
Intensity in normal limits		- death due to homicide, assault
Strong intensity		- inability to face expected financial expenses

Source: Eurostat, authors' own adaptation

Regarding the death due to homicide and assault, only Latvia and Estonia have a higher rate among the EU members, while for the inability to face unexpected financial expenses, more and more countries are counting an increased percentage, especially after the 2008 momentum.

Fig. no. 6. Inability to face unexpected financial expenses (%)



Source: Eurostat, http://ec.europa.eu/eurostat/data/database

The poor results in this category are not a surprise. A poor education, corroborated with a low level of compensation and material deprived population, all is conducting to a very low economical and physical safety.

E. Governance and basic rights

The only indicator available for the area governance and basic rights, in the Eurostat statistic, is the gender pay gap, where Romania has an advantage in normal limits vs. EU average. (Table 9)

Table no. 9. Gender pay

Romania	10,1
European Union Avg.	16,1
Standard Deviation	6,0
Romania vs E.U. Avg.	- 6,0

Source: Eurostat, authors' own adaptation

We consider that the set of indicators could be improved, and we will dedicate some of our next research efforts to propose and measure the governance and basic rights statistic.

F. Natural and living environment

We selected two main indicators to measure natural and living environment:

- Pollution, grime or other environmental problems;
- Urban population exposure to air pollution.

Table 10. Natural and living environment

	Advantage	Gap
Intensity in normal limits		- pollution, grime or other environmental problems - urban population exposure to air pollution
Strong intensity		

Source: Eurostat, authors' own adaptation

Even if we are facing a small gap for both indicators vs EU average, for the second indicator, urban population exposure to air pollution, we reduced by more than 50% in the analyzed period (from 52.7% in 2006 to 25.5% in 2013). If the trend continues, we will soon be at the same level with the EU average.

Conclusions and discussion

We can make an endless debate about the current quality of life in Romania and about the gaps to be recovered in order to at least reach the EU average. At this research stage, we would like to highlight the main drivers for the poor quality of life faced by a considerable population percentage, the risks in the near future and most important, we would like to emphasis on key dependencies and propose recommendations for improving QOL in Romania.

At a first glance, a very bad indicator for QOL in Romania is the high population % at risk of poverty. This is mainly influenced by the very low income level (the lowest in EU).

Going further, the inter-dependencies between all analyzed indicators are obvious:

- A low level of people attending tertiary education is an indicator for a weak labor market - this is directly affecting the level of income and the risk of poverty;
- People at risk of poverty, with low education and materially deprived, are inevitably affecting the Physical and Economical Safety

results (death due to homicide and assaults rate is more than double vs EU average, while the inability to cover unexpected expenses has a strong intensity gap);

- A consistent approach for education and health is missing from government programs: indicators measuring life expectancy are worsening, as well as the indicators measuring the education and training programs followed by the population.

A significant role on QOL level is played by the decision/policy makers. From the government, to public institutions and public-private partnerships, they can all influence and apply coherent policies to improve the quality of life.

Our opinion is that one key area for improvement is education. By improving the education system and by stimulating people to be specialized, the work-force quality will increase and with it many other indicators will improve: net income, at risk of poverty rate, materially deprived population, inability to face unexpected financial expenses and even the rate of homicide and assaults.

In a study coordinated by World Bank, it was demonstrated that crime rates and inequality are positively correlated within countries and, particularly, between countries, and this correlation reflects causation from inequality to crime rates, even after controlling for other crime determinants (Fajnzylber, P., 2002).

A key determinant in improving the quality of life is the health system. We are currently having one of the lowest life expectancy in EU (only Bulgaria has a lower one), and this is pretty much correlated with a bad health system. But the relation is definitely bi-directional. According to Vlădescu, C. (2008), a sharp increase in poverty and corresponding decrease in living standards had a deeply negative impact on the health of the Romanian population.

Scaling Romanian quality of life into EU average is representing our first research step. We will continue to analyze the dependencies between key matrixes, by using the experience of other EU countries.

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