

Czech Households Most Vulnerable to Poverty

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Abstract

This paper discusses the problems of poverty in the Czech Republic. It focuses on the identification of social groups and on ways of identifying the income situation of households that are the most vulnerable to poverty, especially low-income households and households of the elderly. Micro data obtained from the European Union Statistics on Income and Living Conditions (EU-SILC) project were used for the basis of the in-depth discussions herein. The data provides a significant amount of important information about the incomes and living conditions of European as well as Czech households, and also about individuals. The poverty threshold is set as 60% median of equalized income. The data in this paper are tracked for the period 2005-2013. Generally speaking, the poverty rate in the Czech Republic is the lowest in the European Union. The results provide useful insights for decision makers involved in developing social policy.

Keywords: poverty, low-income households, households of the elderly, incomes

Introduction

The inability to satisfy one's needs, poor health, lack of access to education, inadequate care for the infirm and elderly, susceptibility to violence and criminality, the inability to cope with daily financial requirements and to keep pace with the majority of society, these are all phenomena of poverty (Klimánková, 2008). The problems of poverty are not associated with injustice in society, but above all directly with segments that are suffering from extreme deprivation (Ringen, 1989). According to Ringen (1989), the problem occurs if society is unable or unwilling to share its wealth with other groups. There are a number of objective factors for the emergence of these segments. One of the most important factors is age segmentation. This heterogeneous segment with enormous potential, but also with many economic, psychological, biological and social issues that affect personal consumption, is being created in society. The increasing average age of people will result in increasing demands on the pension, social and healthcare systems. These basic systems must undergo radical changes to prevent the aging population of the Czech Republic becoming a major economic and social problem. Another important factor is the change in understanding of what constitutes a family or a household (Mlčoch, 2014; Mořný 2006). A family with more children, a family with one

adult, one-member family and their economic situation are an emerging problem within contemporary society.

The notion of poverty in society is increasingly seen as taking on the form of income poverty, material deprivation and lack of jobs. This kind of understanding provides opportunities with which to quantify and monitor trends, as well as identify groups of households which are most at risk of poverty. The situation of selected groups of a society must be subject to the interest of the whole society. Cash resources are considered to be one of the most important indicators for the assessment of the living standards of the population of the state concerned. Consumer preferences, purchasing processes, ways of spending of free time, household equipment, but also education, are based on income levels. The elderly form a segment which has a regular, but also very limited income, which is mostly obtained through the State. Their consumption level is therefore also based on their income.

Analyses of the income situation of households and the risk of poverty carried out on the basis of average values does not reveal many facts and cannot identify vulnerable groups of households. This paper focuses on the identification of groups and the ways of identifying the income situation of households which are most vulnerable to poverty.

Materials and Methods

The data source for the evaluation of the level of living standard were obtained from the project - European Union Statistics on Income and Living Conditions (EU-SILC), which deals with income and living conditions. This is a large set of data which provides a significant amount of rare data on Czech households, but also about the individuals themselves. The enquiry was made pursuant to Regulation EC 1177/2003 of the European Commission, which is mandatory for all Member States of the European Union. In the Czech Republic this investigation was carried out by the Czech Statistical Office. The results for all member countries can be found on the Eurostat website, which is the European Union's Statistical Office (CZSO²). In the Czech Republic the first survey was carried out in 2005 under the title "Living Conditions in 2005." The number of households in the Czech Republic that were the subject of an investigation in subsequent years is given in Table 1. The data are tracked for the period 2005-2013.

With the help of special conversion rates, which are part of the SILC source data, a conversion was carried out for the whole of the Czech Republic.

Table 1: The number of SILC and Czech households

Quantity	LC05	LC06	LC07	LC08	LC09	LC10	LC11	LC12	LC13
Households in the file	4 351	7 483	9 675	11 294	9 911	9 098	8 866	8 873	8 275
Households in the CR (in thousands)	4 013	4 028	4 013	4 028	4 116	4 150	4 of 181	4 255	4 283

Source: EU-SILC, the CZECH STATISTICAL OFFICE², own calculations

For the evaluation of the data used, the limit of poverty is calculated on the basis of the median income. The income poverty rate is calculated from the median. The rate of 60% of median income is set according to the uniform methodology adopted by the EU. This set rate makes it possible to determine the percentage of people at risk of poverty. Disposable income is calculated for a unit (person) according to the following equation:

$$EJDEF.EU = 1 + 0.5 \times (n \text{ ADULTS} - 1) + 0.3 \times n \text{ CHILDREN}$$

A quintile classification was used within the income analyses (the file is divided into 5 major groups of the same size), whereby the value of the conversion rates were expressed as a ratio of the total number of households in the Czech Republic. The 1st quintile i.e. 20% of households with the lowest incomes, was particularly taken into account.

To be able to comment on the development of the revenue and expenditure situation of households in the monitored years, a base model for linear regression analysis was used, whereby the mean value of the dependent variable Y is bound by one independent variable T , whereby b represents the relationship between the slope and ϵt denotes the residual part:

$$E(Y) = a + bT + \epsilon t$$

Regression models were used to represent the trend of the individual indicators of income and poverty affected households in the Czech Republic as a whole, as well as for the selected 1st quintile households. The frequency with which households are at risk of poverty were calculated for each group, whereby the group was taken as a whole (e.g. unemployed = 100%). However, when calculating the index of the risk of poverty, the household income of the group at risk was taken as a whole and the frequency of the individual groups within them subsequently calculated. The index of the risk of poverty was calculated as a proportion of the percentage representation of households at risk of poverty in a certain group to the percentage representation of that group in the society (Sirovátka et al., 2011). For the households at risk of poverty, the average income was calculated. This value is important for determining the amount that households lack in order to rise above the poverty threshold. The value is marked as "the average amount missing." These values in turn determine how much funding would be required if the State wanted to break these households free from the risk of poverty.

Results

The amount of income and poverty can be seen as possible indications of a certain standard of living within the population. The economic aspects of the standard of living are linked to quantifiable indicators such as macroeconomic income, expenditure, consumption, purchasing power, wages, unemployment, price level, etc. (National Accounts of Well-being, 2009). When addressing the issue of the income situation of households it is not possible to ignore information on the development of basic macroeconomic indicators over time (see Table 2).

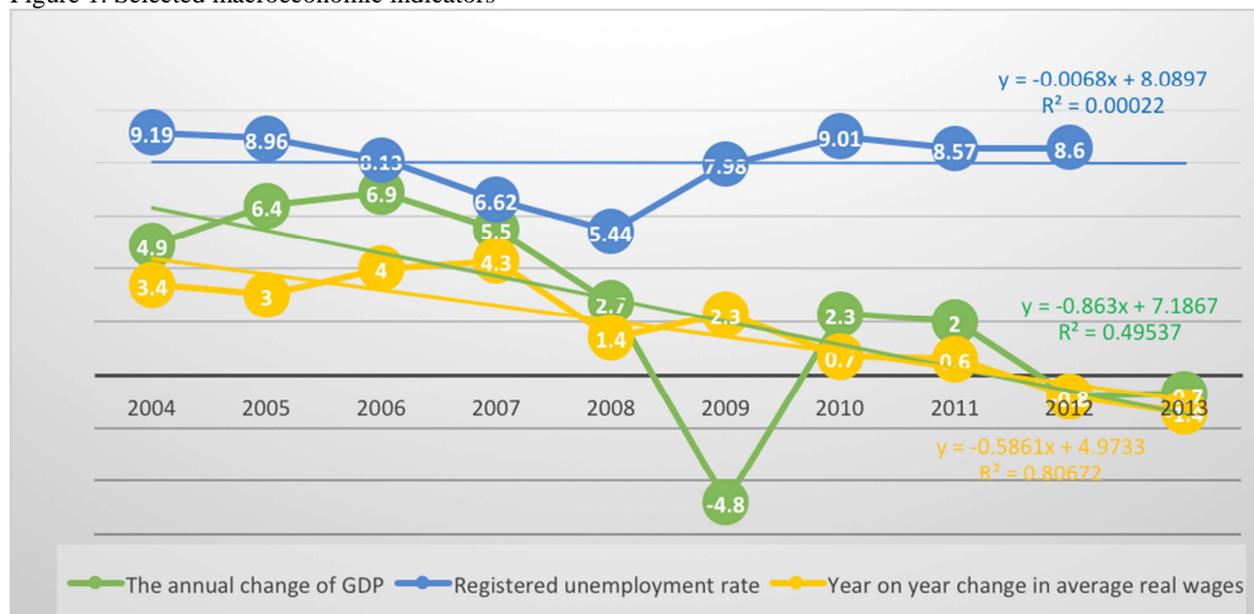
Table 2: Basic macroeconomic indicators in relative terms

Coefficient (in %)	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Annual change in GDP	4.9	6.4	6.9	5.5	2.7	-4.8	2.3	2.0	-0.8	-0.8
Registered unemployment rate	9.19	8.96	8.13	6.62	5.44	7.98	9.01	8.57	8.60	x
Annual rate of inflation	2.8	1.9	2.5	2.8	6.3	1.0	1.5	1.9	3.3	1.4
Basic index rate of inflation	100	101.9	104.4	107.2	113.5	113.5	116	117.9	121.2	122.6
Year on year change in average real wages	3.4	3.0	4.0	4.3	1.4	2.3	-0.7	0.6	-0.8	1.4

Source: Czech Statistical Office

The value of the development of macro-economic indicators is graphically illustrated in Figure 1.

Figure 1: Selected macroeconomic indicators



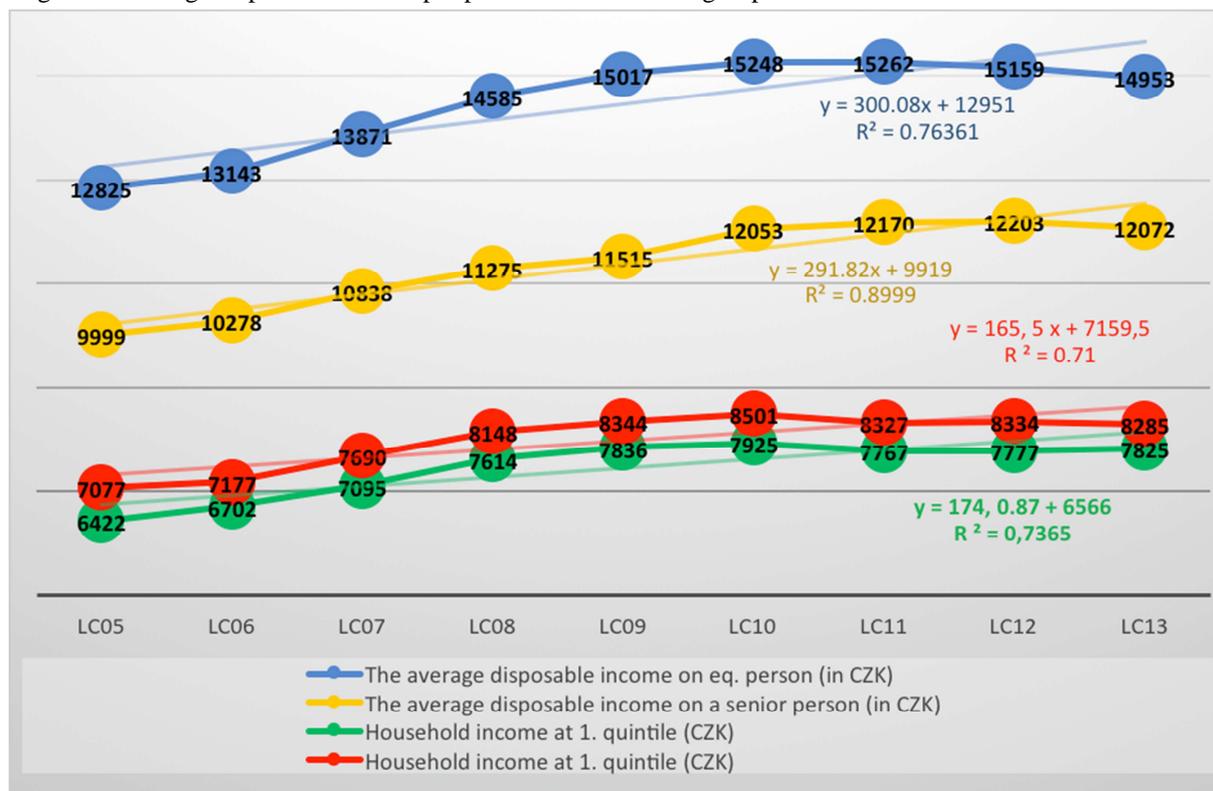
Source: Czech Statistical Office, authors

From the values given in Table 1 and graphical represented in Figure 1, it is clear that the impact of the negative economic developments in the Czech Republic are best demonstrated by real household incomes, which decreased.

It is not possible to accurately determine the actual income situation of Czech households on the basis of the values of the average income of households because it requires a high level of generalization. For a more detailed insight into the income situation of Czech households it is necessary to address the income situation within each group e.g. according to age, education, economic activity, social group, etc. It is for this reason that the focus of this analysis was on the income situation for selected groups of households at risk of poverty. For this purpose, the group of households in the 1st

quintile of income (i.e. the first 20 % of households ranked in ascending order according to the amount of income) and a group of seniors were analysed. For comparative purposes the average income of the entire population of the Czech Republic is also stated.

Figure 2: Average disposable income per person in the selected groups

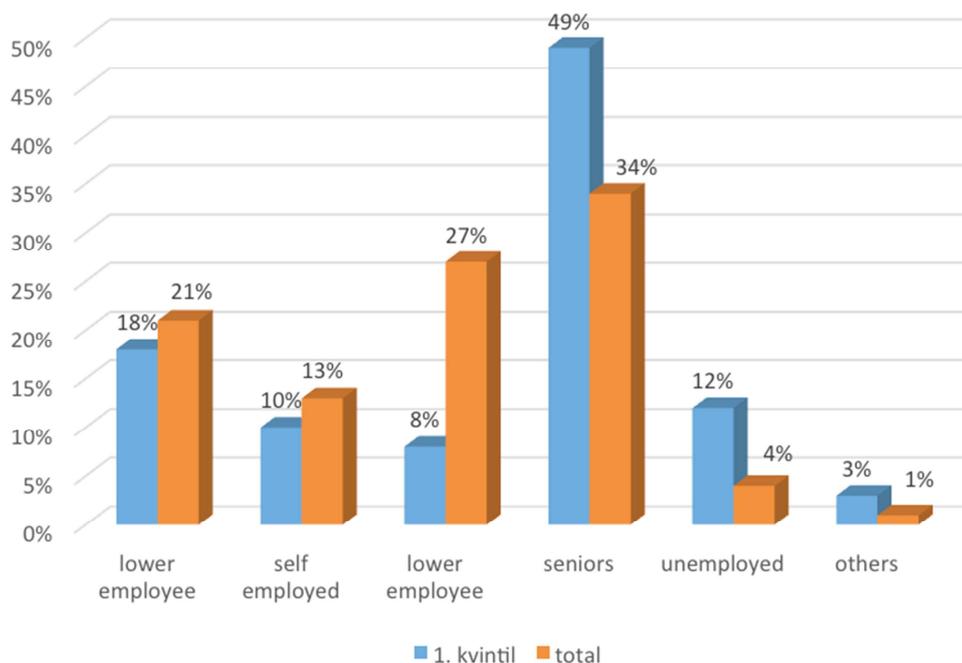


Source: Czech Statistical Office, authors

The figures clearly show that low-income households in the Czech Republic (in the 1st quintile) have lower incomes than senior households. The elderly are largely dependent on the State and its social policy. It can be deduced from Figure 2 that the State is aware of this obligation because during the reference period 2005-2013 the incomes of the elderly increased more (12.6%) than the incomes per person in all of the households in the Czech Republic (12.03%). The income per person in the Czech Republic over the reviewed period recorded a slightly positive trend, with an annual unit change of approximately CZK 300. The empirical value for incomes in the period 2011-13 recorded a decline. This can be explained as the delayed reaction to the economic crisis at the time. The levels and curves of income values over the tracked years confirms that there is a need for deeper analysis of the issue. The income per person for senior households achieves lower values compared to the income of households of the entire Czech Republic. However, the empirical values recorded at the time of the economic crisis show no decrease in the development of incomes for this segment of the population. These figures reflect the role of the State to protect the most dependent. This positive point does not take away the fact that the income trend for the 1st quintile of households was stagnant. This stagnation has a negative impact on society.

An analysis of the structure of households in the 1st quintile according to social group provides greater insight. In 2013, the 1st quintile was formed by the following: 49% senior households; 36% households with working income; 12% households headed by unemployed persons. The frequency of the various social groups in the context of the 1st quintile compared with the frequency within the whole Czech Republic is shown in Figure 3.

Figure 3: The frequency of households according to social groups in the 1st quintile and within the whole of the Czech Republic in 2013



Source: authors

The above chart shows that almost half of the households in the 1st quintile are senior households, which when viewed from the context of the whole population, represents 34% of all households. Of interest is the combined percentage of employees and the self-employed (36%) that fall into the 1st quintile even though they are economically active. (but there's still another 7% of economically active – working group of seniors and others). In contrast, the unemployed represent less than 12% of households in the 1st quintile and their numbers decreased by almost half during the monitored period. Table 3 provides a more detailed analysis of the 1st quintile of households.

Table 3: The income situation of selected groups in the 1st quintile in relative terms (in %)

Characteristics	LC05	LC06	LC07	LC08	LC09	LC10	LC11	LC12	LC13
Number of senior households in 1st quintile	43.3	45.3	47.6	52.9	52.9	50.7	48.9	48.9	48.8
Number of households receiving working income in 1st quintile (excl. seniors)	38.6	41.6	40,0	36.6	32.3	40.5	41.5	41.8	43.4
Number of households headed by unemployed in 1st quintile	20.2	16.4	16.9	13.9	10.5	11.3	12.7	12.4	11.7
Number of households receiving social benefits 1st quintile	92.0	93.6	94.2	92.6	87.2	84.8	83.3	82.3	81.4
Number of households receiving social benefits in 1st quintile (excl. seniors)	48.7	48.3	46.6	39.6	32.3	34.1	34.3	33.5	32.6

Source: authors

The year-on-year increase in the frequency of the elderly within the 1st quintile can be considered very negative. Over the monitored period the number of such households in the 1st quintile rose from approximately 43% in 2005 to 49% in 2013. In the same period, the number of households with a working income in the 1st quintile increased by almost 5%. Having households on a working income still in the 1st quintile is also a very negative situation. In the 1st quintile the drop in the number of unemployed is reflected in the rising number of households receiving a working income and the increasing number of senior households. This correlates with the decrease in the number of households in receipt of social benefits.

Different levels of income are one of many indicators of living standards i.e. the extent to which ones basic needs, consumption as an experience, and consumption as a means of integration are satisfied. The level of satisfaction and the need to meet the needs of individuals as well as those of different segments of society do not always run in the same direction. The manifestation of the unsatisfactory income situation of households is poverty. As previously stated, poverty has three basic dimensions: income poverty; material deprivation; and the intensity of work. Income poverty, especially its quantitative expression, is the expression of the economic situation of a household, but with deep social and societal consequences. The fact that it has an economic character is relatively well measured and knowable in terms of its size for individual segments of a society.

Table 4 lists basic information on the evolution of poverty in the Czech Republic in the period 2005-2013. The overall percentage of people at risk of poverty decreased, the only exception being the group of seniors for which it increased.

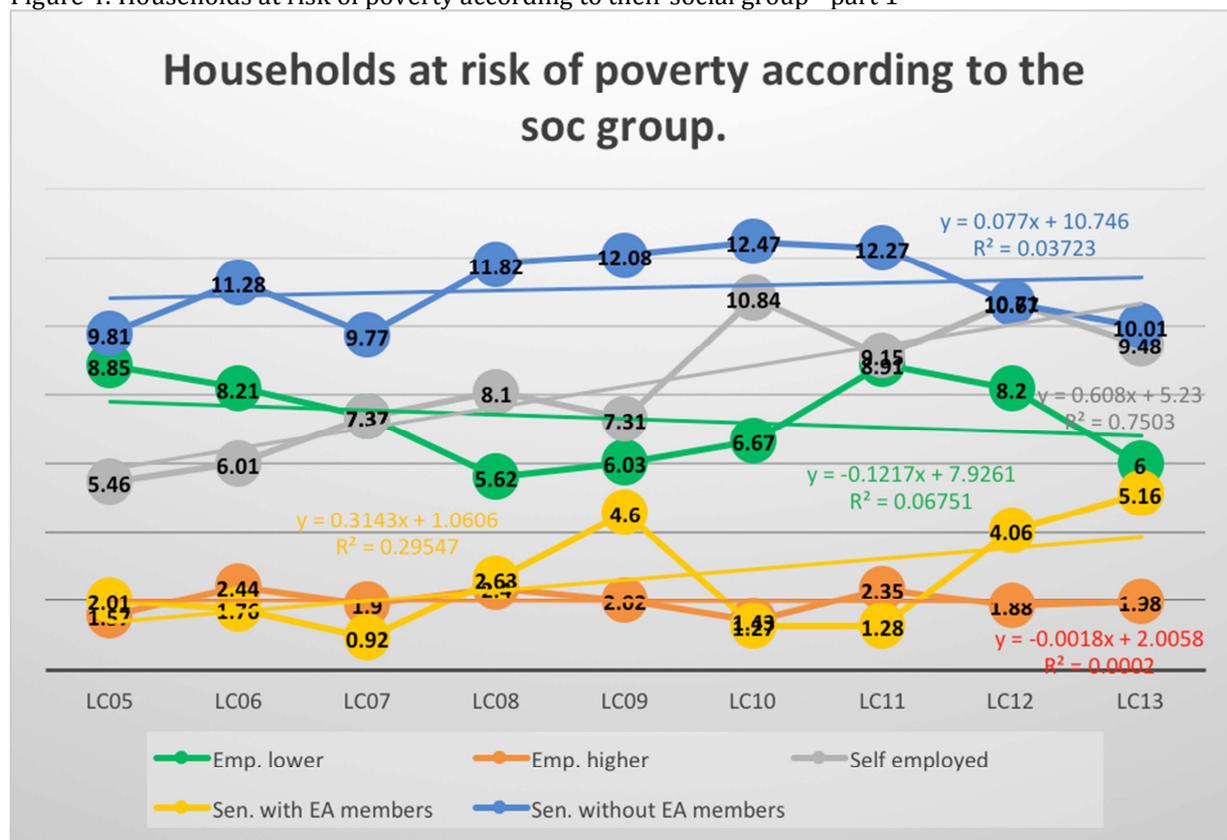
Tab. 4: People at risk of poverty (in %)

Characteristics	LC05	LC06	LC07	LC08	LC09	LC10	LC11	LC12	LC13
People at risk of poverty	10.36	9.8	9.6	9.1	8.6	9.0	9.8	9.6	8.6
Seniors at risk of poverty - of the entire population	1.75	2.06	1.73	2.20	2.34	2.26	2.26	2.19	2.14
Number of households at risk of poverty in 1st quintile	46.8	46.2	43.4	42.8	40.1	42.2	45.8	43.7	46.8

Source: EU-SILC, Czech Statistical Office², customized calculations. Note: 10% of people at risk of poverty correspond to approximately 1 million people

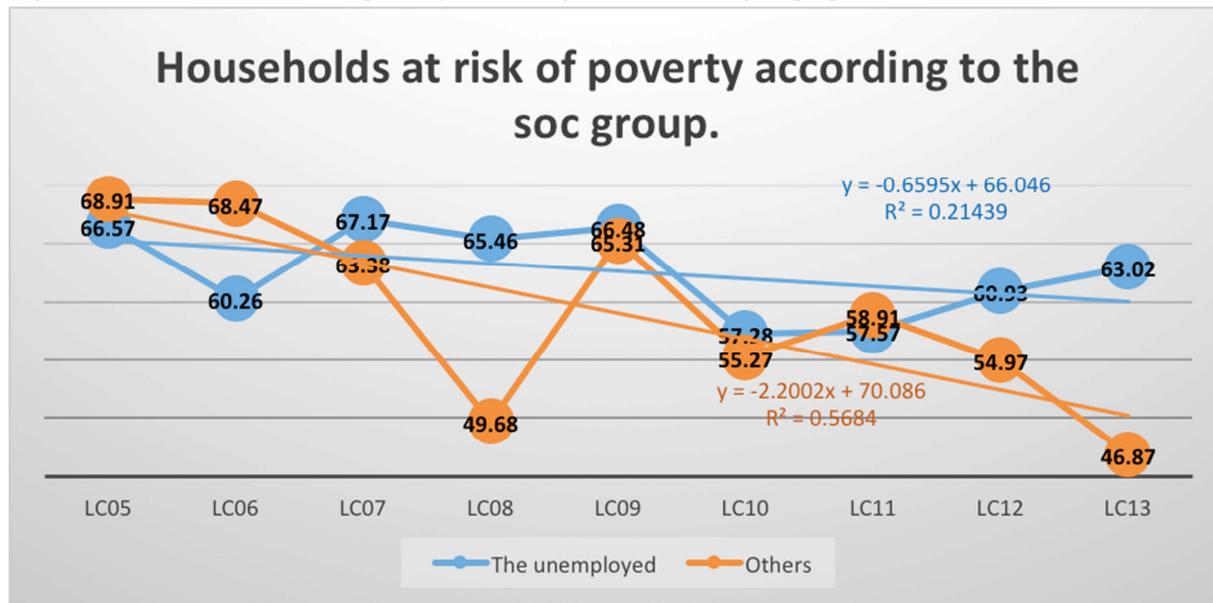
Figure 4 presents the number of households at risk of poverty in each social group and the development thereof over the period 2005-2013. The data presented in Table 5 below must be put into context with Figure 3, which shows the frequency according to the social groups within the context of the entire population in 2013.

Figure 4: Households at risk of poverty according to their social group - part 1



Source: authors

Figure 5: Households at risk of poverty according to their social group - part 2



Source: authors

From these values, and being conscious on how large this group in society is, it is clear that the highest number of people at risk of poverty is the group of retirees without an EA member. The reality is that this group has the smallest annual growth in people at risk of poverty. From 2011, the actual number of people at risk of poverty in this group fell, which is a positive development. Indeed, the most vulnerable group is the self-employed. The annual increase in the number of people at risk of poverty is the highest of all the groups (around 600). An increase in the number of people at risk of poverty was also recorded for the group of seniors with an EA member. The number of affected households in the group of qualified employees (Emp. higher) stayed approximately the same over the tracked period, whereas there were positive developments in terms of a decreasing number of vulnerable households in the group of lower-paid employees (Emp. lower) over the last three years.

It is important to point out that the percentages for the groups of unemployed people and others are high and ranges between 46-68%. These percentages were determined from the frequency of these groups in the population as a whole, where they represent 1% of the population. The number of people at risk of poverty within the group of households headed by an unemployed person decreased during the tracked period by 63%. However, this group represented 3.5% of the overall population of households headed by an unemployed person. Both trend values reflect a decline in values. On the basis of Figure 3 it is clear, therefore, that any social group has a different representation. Due to the fact that it is difficult to compare the poverty of several groups of different sizes, the index of the risk of poverty is calculated. This calculation is based on the frequency within the whole of the population and households at risk of poverty.

Table 5: The index of the risk of poverty for individual social groups

Characteristics	The frequency of the groups within the population (in %)	Risk of poverty within the population (in %)	Index of the risk of poverty
Emp. Lower	21.1	17.6	0.83
Emp. Higher	27.0	7.0	0.26
Self employed	13.3	17.7	1.33
Senior with an EA member	3.9	2.9	0.74
Senior without an EA member	30.1	22.1	0.73
Unemployed	3.5	26.8	7.7
Others	1.1	6.0	5.5
Total	100	100	-

Source: authors

When looking at the order of which people are most at risk of poverty according to their social group, the unemployed rank in first place (index 7.7), others in second place (index 5.5) and the self-employed in third place (index 1.33).

An effective tool for poverty alleviation is social transfers. The number of people at risk of poverty over the period dropped to 886,000 in 2013. However, the amount that they lack to overcome the boundaries of poverty increased overall. The need of these households to rise above the poverty threshold was approximately CZK 1.98 billion. If only senior households at risk of poverty (approximately 221,000 households) were taken into account, the resources needed to get them over the poverty threshold would be approximately CZK 328.3 million. The elderly should not be at risk of poverty and the State should support this group in particular.

Tab. 6: The necessary financial resources for households at risk of poverty

Characteristics	LC05	LC06	LC07	LC08	LC09	LC10	LC11	LC12	LC13
Persons at risk of poverty (in thousands)	1049	996	980	927	887	937	1022	990	886
Average missing amount (in CZK)	1565	1499	1681	1841	2030	2076	2120	2204	2235
Necessary financial resources (CZK millions)	1642	1492	1642	1706	1800	1946	2167	2183	1980
Number of seniors at risk of poverty (in thousands)	177.1	209.1	176.8	225.2	241.9	225.2	225.2	225.9	221.1
Average missing amount for seniors (in CZK)	770	897	970	1083	1234	1174	1309	1394	1485

Necessary financial resources for seniors (in CZK millions)	136.4	187.6	171.5	243.9	298.5	276.1	308.0	314.9	328.3
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Source: EU-SILC, CZECH STATISTICAL OFFICE², authors

If, in 2013, the State had committed CZK 328.3 million to this social group, the number of people at risk of poverty would have dropped to 719,853. The number of vulnerable seniors at risk of poverty would have also dropped to only 54,978. This means that the financial assistance to this social group would have reduced the numbers of seniors at risk by three quarters.

Conclusion

The income side of households can be evaluated from many angles. This article is focused in particular on the low-income groups of households and the problems of poverty. The analyses carried out clearly show that those people with the highest risk in the Czech Republic are not the people on the lowest incomes or those living on social benefits, but those who work i.e. lower grade employees and the self-employed, tax payers, and social and health insurance payers who are members of the 1st income quintile. These are people who are not in a position to cover their expenses with their income. The incomes clearly show that low-income households in the Czech Republic (in the 1st quintile) have a lower income than senior households. In 2005, the first quintile consisted of: 43% seniors; 39% people receiving employment income; and 20% unemployed. In 2013, the equivalent percentages had changed to: 49% seniors; 43% people receiving employment income; and 12% unemployed. From these figures it is clear that the number of workers in the first quintile has increased and the number of households headed by an unemployed person has decreased. When the 1st and the 2nd quintiles are compared the results are surprising. Even though incomes in the 2nd quintile are roughly consistent with expenditures, the groups face similar problems to households in the 1st quintile. This is all the more surprising when confronted with the fact that the Czech Republic has one of the lowest values of the Gini coefficient, which reflects the level of income inequality or equality, as well as the lowest percentage at risk of poverty, as calculated on the basis of income heterogeneity across all households. When it comes to the order of which people are most at risk of poverty according to their social group, the unemployed rank in first place, others in second place, and the self-employed in third place. Seniors represent a large group at risk. On the basis of solidarity, the elderly can be lifted over the income poverty threshold with the help of social transfers through the state pension system. In 2013 this would have required CZK 328 million. The impact of this financial assistance would have reduced the number of senior households at risk of poverty by three quarters.

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