

IMPACTS OF DIFFERENT SOCIAL SYSTEMS ON INCOME SITUATION OF HOUSEHOLDS

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Abstract

Social policy affects the life of every individual in society. Its main aim is to eliminate social inequality. Success in fulfilling such a goal is influenced by the applied social system. Income inequality is the most frequently used expression of social inequality. Authors of the presented paper describe analysis of income and expenditure of households collated in various quintiles, taking into account the effect of social transfers on the total amount of income. Respecting fundamental social systems and monitoring their effectiveness, as the topic of interest income data from the Czech Republic, UK, Sweden and Germany was chosen. The data was taken from Eurostat, in the period of 2003-2013. Conclusions are compared with results of the income poverty analysis as the income poverty is the most common form of poverty in the EU countries.

Keywords: Income, poverty, social system

Introduction

Changes in economic development in the European Union in the last ten years have had high social impact on selected population groups. It is a very difficult assignment to find the right concept of protecting vulnerable groups of population. Not only has it depended on the common frame of social policy in the European Union but also on the approach of every government.

Stávková et al (2013) state that social policy is a powerful instrument which can significantly reduce income problems of households. However, it is not only how much is spent on social protection, but also towards which social groups the social policy is oriented. If it is incorrectly focused, it generates economic inactivity and slows down economic growth, and thus reduces the standard of living. Kennett (2013) adds that social policy is not only about ameliorating the impact of inequality but it also contributes to social division in society.

Davide Ricardo argued that the primary aim of economy should be to precisely understand the factors which determine the income distribution between social classes. Nowadays, this term refers to the functional distribution of income, since that is made according to the factors in the production function. (Wolff, 2009).

For the purposes of this article 4 countries have been selected - the Czech Republic, Germany, the UK and Sweden. These are representatives of various approaches to social policy in the European Union. The aim of this paper is to evaluate the effectiveness of social policy in every monitored country.

Methodology

Given the aim of this document, the basic source of data is the results of research conducted by the European Union Statistics on Income and Living Conditions (EU SILC) provided by EUROSTAT, the statistics authority of the European Commission. EU SILC contains both objective and subjective data on income, poverty, social transfers, material deprivation, and other aspects of living conditions. The statistical researches are obligatory for all the countries of the EU. The basic unit of the research is a household. The basic variable is a yearly disposable income of a household, and following countries – representing various social systems – were selected for fulfilling the aim of the assignment: Germany, UK, Sweden, and the Czech Republic. The minimum number of monitored households in the subject countries for an effective analysis of the income situation is given in the Table 1. The research was conducted in 2003–2013.

Table 1: The minimum number of monitored households by country (Eurostat, 2014)

Country	Number of households
Czech Republic	4,750
Germany	8,250
United Kingdom	7,500
Sweden	4,500

Social transfers refer to social help provided by central, state or local institutions. They are intended to reduce the financial burden following from a number of risks or needs. Social transfers include retirement pensions, widow's/widower's pension, other pensions, unemployment benefits, benefits for families, sickness and disability benefits, benefits for education and housing, social help etc.

The monitoring of expenses of households is based on the data providing information on expenses of households on individual items according to the COICOP (Classification of Individual Consumption by Purpose) in percentage per individual member countries of the EU. Thanks to this classification, the data obtained are mutually comparable. The individual items according to the COICOP are listed in the Table 2.

Table 2 : Individual items according to the COICOP (Eurostat, 2014)

FOOD AND NON-ALCOHOLIC BEVERAGES	bread and cereals, meat, fish, milk, cheese and eggs, fruit, potatoes, vegetables, sugar, jam, honey, chocolate and confectionery, food products, coffee, tea and cocoa for consumption at home, mineral waters, soft drinks, fruit and vegetable juices, non-alcoholic beverages
ALCOHOLIC BEVERAGES, TOBACCO AND NARCOTICS	spirits, wine, beer, alcoholic beverages for consumption at home, tobacco, narcotics
CLOTHING AND FOOTWEAR	clothing materials, garments, other articles of clothing and clothing accessories, cleaning, repair and hire of clothing, shoes and other footwear, repair and hire of footwear
HOUSING, WATER, ELECTRICITY, GAS AND OTHER FUELS	rentals for housing, maintenance and repair of the dwelling, water supply and miscellaneous services relating to the dwelling, electricity, gas and other fuels
FURNISHINGS, HOUSEHOLD EQUIPMENT AND ROUTINE MAINTENANCE OF THE HOUSE	furniture, furnishings, carpets and other floor coverings, household textiles, household appliances, glassware, tableware and household utensils, tools and equipment for house and garden, goods and services for routine household maintenance
HEALTH	medical products, appliances and equipment, out-patient services, hospital services, other treatments, health products and services, other health related incurred costs
TRANSPORT	purchase of vehicles, operation of personal transport equipment, transport services
COMMUNICATIONS	postal services, telephone and telefax equipment and services,
RECREATION AND CULTURE	audio-visual, photographic and information processing equipment, other major durables for recreation and culture, other recreational items and equipment; gardens and pets, recreational and cultural services,

	newspapers, books and stationery, holidays
EDUCATION	pre-primary and primary education, secondary education, post-secondary non-tertiary education, tertiary education, education not definable by level
RESTAURANTS AND HOTELS	catering services, accommodation services
MISCELLANEOUS GOODS AND SERVICES	personal care, prostitution, personal effects, social protection, insurance, financial services, other services

The curve of the income situation of households is expressed using the basic model of the linear regression analysis where the medium value of dependent Y variable is bound with one independent T variable in following relation:

$$E(Y) = a + bT + \varepsilon_t$$

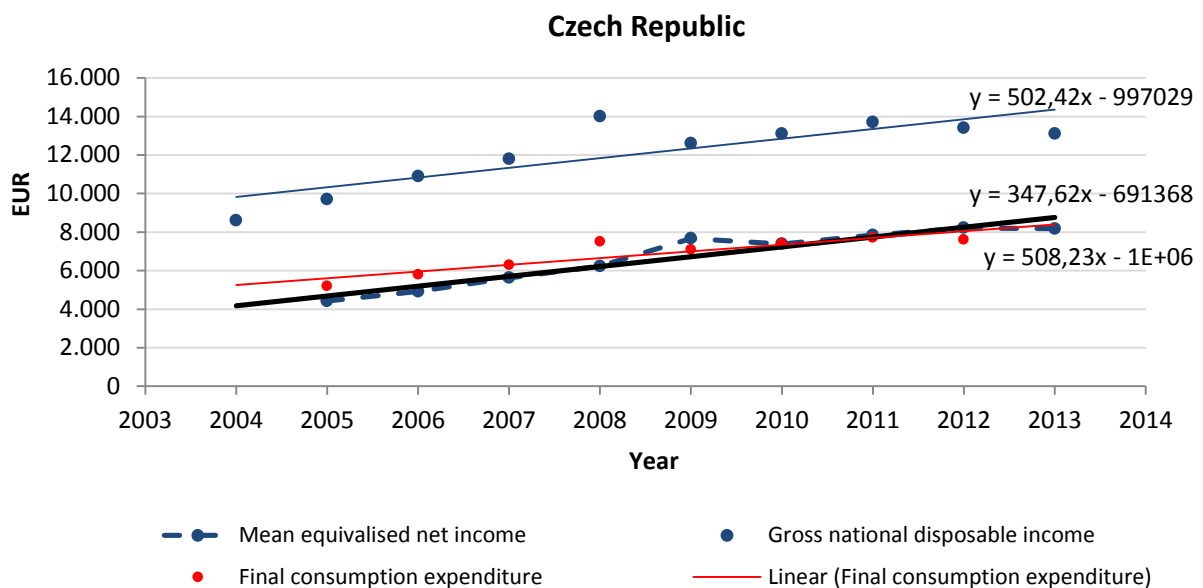
Where b stands for a direction of the straight line and ε_t stands for a residual element.

When selecting a suitable model of the trend function the structural parameters are estimated. The regression models are used also for expressing the income situation in individual quantiles 1–4, t-statistics to determine suitability of parameters of the regression function.

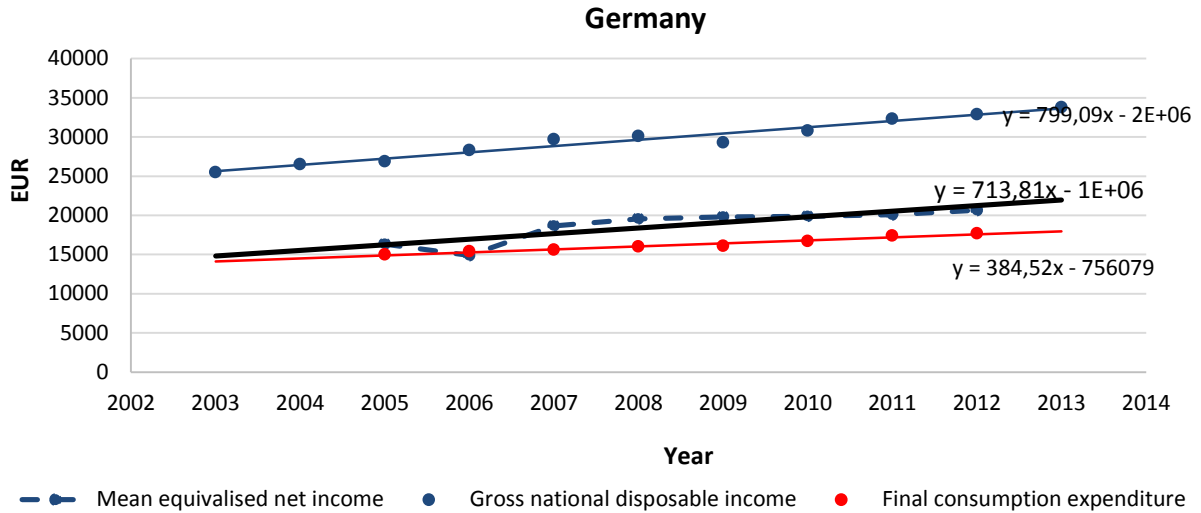
Results

The income situation of households is considered a decisive quantitative indicator of living conditions of households. This indicator can be used in various ways for evaluating the fiscal policy, social policy, and efficiency of social systems. This indicator may be put in various connections in order to create more interpretations of its meaning; these interpretations eventually enable various evaluations of living conditions not only in individual countries of the EU, but also in the given country. The authors would hereby like to contribute to a higher level of transparency and improvement of information value of indicators such as income level, poverty line, number of households endangered by poverty, sum of expenses, and mainly amount of social transfers.

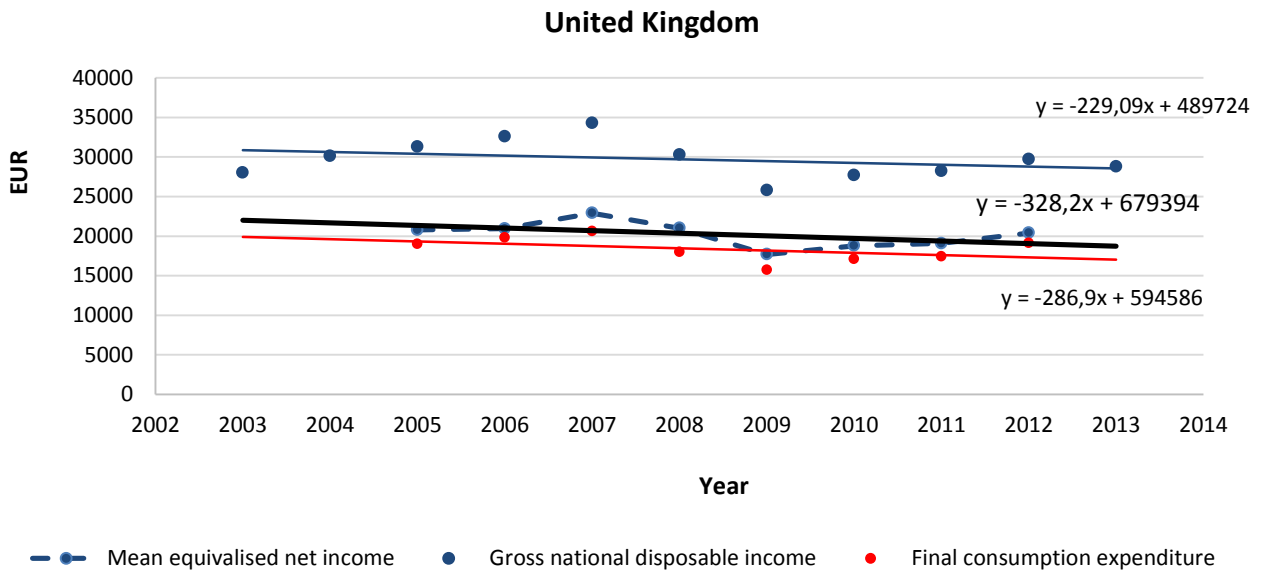
A significant role in making an opinion on the level of income of households is determined by the amount of social transfers as well as the amount of expenses on satisfying the needs of households. The yearly amount of income per household, yearly amount of income without social transfers, and yearly amount of expenses of households in the monitored countries in 2003–2013 are shown in graphs 1–4.



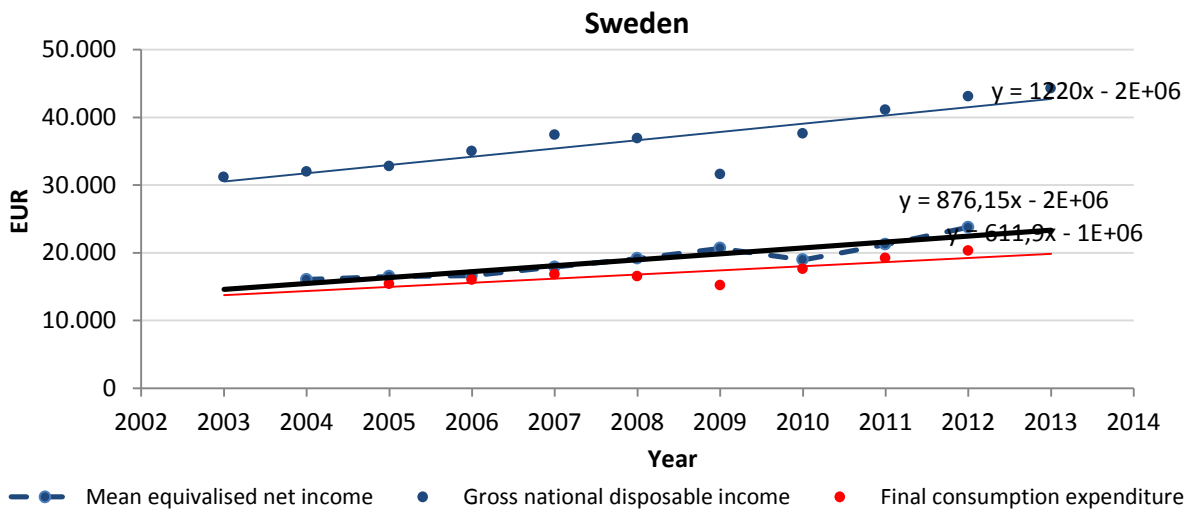
Graph 1: Income and expenses in the Czech Republic, period 2003-2013 (own work)



Graph 2: Income and expenses in Germany, period 2003-2013 (own work)



Graph 3: Income and expenses in the United Kingdom, period 2003-2013 (own work)



Graph 4: Income and expenses in Sweden, period 2003-2013 (own work)

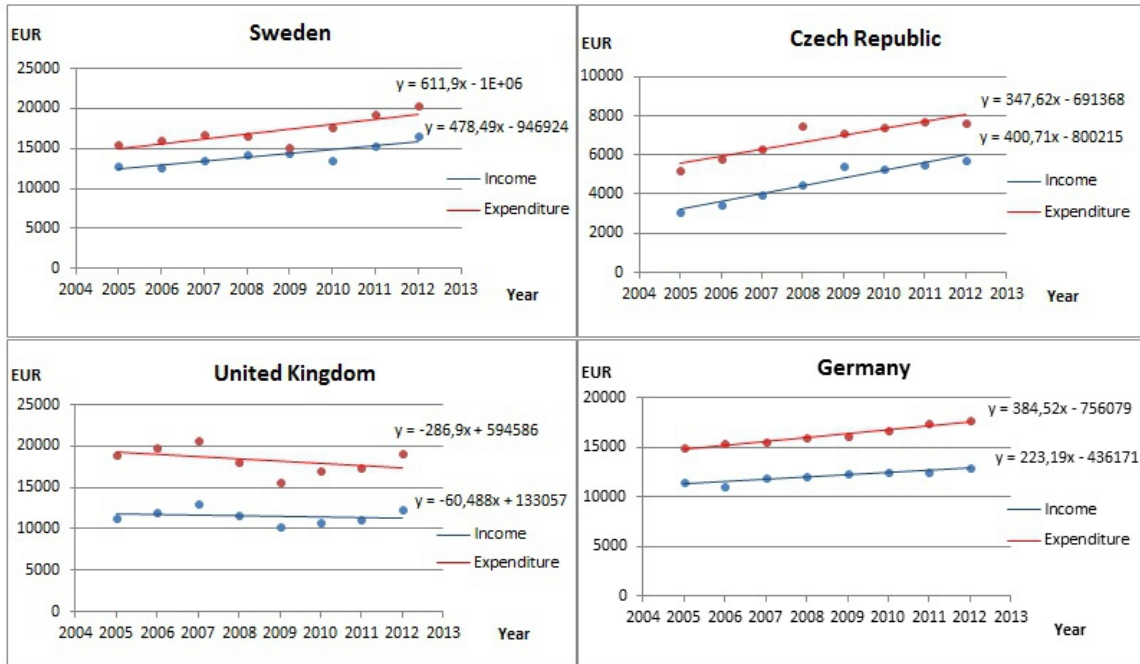
From these data it follows that the countries of what used to be EU-15 reached the range of 15–30 thousand euros in terms of the level of achieved average yearly income per household in 2003–2013. In the same period and concerning the same indicator, the Czech Republic reaches the level of 4–13 thousand euros. (This fact is not mentioned concerning the statement that the Czech Republic has one of the lowest percentages of households endangered by poverty; also, the method of calculation of the poverty line is not explained, and the substantial influence of frequencies of low-income households on the poverty line is not emphasized.) All these monitored countries show a positive trend of the development of the income situation in time, except for UK. From the regression function parameter, which expresses a unit yearly change, it follows that the biggest yearly growth of the average yearly income is reached by Swedish households, followed by households in Germany and in the Czech Republic. UK in the given 10-year period showed a drop in the average yearly income of households of around 230 euros.

The price level, purchasing power of inhabitants, and ability of households in individual countries to satisfy their needs is expressed by the indicator of average yearly expenses of households – graph 1–4. These data also show a positive trend of the development (expected), again except for the households in UK. The average yearly increase of expenses is the highest in Sweden, but it reaches less than one half of the increase of the level of income. The ratio between the income and expenses shows the best income situation in Sweden followed by Germany.

The influence of the state, its redistribution in form of social transfers can be deduced from the graph 1–4 which also shows the average yearly income of households without social transfers. From the values reached, recorded, and graphically shown it follows that the households in Sweden and Germany satisfy all their needs, i.e. also those whose income is influenced by the amount of social transfers. For the biggest part of the period of monitoring this situation was recorded also for the households in UK, and from 2008 also in the Czech Republic.

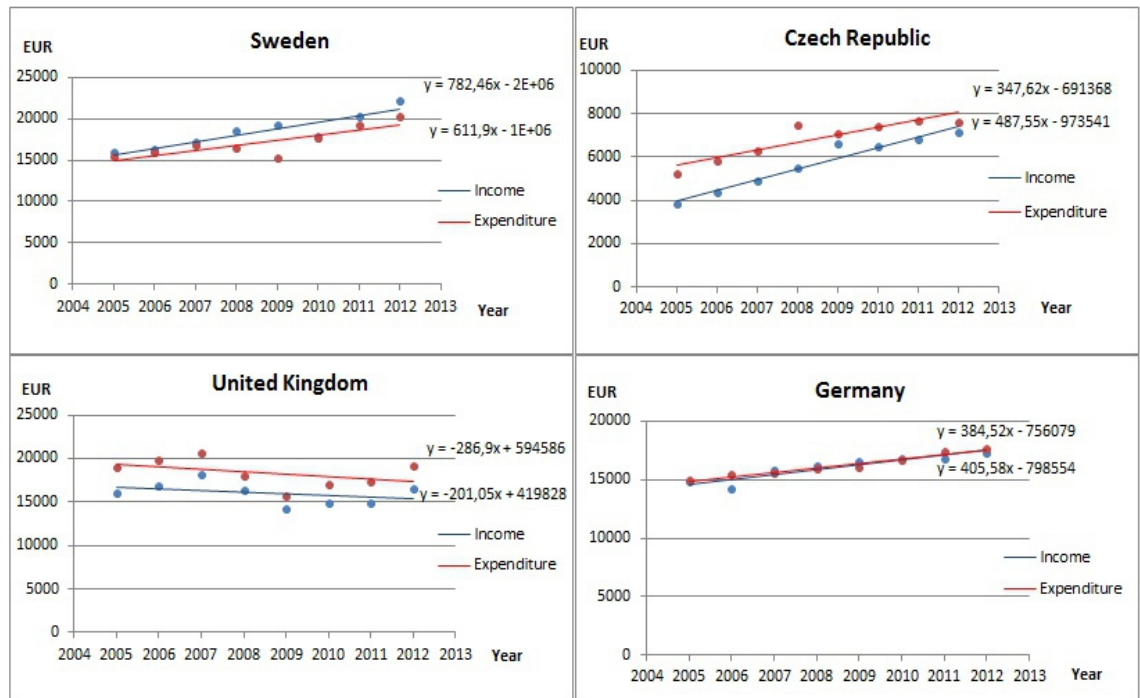
Given that all the data from the graph 1–4 show yearly averages of income of all the households in the researched set, it is necessary to deal with the distribution of income values in the whole set and differences between income and expense parts of households in individual quantiles of the set in order to find out about the efficiency of the social systems. The amount of income and the amount of expenses of households in individual years, countries, and quantiles is shown in the graphs 5–8.

Income and expenditure of households in 1. quintil



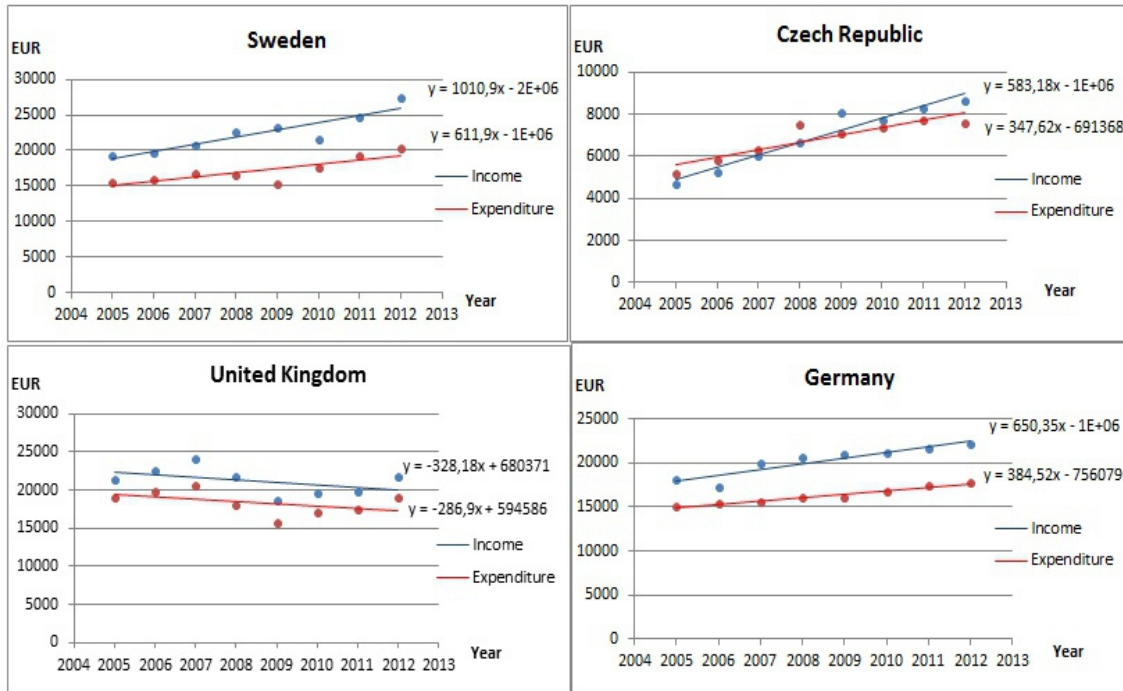
Graph 5: Income and expenditures in the 1st quintil by country

Income and expenditure of households in 2. quintil

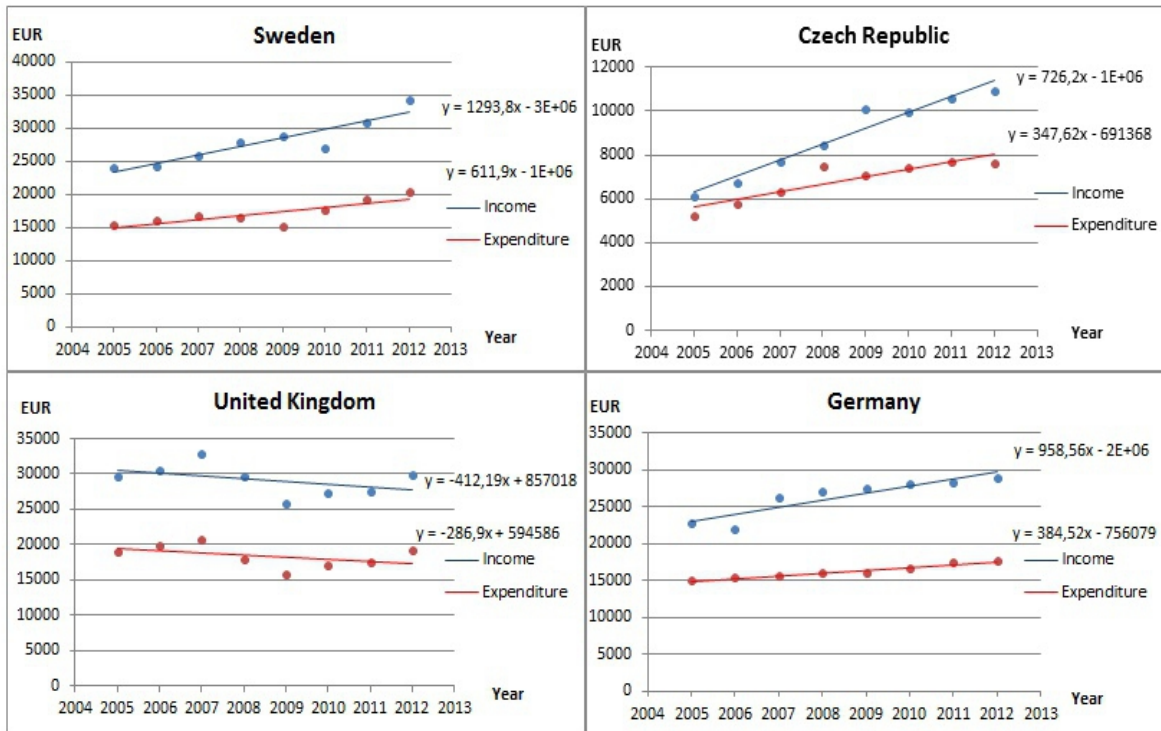


Graph 6: Income and expenditures in the 2nd quintil by country

Income and expenditure of households in 3. quintil



Graph 7: Income and expenditures in the 3rd quintil by country
Income and expenditure of households in 4. quintil



Graph 8: Income and expenditures in the 4th quintil by country

From the graph 5, which contains the income and expense situations in individual countries in the 1st income quantile, i.e. first 20% of low-income households, it follows that in all the monitored countries the incomes of the households do not reach the average expenses. This difference between income and expenses is the smallest in case of the

households in Sweden, and we can assume that their expenses do not reach average expenses and that the households can satisfy their needs – given certain regulation – on the corresponding level. In Germany the situation is similar; on the other hand, the difference between the income and expenses of households classified by their amounts into the 1st quantile in UK and the Czech Republic reaches up to 30% of the total income. This also means that satisfying the basic needs from the achieved income will be problematic and that this group of households endangered in terms of income may get close to social exclusion. The situation in the 2nd quantile proves that the households living in Sweden and Germany and located in the 2nd quantile of the set based on the amount of their income from the number of arranged income values have already a sufficient income to satisfy all their expenses, and in Sweden the households may even save a part of the income. The households in UK and the Czech Republic located in the 2nd quantile based on their income do not cover the average expenses of the set yet, but they get closer to them. The monitored countries reach the income bigger than their expenses only in the 3rd and 4th quantile.

Conclusion

Based on the results of the performed analyses we can say that Sweden, as an economically-advanced country, has its system set the best way from all the monitored countries. The absolute amount of income, amount of expenses necessary to satisfy their needs, the volume of social transfers provided for low-income households or households currently in problematic situation – all these factors place the households in Sweden among those with the best living conditions in the world. In the long term, they show the lowest percentage of households endangered in terms of income or material.

The situation of the households in Germany is similar to those in Sweden with a high yearly difference, except for the 1st quantile. The households in this quantile reach a bigger difference between the income and average expenses; with its share of households endangered by poverty Germany takes the medium position in the arranged line of countries, and this shows that the German social system motivates people to be active and work.

Based on the results of the research performed according to the same methodology, the households in UK may be marked as the households with the highest income from all the monitored countries, only with a negative trend of development of the income situation from the first year of monitoring, with a bigger number of low-income households that belong to the 2nd quantile and reach low income than the average expenses. This shows a lower efficiency of the social system or its absence. The negative trend with a very low value of the parameter of the regression function shows that it may be caused by the achieved value of the average yearly income of households in 2009 when there was a steep decline; this decline, however, did not continue in following years, but the amount of the yearly increase in income has not changed this trend yet.

With its average yearly income of households, the Czech Republic reaches around one third of the income of the other monitored countries. The income in the monitored period shows a positive trend with the fastest yearly change; unfortunately, in the last three years with a negative direction of the curve. The negative trend is not recorded for low-income households, as in terms of distribution of income of households the Czech Republic reaches one of the lowest values of income inequality, and among the countries placed according to the percentage of households endangered by poverty the Czech Republic is on front positions with the lowest number of the households endangered by poverty.

The data of the selected EU countries, performed comparison of the absolute level of yearly income of households, its distribution in the set of households of the given country, volume of social transfers provided in individual countries, difference between income and expenses, and the level of poverty – all these aspects show that the comparison of living

conditions of households living in various countries while using these indicators does not correspond to the given situation and it can be easily misused for the purposes of evaluation of social policy. The incompleteness of the indicators, absence of connections with the economic development of the given countries, redistribution through taxes, and direct redistribution through financial transfers etc. do not enable us to sufficiently quantify the living conditions of households and require an interpretation of any partial indicator using a method based on deep knowledge of the given problem.

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