

IN WORK AT RISK OF POVERTY ASSESSMENT IN EASTERN EUROPEAN COUNTRIES

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Annotation

The article analyzes changes in the risk of in work poverty and its determinants in Eastern European countries. The growing disposable income of the population in these countries and the population employment do not ensure the minimum subsistence needs of some workers. Having completed EUROSTAT data analysis of eight Eastern European countries of the period 2005–2017, it has been found that the growing income inequality has the most significant impact on the growth of in work at risk of poverty. The increasing of households work intensity and upper secondary and post-secondary educated workers reduces the risk of in work poverty, but this does not compensate for the effect of rising income inequality. A low-wage “floor” employment regime with low compensatory social policies and weaker than in the “old” EU countries bargaining power of workers support the current level of risk of in work poverty in Eastern European countries.

Key words: *In work at risk of poverty, employment, household work intensity, income inequality.*

Introduction

Poverty reduction is one of the newest challenges to the countries seeking welfare of the population. Although it is normal to believe that poverty is the most common characteristic of developing countries, however, in the last decade the number of the poor has been growing in many EU countries, as well as in generally recognized welfare countries such as Denmark and Sweden. Other significant changes in EU countries showed the opposite tendency in 2005–2017: disposable income per capita and employment increased by 25% and 1.4 percentage points respectively¹. This tendency raises doubts about a proposition, which has been undisputable for a long time, that the working man may not get poorer because of growing employment in the “killing” of poverty (Berkel and Moller 2002). As the research shows, the growing employment and wages, as well as other incomes do not always help to meet the most important needs of the population, therefore it is important to identify the causes of this phenomenon and possible consequences not only for the population, but also for the country’s economy. In work at risk of poverty analysis and results of the research would help to shape the social-economic policy, reducing the population living in poverty and social exclusion.

As a scientific problem, in work at risk of poverty has been initiated relatively recently – in the last decade of the 20th century in sociology, social policy and economic research, usually in conjunction with the social exclusion of the population. Many researchers explain the nature of in work at risk of poverty in two ways – as low employment or low-wage problem (Andress and Lohmann 2008; Lohmann 2010; Crettazz 2011; Fraser, Gutiérrez and Peña-Casa 2011; Halleröd, Ekbrand and Bengtsson 2015). The resident working status is a labile boundary between the poor, who works at some point (often at a part-time job or on a temporary work contract), and the employee, who because of low wages cannot emerge from poverty. However, the discussion takes place on a theoretical level – empirical research results often highlight the impact of the lack of employment on in work at risk of poverty (Marx, Vanhille and Verbist 2012; Halleröd, Ekbrand and Bengtsson 2015), but so far most research has been conducted by analyzing the situation of in work at risk of poverty in the most developed countries of Europe (Belgium, Germany, Sweden, Finland), where wages and disposable income are even a few times higher than in Eastern European countries. Therefore, as recent research (Cantillon and Marx 2003; McKnight, Stewart, Himmelweit and Palillo 2016) shows, low wages, and in particular income inequality, remain an important dimension of poverty causes analysis and evaluation.

Most of the research on this issue is performed in order to determine the impact of structural factors (population, households, labor market, welfare regimes, etc.) on the risk of in work poverty. Although comparative studies of countries have been carried out, however, due to significant differences between the countries, it is difficult to assess the research results

¹ According to the Eurostat data.

unequivocally. In addition, they include a limited time horizon. According to some of the first pioneers, Andress and Lohmann (2008), of the research on this issue, it is necessary to assess the in work at risk of poverty changes with regard to the long-term structural changes in the wage and income inequality, rising global economic countries interdependence and welfare state policies. Therefore, macro-level studies covering countries with similar trends in socio-economic processes and their groups are important. This is especially true for the countries of Eastern Europe, whose starting position after the admission to the European Union in 2004 and the subsequent social-economics development are similar, however, there is little research on how these rapid changes could affect the in work at risk of poverty.

The aim of the article is to assess the impact of changes in employment, income inequality and work intensity of households and other determinants on the in work at risk of poverty in the countries of Eastern Europe. The comparative and panel data regression analysis methods were used to assess changes in work at risk of poverty throughout the Eastern European group of countries for the period from 2005 to 2017. In this study, data have been collected from the following sources: EUROSTAT (EU-SILC) database.

1 The concepts of poverty and in work at risk of poverty

Although there is a debate concerning the concept and methods of poverty, however, it is generally accepted that the most important factor in defining poverty is low income. Setting the poverty line, indicating the lowest income, the recipients of which are not considered at risk of poverty, is possible for the assessment of poverty as an absolute or relative index (Townsend 1974; Sen 1983; Atkinson 1989; Glennerster et al. 2004; Crettaz and Bonoli 2010). In terms of the relative poverty, the poverty is seen as a phenomenon of the economic inequality of the population, while the absolute poverty estimates a value of the necessary goods and services basket per capita. Although the absolute poverty reflects the essence of poverty more accurately, however, due to the complexity of calculation and the calculation methodology applied in different countries, studies most often analyze the relative poverty. The concept of the relative poverty refers to the measurement of the standard of the individual living, as defined in relation to the general population distribution of available economic resources or, in other words, with the average living standards in the country (Alcock 2006; Bradshaw 2007). This fact is important when comparing the level of poverty in the countries of different levels of development. The use of the relative poverty for the measurement of poverty in developing countries leads to the fact that the low poverty rate is obtained due to the low average income and consumption expenditure, which is not sufficient to meet personal needs of the population. This results in the reduction of the poor population in the country. It is obvious that the method for the measurement of poverty leads to different results of the evaluation, however, for the purpose of comparability the ratio of poverty is most frequently analyzed and evaluated in research.

Although the definition of in work poverty is a common subject of a scientific debate, but in the most common sense low wages or other income are considered the main cause of in work poverty. However, non-individual employee income should be assessed, but at the household level because an individual's situation also depends on the income of the other household members (Lewandowski, Kaminska 2014). As the reduction of in work poverty risk is affected not only by wages, but also by other household income, such as self-employment earnings, private income from investment and property, transfers between households and all social transfers received in cash including old-age pensions, therefore, in the context of this study, it is expedient to consider disposable income. As the EUROSTAT indicates, the total disposable income of a household is calculated by adding together the personal income received by all of household members plus income received at household level².

Who are in work at risk of poverty and how are they described in the scientific literature? In order to determine the level of poverty, the risk of poverty threshold, which often varies from 40% to 60% of disposable income media, is selected, however, there is more discussion about the status of employees. Many authors believe that such a status is acquired by employees who work more than 6 or 7 months per year. Other researchers consider full-time work as the most important criterion (Maitre et al. 2012). In this study, in work at risk of poverty rate is defined the same as in EUROSTAT statistics: the percentage of persons in the total population who declared to be at work (employed or self-employed) who are at risk of poverty (i.e. with an equivalised disposable income below the risk of poverty threshold, which is set at 60% of the national median equivalised disposable income (after social transfers)). This indicator covers the population aged 18 to 59 years living in private households who declared to be at work (excluding those with less than 7 months declared in the calendar of activities) when broken

down by work intensity of the household. The in work at risk of poverty rate indicates to what extent employment helps persons to overcome the risk of poverty. Reducing the in work poverty risk may require different policies from those used to reduce the overall at risk of poverty rate because in work poverty is not caused by a lack of access to the labor market, but, among other reasons, by the market's inability to pay sufficiently high wages.

In work at risk of poverty analysis is complicated by the fact that this phenomenon can be examined at two levels – at the individual's labor market status and the disposable household's income (adjusted for household size) (Marx, Nolan 2012). The growth of disposable income or its constituent parts should reduce in work at the risk of poverty; however, this inverse dependence can lead to distortions of income inequality (Palacios, Rodriguez and Peña-Casas 2009). If the rising disposable income supplements only those budgets of the population or their families who receive more than the median income, then this change does not reduce the risk of in work poverty. Assessment of this impact is complicated because of the characteristics of the methodology of calculation (the increase in disposable income median) the rising incomes may further increase the risk of in work poverty. On the other hand, the median income can change not only for revenue growth, but also because of the growing (declining) income recipients, for example, population migration. Considering these aspects, it is necessary to include personal income dispersion indicators – the Gini index and/or decile ratio indicators – into the macro-level of in work at risk of poverty assessment models. As the Gini index reflects the inequality of households' equivalised disposable income, the inequality of personal income is accurately characterized by the decile ratios of income. In order to avoid the disadvantages of disposable income at the macro level, it is appropriate to consider the effect of compensation of employees. This indicator is defined as the total remuneration, in cash or in kind, payable by an employer to an employee in return for work done by the latter during an accounting period. In particular, it also includes social contributions paid by the employer.

A number of researchers (Nolan and Marx 2000; Peña-Casas and Latta 2004; Andress and Lohman 2008; Marx, Nolan 2012) also note that low income is not the only cause of in work poverty. It usually increases the risk of poverty, along with other factors, or through certain mechanisms related to the lack of employment in the labor market and/or a poor household structure (one employee, many dependents, etc.) (Crettaz and Bonoli 2010). Furthermore, the empirical studies carried out in OECD countries (Marx and Verbist 1998; Peña-Casas and Latta 2004; Andress and Lohmann 2008; Halleröd, Ekbrand and Bengtsson 2015) show that because of social policy favorable to workers in these countries and income from other sources, low-income workers do not suffer poverty, while their employment-related income is not sufficient. In the most recent investigations, the risk of in work poverty is also more often associated with inadequate (or low-intensity) employment and adverse situation in the labor market. In particular, they emphasize households with many children, single and self-employed population (Andress and Lohman 2008; Crettaz 2011; Halleröd, Ekbrand and Bengtsson 2015). In recent years, there have been studies which examine the impact of household composition, income, work intensity and other factors on the risk of in work poverty at the structural level (Lewandowski, Kaminska 2014; McKnight, Stewart, Himmelweit, Palillo 2016). However, rapid changes in Eastern European countries require new multi-level studies that could measure the impact of these changes on the risk of in work poverty.

Having summarized the risk of in work poverty studies, the following factors can be identified that conditionally can be divided into several groups:

- Population and household-level socio-demographic, labor market and economic factors, such as disposable income (wages and salaries, social security income, etc.) (Peña-Casas and Latta 2004), the total employment of the population and employment of women (Lancker 2012; Halleröd, Ekbrand and Bengtsson 2015), self-employment of the population (Crettaz and Bonoli 2010), education of the population, duration of the working activity, minimum wage-earning population share, households "composition" – size, the number of employed persons and dependants (Andress and Lohman 2008; Marx, Nolan 2012; Lewandowski, Kaminska 2014; McKnight, Stewart, Himmelweit, Palillo 2016), the emergence of new households.

- The job quality reflecting factors, such as the ability to work part-time, fixed-term and different than permanent contracts share, high qualification requiring (or not requiring) work share, a "long day or week" working hours, precarious work share (Palacios, Rodriguez, Peña-Casas 2009; Kalleberg 2011; McKnight, Stewart, Himmelweit, Palillo 2016). They are formed by the dominant business structure, technological level and innovation of enterprises, requirements for the workplace and compliance with their traditions, the ratio of the population in public and business sectors and other conditions.

- Macro-economic factors, such as the level of development of the country or individual regions, economic growth, income inequality (Cantillon and Marx 2003), regional disparities

(Halleröd, Ekbrand and Bengtsson 2015), their internal and external lines of convergence (divergence); globalization determined factors, such as population migration, foreign investment share and integration of the national holding into the global holding, openness of the labor market in the countries, the level of technological advancement and development.

– Institutional factors, such as the redistribution of the labor market and the income policy, welfare regimes and the impact of the ensuring bodies (Lohmann and Marx 2008; Crettaz 2011); the bargaining power of workers (McKnight, Stewart, Himmelweit, Palillo 2016) and the trade union density. These factors are indicated by many researchers. They basically reflect the efforts of the state and institutions supported by the state to ensure the well-being of the population by reducing the risk of in work poverty.

Many of these factors are characterized by the complex effects, as well as different combinations of these factors in various countries. If the first two groups include the factors to be considered endogenous, some of which can be directly adjusted (as the minimum wage or factors affecting the quality of the work place), to adjust the macro-economic factors is more complicated because they are the result of long-term processes of functioning. Institutional factors can be described as adjusting or compensating effect of other factors on the risk of in work poverty. As Gautie and Ponthieux (2016) state, the double-level (individual and household) construction of the in work at risk of poverty category makes it quite difficult to analyze, since the same individual activity in labor market may or may not result in poverty, depending on the household structure and income. A significant difference in the household structure also limits the scope of cross-country comparisons of the investigated phenomenon. Therefore, the panel data analysis carried out in this study makes it possible to assess the impact of multi-level factors on the risk of in work poverty.

2 Descriptive statistics: changes in working poverty and its determinants in Eastern European countries

Eastern European countries have been chosen for investigation: the Czech Republic, Estonia, Latvia, Lithuania, Poland, Slovakia, Slovenia and Hungary have a number of socio-economic similarities, which are important for the assessment of in work at risk of poverty. These countries, as having similar labor market trajectories, which are characterized by the 'business-friendly' free market regulations market employment regime with low compensatory social policies, were distinguished by Halleröd, Ekbrand and Bengtsson (2015). By area and population the majority of them are small countries (with the exception of Poland), which joined the European Union in 2004. More than a decade they are characterized by the deterioration in the demographic situation due to the ageing of the population and high emigration, a declining population (with the exception of Slovakia), faster than the "old" EU countries' economic growth and relatively small, but every year growing population income. In 2005–2017, the structure of households changed little in these countries: like in the European Union the number of households with more than three members decreased, whereas single households increased.

Disposable income per capita in these countries throughout the analysis period was 2-3 times lower than the average in the EU (27). Income differences among the countries declined: the coefficient of variation decreased from 36% (in 2004) to 17% (in 2017). The fastest growth of disposable income was in Latvia and Lithuania (7.52% and 7.19% on average each year), the slowest was in Slovenia (2.52%). The largest share of income consisted of compensation of employees (70%–92% in 2017), which also increased each year.

In work poverty risk rate in many Eastern European countries is lower than the EU (27) average, but even in six countries it grew each year. Only in Poland and Slovakia this indicator decreased each year by 1.86 and 2.68 percentage points respectively (see Figure 1). In addition, in work poverty risk declining differences among the countries have been identified – during the period of analysis the variation of this indication went from 38% to 27%. Compared to the "old" EU countries, in Eastern Europe the poverty is more often experienced by part-time workers. However, in many countries (with the exception of the Czech Republic, Slovakia and Slovenia) this rate is higher than the EU average and among full-time workers.

The following differences are significant for the assessment of the 2008–2009 crisis in the financial markets and determining the impact of the recession on the population incomes and the risk of poverty: disposable income of the population in Eastern European countries declined in 2009, while the risk of in work poverty grew the most in 2011. Therefore, it is likely that after the crisis the growing income filled more the "pockets" of higher income people.

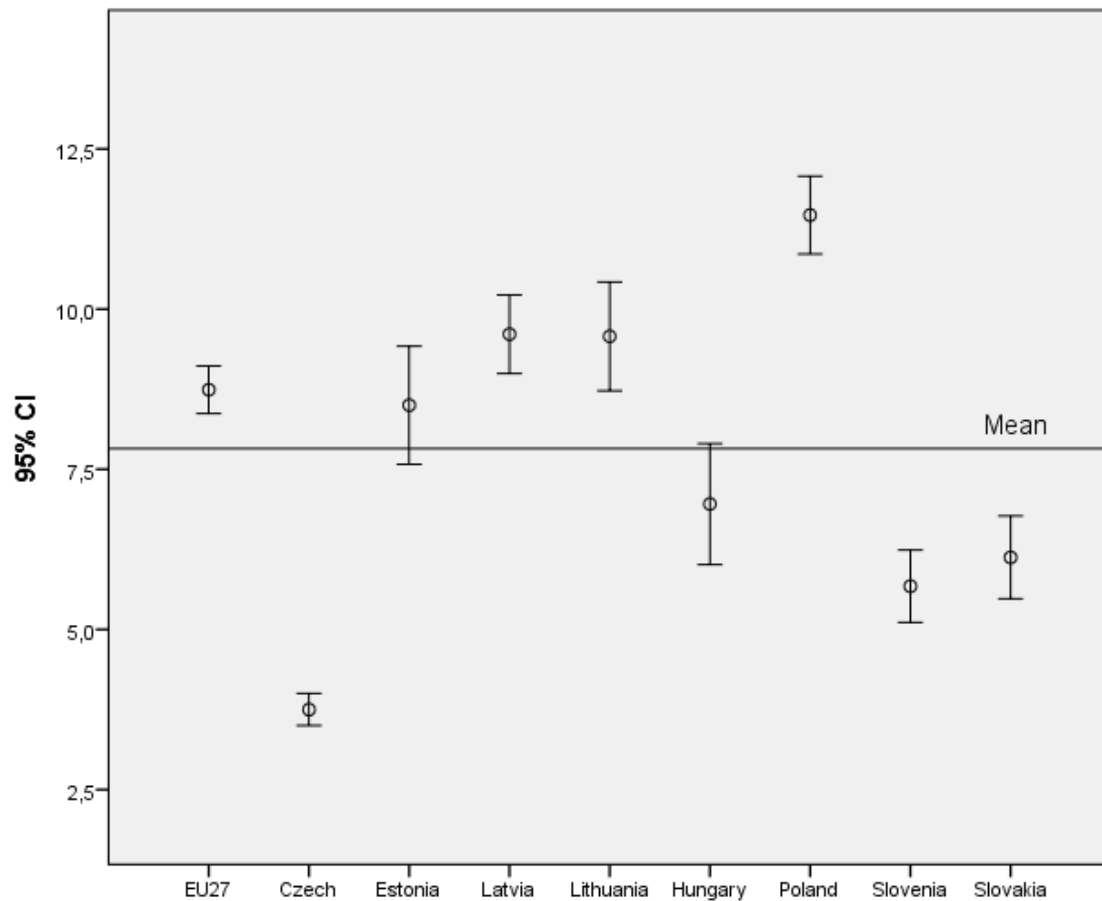


Fig. 1. The estimates and 95%-confidence intervals for the in work at risk of poverty rate in Eastern European countries and EU 27 in 2005–2017 in percentage of total population
Source: EUROSTAT data from <https://ec.europa.eu/eurostat/data/database>

During the analysis period employment increased in all EU countries (approximately by 6 percentage points over the entire analysis period), but the growth rate was higher in Eastern Europe (by 13.5 percentage points on average) (see Figure 2). Employment grew faster in Hungary (by 17 percentage points over the entire analysis period), whereas in Slovenia it remained unchanged. Active population employment differences between the countries decreased. Among the working age (active) population women’s employment grew more rapidly than that of men. A reverse tendency was observed only in Estonia and Poland. Unlike the average in all EU countries (27), youth (15–24 years of age) employment grew in almost all Eastern European countries, with the exception of Slovakia and Slovenia. Part-time employment throughout Europe grew by nearly 3 percentage points, however, in Eastern European countries, this change was just 0.4–2.7 percentage points, while in Latvia, Lithuania and Poland, the number of part-time workers decreased. Temporary work contracts of employees changed differently: in Latvia, Lithuania and Slovenia, they increased, whereas in other Eastern European countries, they decreased. Having assessed employment according to this indicator, significant differences between the countries have been determined. For example, in 2016, in Poland and Slovenia, 22% and 15% of the workforce had fixed-term work contracts, while in Lithuania, they amounted to only 1.7% of all contracts. Nearly all of the Eastern European countries fell in the very low and low work intensity (0–0.45) of the households. Different tendencies are characteristic to the self-employed working age population: the total number of such workers in all the countries increased, but in Lithuania and Hungary, it decreased. However, self-employed workforce share is not as significant as in the “old” EU countries. Since many of the countries in this group are faced with decreasing population trends, in particular at the working age, despite the increasing employment the decline in the number of employees remains the main problem of the labor market.

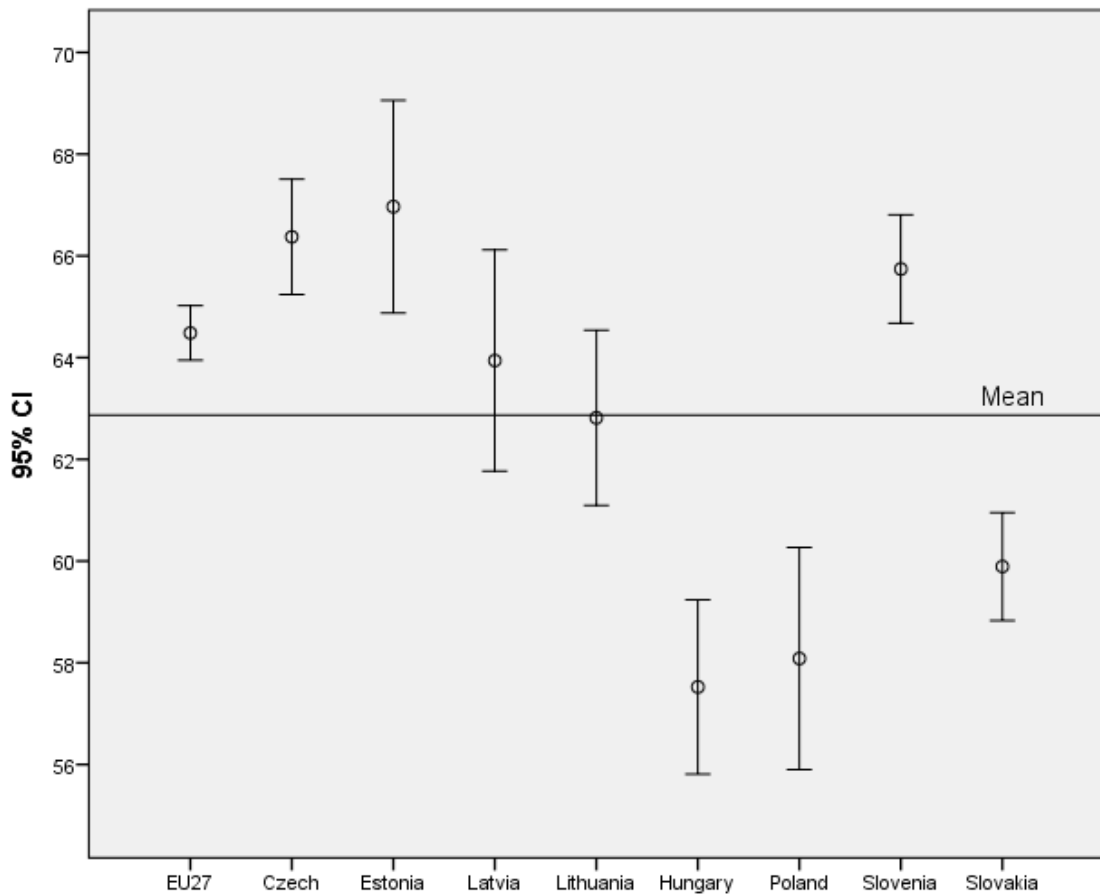


Fig. 2. The estimates and 95%-confidence intervals for the total employment (from 20 to 64 years) changes in Eastern European countries and EU 27 in 2005–2017 in percentage
Source: EUROSTAT data from <https://ec.europa.eu/eurostat/data/database>

Changes in the working time of employees are characterized by the cyclical nature: during the economic crisis of 2009, the number of persons employed up to one year and in 2010 the number of employed up to two years decreased in the whole group of countries. From 2012 in all countries, employment up to 24 months increased annually. The overall structure of persons occupied under the working time during the analysis period developed a little: employees working for more than 5 years on average make 58%, up to 2 years – 9%, up to 1 year – 14% (EUROSTAT data EU-SILC survey [ilc_iw05] and [ilc_iw07]). In the Eastern European countries (with the exception of Poland and Lithuania) poverty has increased the most among those working under temporary job contracts. The situation is similar with the part-time job employees. It should be noted that in some countries (Slovenia, Hungary, Estonia) poverty has even been an increased for workers employed on a permanent employment contract and full-time work. However, in Eastern European countries, there are relatively few part-time and temporary contract employees, so it can be assumed that these in work at risk of poverty changes are not significant as the women in work at risk of poverty changes for example. However, the in work at risk of poverty rate among working women in the Eastern European countries have changed in different directions (see Figure 3), making it difficult to present a general trend for the whole group of countries.

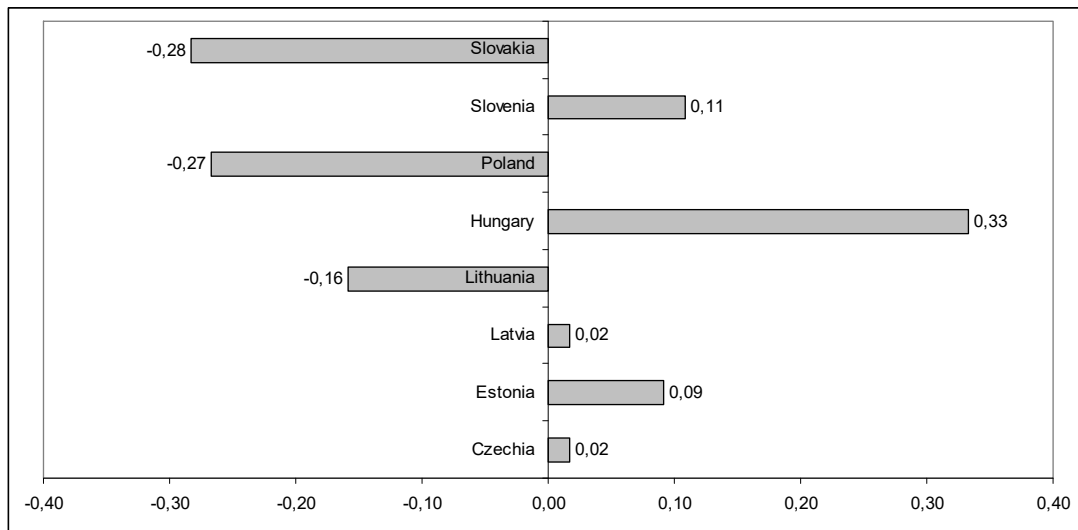


Fig. 3. In work at risk of poverty rate of women annual changes in Eastern European countries in 2005 - 2017.

Source: EUROSTAT data from <https://ec.europa.eu/eurostat/data/database>

The qualitative parameters of the employed population, such as education, position, length of employment, etc., are important factors in the assessment of in work at the risk of poverty. Tendencies in the workforce education changes were similar in all Eastern European countries: the number of employees with the lowest and secondary level education (according to the ISCED 2011 classification) decreased and the number of employees with the highest (tertiary) level of education increased. This partly contrasts with the changes in their positions: only in Lithuania, Latvia and Estonia, employment in elementary occupations dropped, however, the total number of such workers increased by almost 150 thousand in the whole group of countries. Thus, it can be assumed that the number of employees with higher education, but employed in elementary occupations increased. This could affect the in work at risk of poverty rate changes in these countries (see Figure 4). Poverty of less than primary, primary and lower secondary educated employees has grown in only three countries. Upper secondary and post-secondary non-tertiary educated employees - in five countries. And the highest at risk of poverty changes touched tertiary educated employees - only in Slovakia and Poland has the poverty of these employees decreased. This shows that in Eastern European countries, education is less likely to protect employees from poverty.

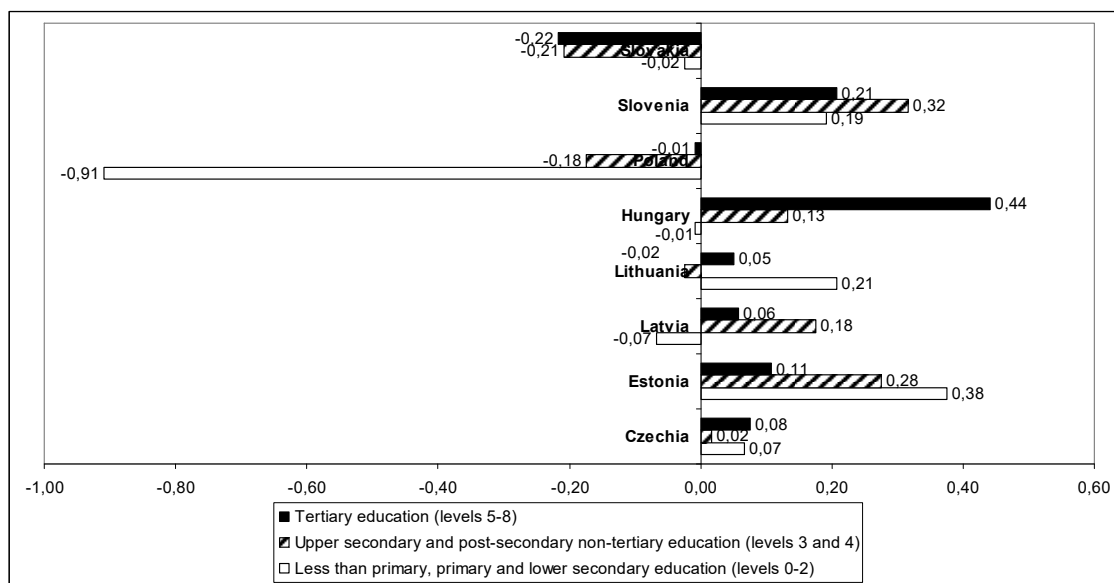


Fig. 4. Annual changes of in work at risk of poverty rate in Eastern European countries by educational attainment level in 2005 - 2017.

Source: EUROSTAT data from <https://ec.europa.eu/eurostat/data/database>

At household level, many studies (Andress and Lohman 2008; Max, Nolan 2012; Lewandowski, Kaminska 2014; McKnight, Stewart, Himmelweit, Palillo 2016) emphasize the impact of population composition and work intensity on the in work at risk of poverty rate. According to Eurostat data, in almost all Eastern European countries (excluding Poland and Hungary), the in work at risk of poverty has increased of single person households (see Figure 5). Even more increased in work at risk of poverty risk of single person with dependent children. As Europe becomes more and more a lonely society, it is obvious that it can be a serious problem. The declining level of in work at risk of poverty is typical for households with at least two persons working, but in Estonia, Latvia and Slovenia, the number of employed people in such households has increased. The most unfavorable situation was going Slovenia and Estonia, where all types of households in work or risk of poverty increased. In Poland, on the contrary, the situation in all types of households improved.

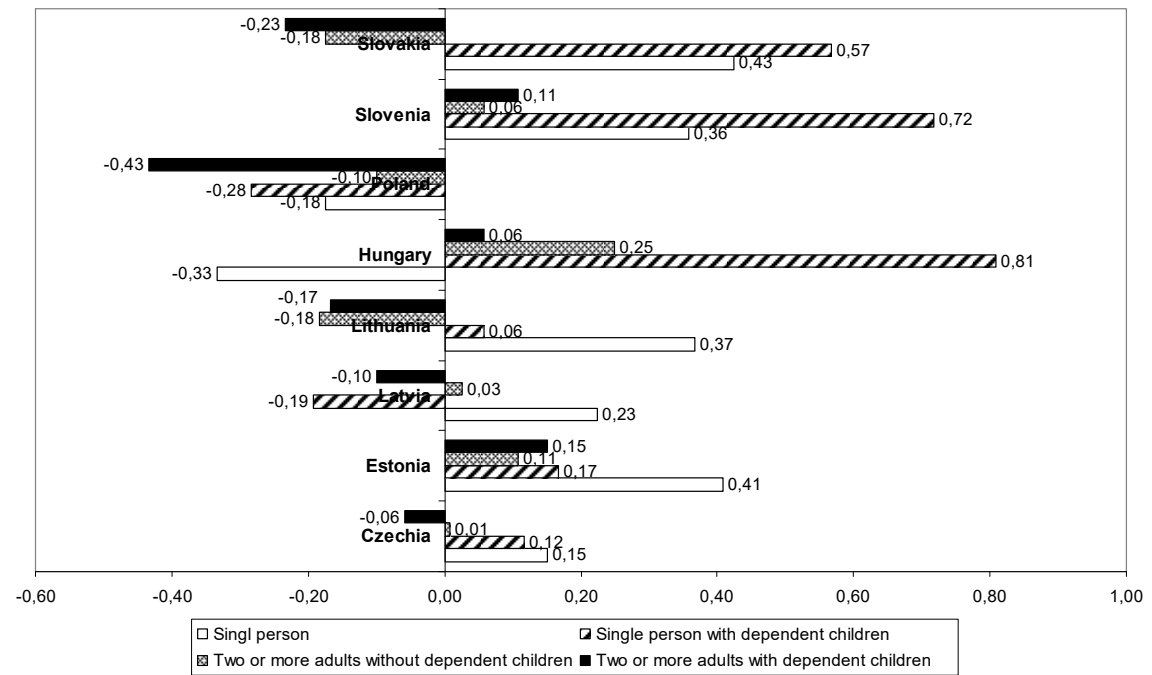


Fig. 5. Annual changes of in work at risk of poverty rate by household type in Eastern European countries in 2005 – 2017

Source: EUROSTAT data from <https://ec.europa.eu/eurostat/data/database>

The work intensity of households is the ratio of the total number of months that all working-age household members have worked during the income reference year and the total number of months the same household members theoretically could have worked in the same period (Eurostat Statistic Explained, 2018). In Eastern European countries (except for Poland and Slovakia) working-age household residents are spending more and more time at work. At the same time in the last 13 years a negative tendency of in work at risk of poverty growth has emerged in high-intensity households (see Fig.6). Hence, greater efforts by employees do not help to get out of poverty. Conversely, as the researchers found in the "old" EU countries, in work at risk of poverty in low work intensity households in Lithuania, Latvia, Estonia and Czech Republic declined every year. This could be due to a decrease in the number of dependents in households, as well as to rising of non-working income.

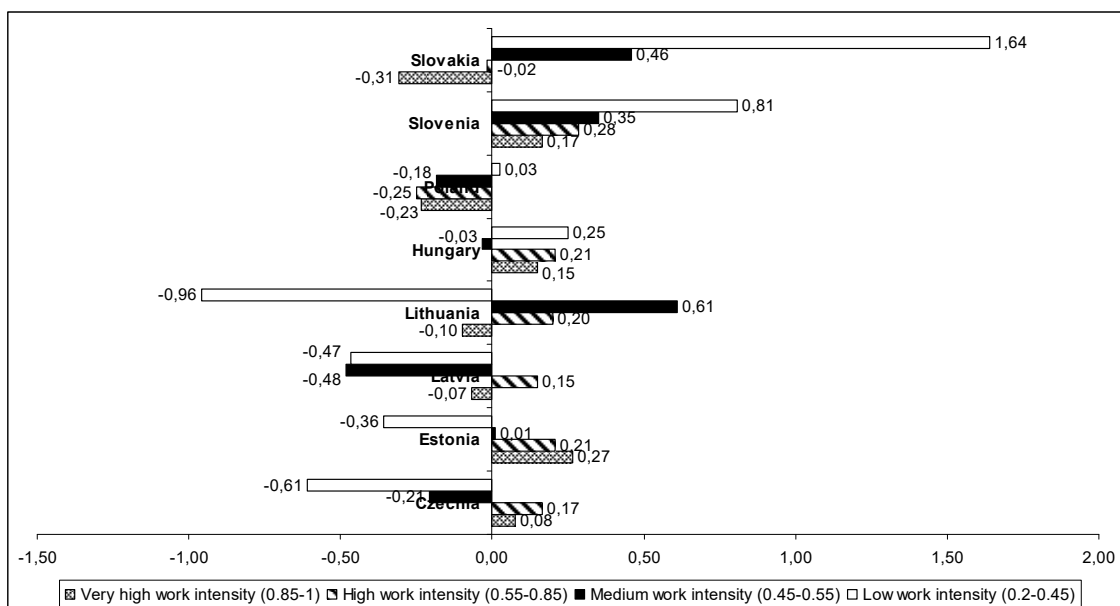


Fig. 6. Annual changes of in work at risk of poverty rate by household work intensity in Eastern European countries in 2005 – 2017

Source: EUROSTAT data from <https://ec.europa.eu/eurostat/data/database>

In work at risk of poverty rate shows inequalities in income among employees, therefore changes in the income inequality of all the country's population are important when assessing this indicator. The problem of income inequality becomes more acute in many European countries, however, in Eastern European countries, it is worst: as EUROSTAT data show, in 2014, low-wage workers in these countries stood at 21.3% on average, while across the EU this rate was only 17.2%. The first decile of employees' income in these countries still remains 3-10 times lower than in the "old" EU countries. In case of fast emigration of the population, the concentration of the low wage "floor" increases the median disposable income in accordance with the assumption that low-income residents emigrate more often. Thus, when the median disposable income increases, the number of in work at risk of poverty may grow even if disposable income grows. However, this effect resulting from emigration and the risk of in work poverty calculation methodology can occur only at a high level of inequality (dispersion) of emigration, wages and other income. Assessing the income inequality according to the Gini coefficient, in 2005–2017, income convergence occurred between "old" and "new" EU countries: the income inequality increased in the "old" countries where income inequality was lower, while in Eastern European countries, where income inequality was higher, it decreased in almost all the countries (with the exception of Lithuania). The differences in income inequality between the Eastern European countries themselves are high. For example, in Lithuania the inequality of income of the population measured by quintile ratio (80 /20) in 2017 was twice as high as in Slovenia, Slovakia or Czech Republic.

Two correlation matrices were established to identify the interaction between changes of in work at risk of poverty rate and income inequality. The results shows stronger interaction between changes of in work at risk of poverty rate and income inequality measured by quintile income ratios (see Fig. 7) compared to changes of income inequality measured by Gini coefficient. Excluding the effect of other factors, it can be assumed that in work at risk of poverty grows more when the difference between the share of population receiving the highest and lowest income increases.

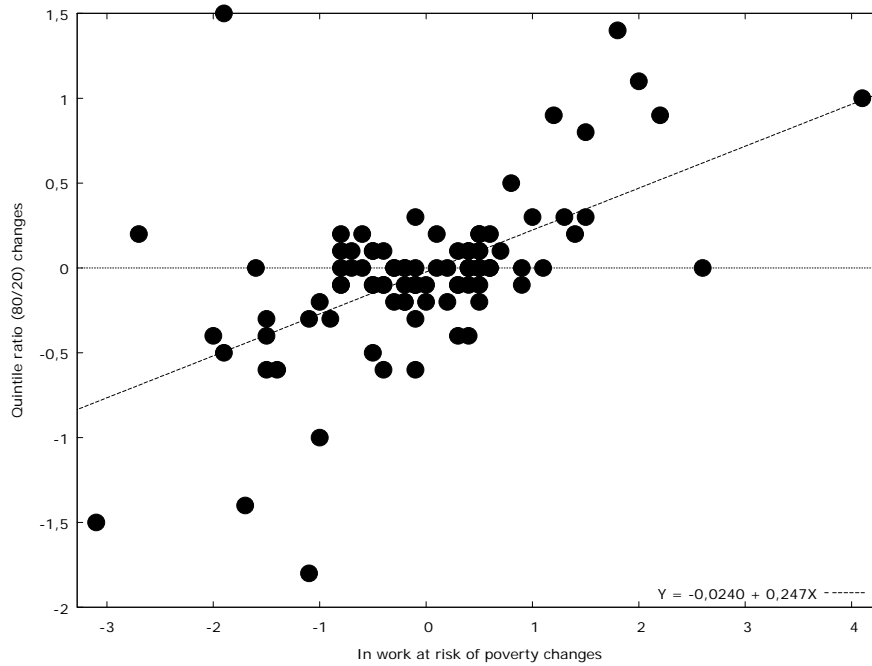


Fig. 7. Quintile ratio (80 /20) changes versus in work at risk of poverty ratio changes (with least squares fit) in Eastern Europe countries.

Major has declined differences have been identified in analyzing the interaction between the levels of education of the population and in work at risk of poverty. The majority of the population has acquired upper secondary and post-secondary non-tertiary education in all Eastern European countries. Although their situation has deteriorated during the period analysed they but this part of the population also have the lowest levels of in work at risk of poverty. Unfortunately, the share of this level of education has fallen in all countries. As shown in the correlation matrix (see Fig. 8), the risk of in work poverty increased as the upper secondary and post-secondary non-tertiary education employed decreased. The share of people who have acquired tertiary education in all analyzed countries has grown, but this has not become a prerequisite for lower levels of working poverty.

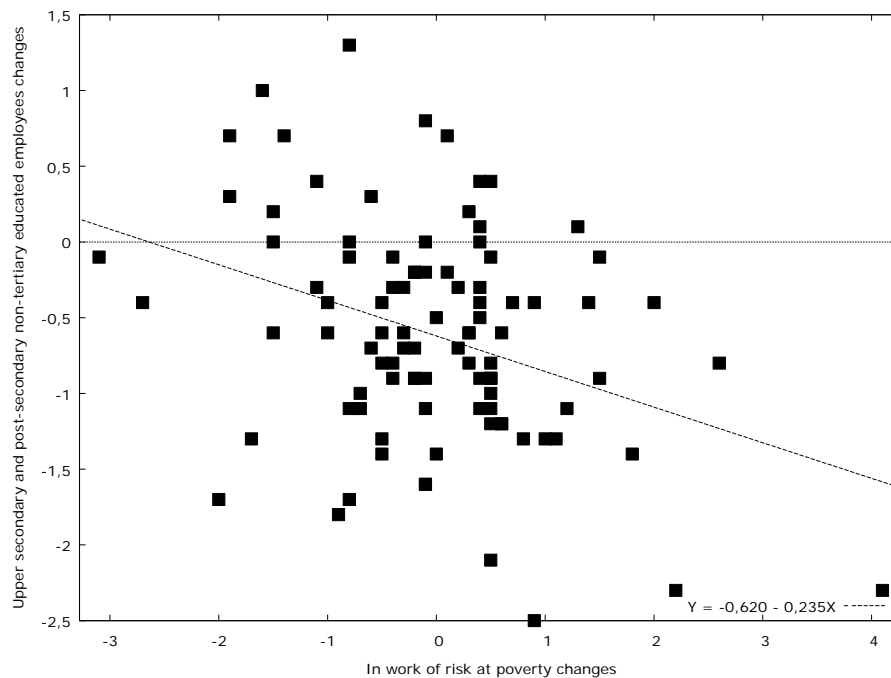


Fig. 8. Upper secondary and post-secondary non-tertiary educated employees ratio changes versus in work at risk of poverty ratio changes (with least squares fit) in Eastern Europe countries.

The interaction between households work intensity and in work at risk of poverty rate is complicated due to different directions of interaction, determined by static and dynamic conditions. In work at risk of poverty in households with low work intensity was always higher than with medium-to-high work intensity in Eastern European countries. Despite the fact that the share of households with very low and low work intensity has decreased every year during the analyzed period, in work at risk of poverty rate has increased in many of these countries (see Fig. 9). Therefore, it can be assumed that other factors, such as income inequality and changes in education, have had a greater impact on in work at risk of poverty than the changes in the work intensity of their households.

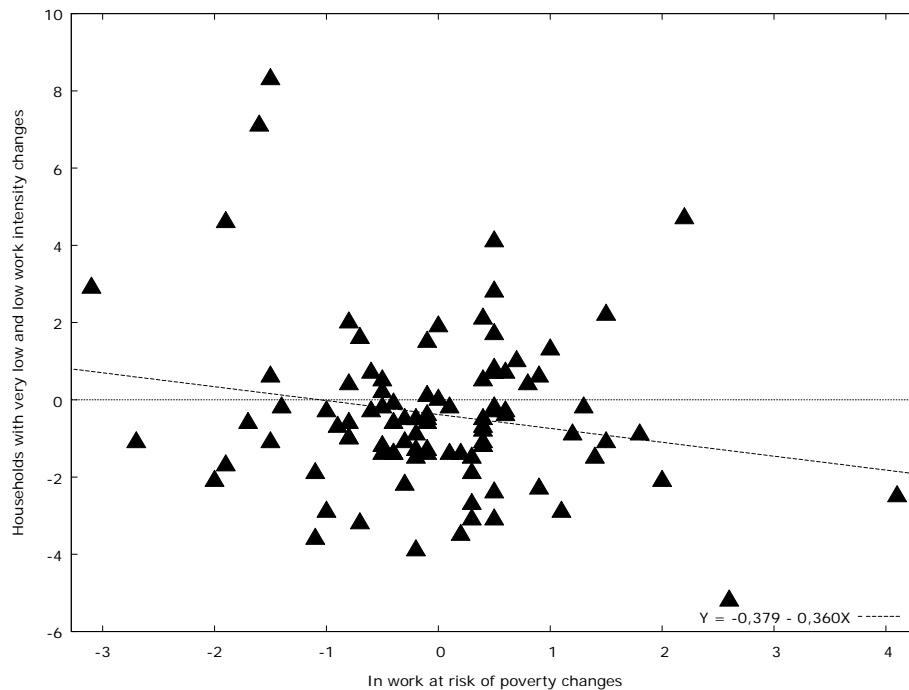


Fig. 9. Households with very low and low work intensity ratio changes versus in work at risk of poverty ratio changes (with least squares fit) in Eastern Europe countries.

Significant interactions between in work at risk of poverty and other factors identified by other authors, such as the increased employment of women, self-employed, part-time and temporary employed, has not been identified in this study.

Conclusions

According to Halleröd, Ekbrand and Bengtsson (2015), the authors of the study on the risk of in work poverty, which included Eastern European countries, after three years of panel data analysis they could not set significant determinants of poverty due to the impact of heterogeneity and transitional period of these countries. Having completed the panel data analysis of the dynamic changes in the poverty risk factors for a longer period of time (13 years) in this study, the interaction has been identified, the interpretation of which is attributable to the differences among Eastern and other European countries and greater similarities among the Eastern European countries. Most of the research highlights the problem of unemployment as the most important reason for the risk of in work poverty; however, unemployment in Eastern European countries during the post-crisis period is lower and declining faster than in the “old” EU countries. This shows that significant interaction between the growing risks of in work poverty and declining unemployment appears to be relatively small. They also have fewer households where all members are unemployed; however, social support for them is significantly lower than in other EU countries. If social support income per capita (as well as disposable income) is 2 to 3 times higher in “old” EU countries than in Eastern Europe, then the differences between the unemployment benefits are even greater. For example, in 2014, the average unemployment benefit per capita was 50.47 PPS in Poland, 72.91 PPS in Lithuania, 74.16 PPS in Hungary, while the average in EU (27) countries was 392.85 PPS. Consequently, in spite of the low-wage, residents are forced to take lower quality or even temporary work (it is shown by the growing elementary occupations in many EU countries), because, otherwise, they simply could not survive. This is confirmed by the identified positive effects of increasing unemployment, particularly for women and youth, and decreasing the number of low intensity

households on the risk of in work poverty. Although the decline in the population with the lowest level of education reduces the risk of in work poverty, however, the growing income inequality makes a greater impact. It is necessary to take into account the fact that in Eastern European countries collective bargaining coverage is just 10%–35%, when in the “old” EU countries, this figure reaches 50%–98%. Proportion of employees in unions is 10%–17% and in some of the “old” EU countries, this figure amounts to more than 70%. Thus, the workers’ bargaining power in Eastern European countries is significantly lower. Therefore, the positive effects of increasing the population’s employment for the reduction of the risk of in work poverty in these countries are questionable – more people come into the labor market, however, that does not significantly improve their financial situation. The results of the research also reveal that income inequality makes the biggest impact on the risk of in work poverty changes. On average, earned income of every fifth resident of Eastern European countries is the minimum, and the growth of income more often affects residents who receive average and higher than minimum income. Many EU countries are characterized by high emigration to the “old” EU countries which may also have a positive or negative impact on the risk of in work poverty in those countries depending on the income received by the migrant workers in the native country. However, there are not enough data to determine the impact of emigration, therefore, in this study, such an analysis was not performed.

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