

## **TENDENCIES OF POVERTY IN THE REPUBLIC OF CROATIA AND THE EU COUNTRIES\***

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### **ABSTRACT**

The objective of this paper is to determine the tendencies of poverty in the Republic of Croatia and the EU countries. The methodology included the measurement of poverty with the official EU poverty line. Material deprivation rate used by EU Member States is also used in the paper. Regression analysis (OLS method) was used to establish to what extent poverty risk rate can be reduced by increase in income. The main research result indicates that poverty in Croatia is increasing. Its increase has been particularly pronounced since 2008, when Croatia recorded the highest increase in the poverty rate among the EU Member States. Although Croatia is classified on a global scale as the high income country, the basic conclusion is that according to poverty rate, it could not be classified as high developed country and that poverty risk rate can be reduced by an increase in income.

**Keywords:** poverty, Republic of Croatia, EU

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## INTRODUCTION

Poverty is one of the greatest problems of modern mankind, because it is estimated that about one third of world population lives with less than two dollars for daily consumption [1]. Therefore, the message of the World Summit on Social Development held in Copenhagen in 1995 is very founded and binding; that eradication of poverty is an unfinished task of the 21st century. This is also verified by the information that in the past few decades, developmental disparities between the richest and the poorest countries in the world are increasing, as well as differences in the quality of life between the rich and the poor in specific world countries. This reflects on different availability of material goods for meeting the needs of the population, life expectancy, employment opportunities, nutritional status of the population, health care, and access to education.

The gap between today's rich and poor countries is a phenomenon that emerged during the period of modern economic development. Since 1820, the largest gap between the rich and the poor was measured by the ratio of income per capita of the leading world economy at the time, Great Britain, and the poorest, Africa, which was 4:1. By 1998, the gap between the richest economy, the USA, and the poorest, Africa, was increased to 20:1. Today's enormous differences indicate that some parts of the world achieved modern economic growth, while others did not.[2] The achieved development indicators measured by the level of GNI per capita in the past decade indicate that development differences between the most developed and the most underdeveloped world countries reached the ratio higher than 1:400. However, poverty has not been eradicated even in the richest world countries.

Poverty of the population has significantly changed in the past hundred years. At the beginning of the 20th century, it was acute and cyclical, and the poor lived in a completely different culture than that of the middle classes. By the mid-20th century, it became chronic and structural. Differences in aspirations and the way of life between the poor and the middle class for the most part disappeared. Although the main causes of poverty are unemployment and low level of education, employment is today no longer a safe defence against existential setbacks, and therefore, poverty also affects those who work constantly, but earn little.[3]

In the 1950s and 1960s, many developing countries achieved high growth rates of GDP per capita, but the living standard of the majority of population remained low. This is when new outlooks on development emerged. During the 1970s, many economists pointed out that growth of GDP per capita is an insufficient development indicator. Widespread poverty, great and growing income inequality, and increasing unemployment provoked economists and politicians to rethink development so that new definitions of development appeared in the 1970s that advocated the motto advocating the need to „redistribute growth“[4]

This paper proves the hypothesis that the rate of poverty in Croatia has been increasing, especially in the period after 2008, and that population, according to the indicators of relative poverty, has been most affected by the crisis. It is also verified that the poverty risk rate can be reduced by increase in income.

## LITERATURE REVIEW

Numerous economists pointed out that reduction of poverty, unemployment and income inequality mean that a country is developing. In cases when one or two of these problems were getting worse, especially all three, economists started advocating the premise that development was not happening, even if income per capita doubled [5].

The declining trend in employment, increase in inequality and decline in real income of the poorest 40% of the population marked developing countries in the 1970s and 1980s, and this trend has continued until present time. Nevertheless, the World Bank advocated the thesis until the end of the 1980s that economic growth is the main objective of development, and at the very beginning of the 1990s, there has been a noticeable shift in the way of thinking.

The World Development Report by the World Bank from 1991 states: The challenge of development... improving the quality of life. In poor countries around the world in particular, better quality of life generally requires higher income – but it includes much more than that... better education and improved health care and nutrition standard, and less poverty, and cleaner environment, and more equality in living conditions, and greater individual freedom, and a richer cultural life.

In the 1980s and 1990s, in terms of strengthening of neoliberalism, IMF and the World Bank advocated the so-called „Washington Consensus“. The major objections to the „Washington Consensus“ by development theorists were: 1) the Consensus advocates the view that poverty will be solved by growth and that it does not constitute a major obstacle to development, which has proven incorrect; (2) the problem of elimination of absolute poverty and reduction of inequality were omitted, and this is what development theorists consider to be key objectives and instruments of development. At the summit of the countries of the American continent held in 1998 in Santiago, a new consensus was adopted regarding the role of developing countries („Santiago Consensus“). It was accepted by international development institutions, and one of its fundamental postulates is emphasising the responsibility of governments to alleviate poverty.

In the former socialist countries, including Croatia, increase in poverty and inequality is an integral part of transition changes. Democratisation, liberalisation and privatisation inevitably led to increasing inequality compared with their level at the time of socialism, as well as widespread poverty. This was contributed by unregulated processes with many flaws – from which the most notable are institutional, structural and democratic. Numerous citizens in these countries view increase in poverty and economic inequality as a consequence of corruption, in Croatia also war profiteering, organised crime, non-existence of the rule of law and violation of human rights.[7]

The beginning of the 21st century marked greater involvement of the national states and international institutions in the fight against poverty. The Council of Europe adopted in 2000 the Social Policy Agenda and the proposal to create national programmes to fight poverty and social exclusion. In 2005, the UN released the so-called „Millennium Project“, a strategy to fight global poverty by 2015, and the Croatian government adopted the Programme for Fighting Poverty and Social Exclusion. This was after the World Bank had conducted the research on poverty and marked the beginning of more serious monitoring of the problem of poverty.[8]

However, world poverty did not decrease in the past decade, and the crisis which started in 2008 increased the number of the poor and sharpened growing income inequality between the poorest and the richest. In his book „The Price of Inequality: How Today's Divided Society Endangers Our Future“, Joseph E. Stiglitz emphasises that poverty has increased due to the effects of market principles that have positive, but also many negative consequences. Some of the negative consequences are increase in poverty and economic inequality. In the absence of the role of government, i.e. economic policy makers, the market can lead to high concentration of wealth. It is therefore clear that it should be „tamed“ to benefit most citizens and this, according to Stiglitz, is the message of protesters around the world who want national policies that will promote equality, fairness and justice. In the first post-recession years at the beginning of the third millenium (from 2002 to 2007), 1% of the richest Americans appropriated more than 65% of the total national income, and in 2010, 93%. At the same time, living conditions of most US citizens deteriorated. Life expectancy in the USA is 78 years, but the poor live 10%, or almost 8 years shorter than the richest. Those originating from the poor families are increasingly doomed to stay poor forever.[9]

The concept of poverty and its implications for social strategy and social policy is interesting to economists in terms of the necessity to assess welfare on one hand, and poverty indicators on the other. They therefore recommend introduction of a specific income and economic standards which will be an important aid in the conduct of national development and social policy.[10]

Measuring poverty after 2000 has become more widespread all over the world. It is a matter of research of international institutions, but also national states to which these are important indicators in the fight against poverty. Indicators of absolute and relative poverty are used in the process. Absolute poverty indicators provide an insight in how poor are the poor, but their measurement is extremely complex. Therefore, indicators based on the concept of relative poverty are frequently used, that take into account disposable income of the household, number of household members (household size), and distribution of income within the population.[11] These indicators point to the probability of the risk of poverty, but not its actual extent and size. Eurostat uses material deprivation rate [11] which contains indicators pointing to material conditions that affect the quality of life of households. These are: impossibility of adequate heating during the winter months, inability to pay for a week of vacation away from home, adequate nutrition, inability to settle an unexpected financial expenditure, delay in paying utility bills, the ability to „make ends meet“, and the overall financial burden of housing costs.

Politicians who are in the function of economic policy makers often slow down the fight against poverty, considering it an obstacle to economic growth. However, development theorists such as Todaro and Smith believe that low-income countries have the possibility to intervene in four areas by measures that will enable the reduction of poverty and economic inequality while maintaining or even accelerating economic growth. They are: changes in the functional distribution of income through policies that aim to change the relative prices of production factors; modification of distribution according to income size through progressive redistribution of ownership of productive factors, changes in distribution by size of income by applying progressive tax on income and wealth, direct cash transfers, and public provision of services to the poorest population groups.[4]

It is believed that there are four basic pillars in the fight against poverty: 1) economic growth and increase in employment opportunities; 2) investment in human capital development; 3) a progressive tax policy; 4) social transfers.[3] While progressive tax policy and social transfers are directly or indirectly related to the redistribution of income, increase in employment opportunities as a result of economic growth and investment in human capital development are in the domain of leading a successful development policy and serve to create preconditions for a permanent solution to the problem of poverty.

Explaining the causes of the large increase in income inequality and poverty in contemporary European transition economies, economists of the World Bank emphasised in 2000 that, in those countries, mostly unemployed and poorly educated people live below the poverty line.[12] The best protection against poverty and social exclusion are working and employment. There is not enough work for all, partly because a segment of the population does not have the necessary knowledge and skills the employers are looking for.[13] There is a proven strong interdependence between poverty and low level of education in Croatia: the poor are largely undereducated or possess only highly specialised skills. If they are employed, they are underpaid, and often unemployed. [8] Nearly 80% of the poor in 2000 came from households in which the head of the family completed only primary education [14], in 2008 68,7%, and another 23,1% from households in which the head of the family completed only secondary vocational education.[12]

Willen, Hendel and Shapiro studied the reduction of wages of the least educated layers of the population on the example of the USA. They determined that the poor segment of the population becomes even poorer when they stay at the same level of education, while the average level of education increases, by which also the wages of the rest of the population. De Gregorio and Lee analysed long time series for a number of countries and proved that a more equitable distribution of educational opportunities of the population over long periods has a great impact on the equitable distribution of income, and hence on poverty reduction.[15]

## **METHODOLOGY**

Poverty can be measured and expressed as absolute and relative poverty. For the measurement of absolute poverty, poverty threshold must be established, which consists of a certain amount of income for daily consumption, while ensuring minimum living standard of the population. This level of income is called the absolute poverty line. Poor people are considered to be living below the established minimum level of real income that is necessary to meet basic needs.

In order for the poverty threshold to be real, it should be established for each country individually based on the price of the consumer basket consisting of food costs (they can be established on the basis of recommendations of nutritionists on daily dietary needs or based on a survey conducted in local households); costs of clothing and footwear; housing and accommodation costs; costs of health care. These calculations are very demanding and international statistics use the international poverty line which amounts 1 or 2 dollars for daily consumption by purchasing power. Since this poverty line is inapplicable in more developed countries with respect to the price level,

international institutions (OUN and the World Bank) use the absolute poverty line for individual regions calculated periodically.

Given the complexity of the calculation of absolute poverty, poverty is generally measured and expressed as relative poverty in statistical publications and scientific and technical research. Relative poverty defines poverty in relation to the national living standard, because relative poverty line is determined as a specific percentage of median or average household income. The official poverty line of the EU is used in this paper, which is defined as 60% of median equivalent national income.

According to the concept of relative poverty, the poor are poor in comparison with other populations and households. Relative poverty does not reflect whether some people are really poor and to what extent, but rather indicates distribution inequality and the „threat of poverty“ to certain population groups. A disadvantage of relative poverty is also reflected in the fact that it is determined based on a survey in which there is always a certain probability that we will obtain inaccurate indicators because respondents, for example, do not have to present all kinds of income they generate on various grounds.

Also, authors in the paper are using simple regression, especially OLS method. In statistics, ordinary least squares (OLS) or linear least squares is a method for estimating the unknown parameters in a linear regression model. This method minimises the sum of squared vertical distances between the observed responses in the dataset and the responses predicted by the linear approximation. The resulting estimator can be expressed by a simple formula, especially in the case of a single regressor on the right-hand side. With the help of the OLS method authors are analysing the impact of GDP on poverty for Croatia and all other EU member states.

## **POVERTY IN THE REPUBLIC OF CROATIA AND THE EUROPEAN UNION**

As previously stated, poverty is a category which is very difficult to define and monitor. However, when it is defined by determining the poverty line as 60% of the median of income of the population, poverty can be measured by measuring the proportion of people who are on the verge of poverty, on the poverty line, or below the line.

The share of people living on the verge of poverty in the total population is the best indicator of the intensity of poverty. Available statistics on the state of poverty of the Croatian population show that the rate of risk of poverty, after social transfers, amounted 20.5% in 2012, while the percentage of people at risk of poverty and social exclusion amounted 32.3%. A large part of the population (15.4%) lives in conditions of severe material deprivation and cannot meet the basic necessities of life that are considered necessary for a dignified life, such as, for example, adequate heating. A large number of the unemployed, but also employees with low income or irregular wages, young people who do not work, a large number of children, the elderly and pensioners, people with disabilities, single-person households occupied by women, single-parent families, marginal groups who are, except for poverty, exposed to various forms of discrimination, and social exclusion of these and other groups and individuals who directly and indirectly enter the circle of the poor, require organised action of all sectors of the society.[11]

Table 1 At risk of poverty rate (cut-off point: 60% of median equivalised income after social transfers) in Republic of Croatia and selected EU countries

GEO/TIME	2005	2008	2012	2012-2005 p.p.	2012-2008 p.p.	Index 2012/2005	index 2012/2008	Croatia 2012 =100	EU 28 2012=100
European Union (28 countries)	-	-	17,0	-	-	-	-	82,93	100,00
European Union (27 countries)	16,4	16,5	16,9	0,5	0,4	103,05	102,42	82,44	99,41
New Member States (12 countries)	18,9	17,3	17,3	-1,6	0,0	91,53	100,00	84,39	101,76
Euro area (17 countries)	15,3	16,0	17,0	1,7	1,0	111,11	106,25	82,93	100,00
Belgium	14,8	14,7	14,8	0,0	0,1	100,00	100,68	72,20	87,06
Bulgaria	14	21,4	21,2	7,2	-0,2	151,43	99,07	103,41	124,71
Czech Republic	10,4	9,0	9,6	-0,8	0,6	92,31	106,67	46,83	56,47
Denmark	11,8	11,8	13,1	1,3	1,3	111,02	111,02	63,90	77,06
Germany	12,2	15,2	16,1	3,9	0,9	131,97	105,92	78,54	94,71
Estonia	18,3	19,5	17,5	-0,8	-2,0	95,63	89,74	85,37	102,94
Greece	19,6	20,1	23,1	3,5	3,0	117,86	114,93	112,68	135,88
Spain	20,1	20,8	22,2	2,1	1,4	110,45	106,73	108,29	130,59
France	13,0	12,5	14,1	1,1	1,6	108,46	112,80	68,78	82,94
Croatia	18	17,3	20,5	2,5	3,2	113,89	118,50	100,00	120,59
Italy	18,9	18,7	19,4	0,5	0,7	102,65	103,74	94,63	114,12
Hungary	13,5	12,4	14,0	0,5	1,6	103,70	112,90	68,29	82,35
Malta	13,9	15,0	15,0	1,1	0,0	107,91	100,00	73,17	88,24
Netherlands	10,7	10,5	10,1	-0,6	-0,4	94,39	96,19	49,27	59,41
Austria	12,3	12,4	14,4	2,1	2,0	117,07	116,13	70,24	84,71
Poland	20,5	16,9	17,1	-3,4	0,2	83,41	101,18	83,41	100,59
Portugal	19,4	18,5	17,9	-1,5	-0,6	92,27	96,76	87,32	105,29
Romania	:	23,4	22,6	-	-0,8	-	96,38	110,24	132,94
Slovenia	12,2	12,3	13,5	1,3	1,2	110,66	109,76	65,85	79,41
Slovakia	13,3	10,9	13,2	-0,1	2,3	99,25	121,10	64,39	77,65
Finland	11,7	13,6	13,2	1,5	-0,4	112,82	97,06	64,39	77,65
Sweden	9,5	12,2	14,2	4,7	2,0	149,47	116,39	69,27	83,53
United Kingdom	19,0	18,7	16,2	-2,8	-2,5	85,26	86,63	79,02	95,29
Norway	11,4	11,4	10,1	-1,3	-1,3	88,60	88,60	49,27	59,41

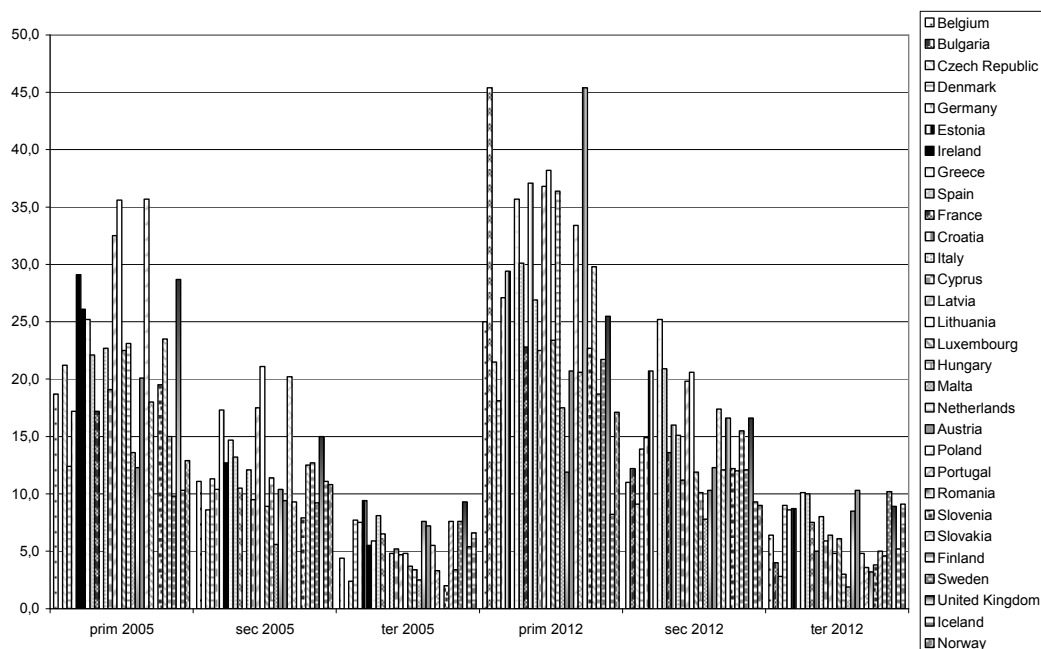
Source: Eurostat 2014 and authors' calculations

In 2012, EU Member States at greatest risk of poverty were Greece (23.1%), Romania (22.6%), Spain (22.2%), Bulgaria (21.2%), and Croatia (20.5%). On the other hand, the Netherlands (10.1%), Norway (10.1%), and the Czech Republic (9.6%) have two times lower risk of poverty. As for the EU Member States, in the period between 2008 and 2012, 15 countries recorded an increase in the risk of poverty, and the greatest increase was that of Croatia (3.2 percentage points). This means that, during this period, the risk of poverty in Croatia increased by 18.5%, which represents the largest increase in the risk of poverty among all EU Member States. Comparison of changes between 2005 and 2012 and 2008-2012 indicates that Croatian population, of all the EU Member States, was affected the most by poverty in the crisis period after 2008. When the risk of poverty in Croatia is compared with the risk of poverty in all 28 EU Member States (EU28=100), Croatian citizens are 20.59% more likely to become poor compared to all other citizens of the European Union.

Taking into consideration the achieved level of education of the population, persons between 18 to 64 years of age who have completed only primary education are at the highest risk of poverty. In 2012, this risk amounted 37.1% in Croatia, and higher risk than in Croatia was recorded in Bulgaria (45.4%), Romania (45.4%), and Lithuania (38.2%). The risk of poverty in Croatia is reduced with completed secondary education and amounts 16%. The greatest risk of poverty with the secondary level of education has the population of Greece (25.2%). Tertiary education significantly reduces the risk

of poverty; therefore, 5% of the population with some form of tertiary education in Croatia is at risk of poverty. The greatest risk of poverty with tertiary education in 2012 was in Austria (10.3%), Sweden (10.2%), Greece (10.1%), and Spain (10%) – the graph is presented below.

Graph 1 At risk of poverty rate (cut-off point: 60% of median equivalised income after social transfers) according to education levels

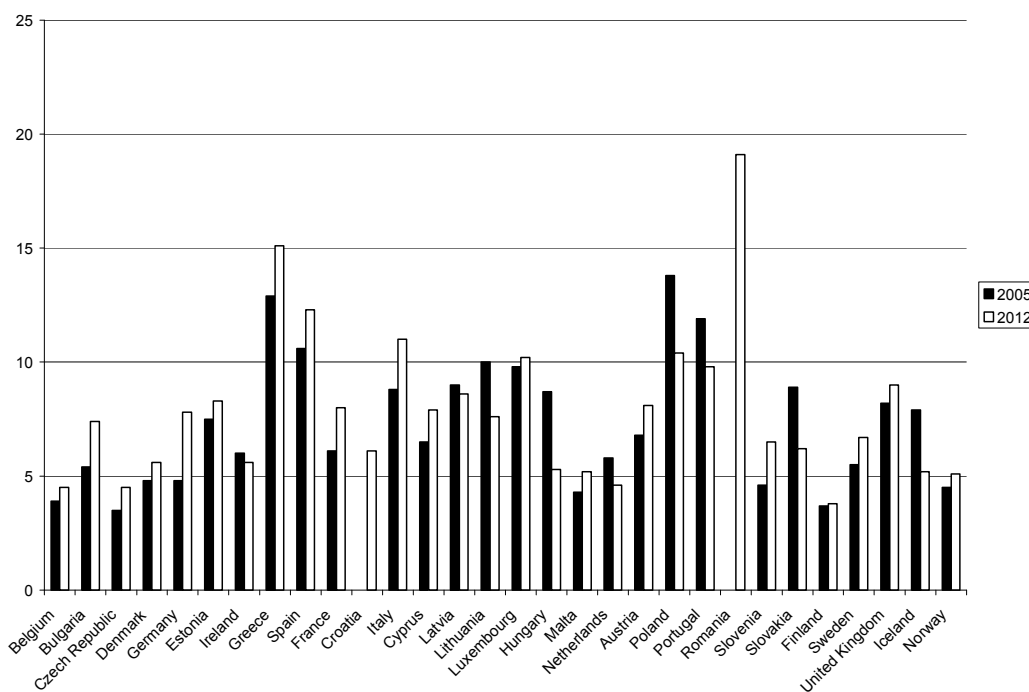


Source: Authors' design according to Eurostat 2014; Remark: prim - Pre-primary, primary and lower secondary education; sec - Upper secondary and post-secondary non-tertiary education; ter - First and second stage of tertiary education

Although employment reduces the rate of poverty risk, employed persons are not fully protected against this phenomenon. In the European Union, employed persons in Romania (19.1%), Greece (15.1%), and Spain (12.3%) are at biggest risk of poverty. In Croatia, the rate of poverty risk of the employed was 6.1%.



Graph 2 The share of persons who are at work and have 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)



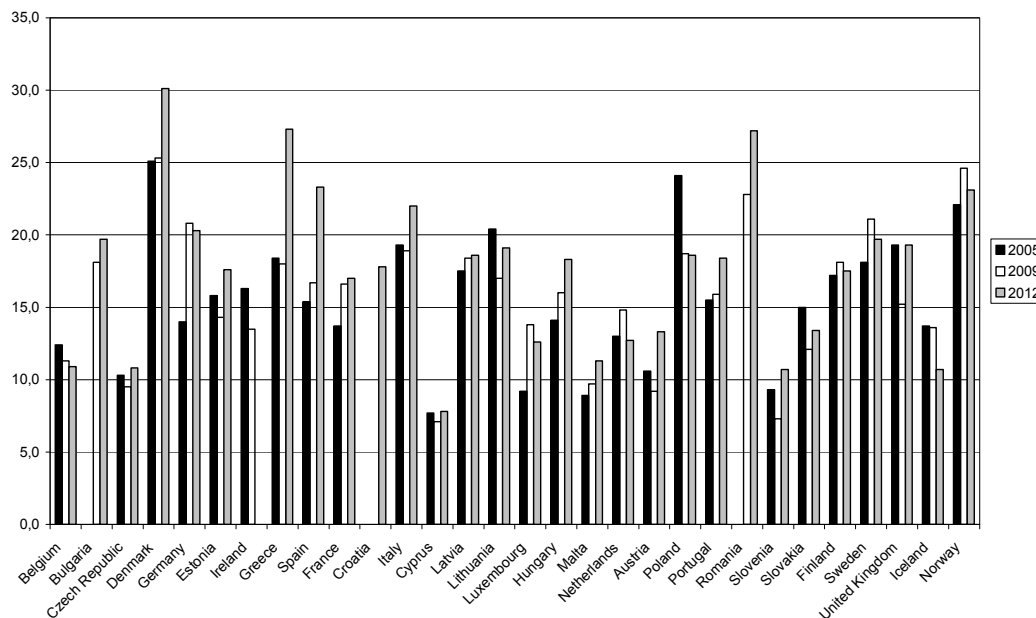
Source: Authors' design according to Eurostat 2014

The rate of poverty risk increases when the population moves from one EU Member State to another. Hence, people who were born outside of Croatia, and moved to Croatia, are at risk of poverty of 28.3%, and within the EU Member States, at the highest risk of poverty for the population born abroad are Spain (49.2%), Greece (4.4%), France (35.4%), and Italy (35.3%). These are also the countries (including Germany) with the highest immigration within the European Union.

The risk of poverty can also be analysed in the context of Europe of regions. In 2012, the population of Sicily was at the highest risk of poverty (42.3%) – two times more than the population of the Republic of Croatia (which makes one region – 20.5%). Prague (6.2%), Burgenland in Austria (5.6%), and Bucharest-IIfov in Romania (2.7%) are at the lowest risk of poverty (four times lower than Croatia).

17.8 % of the young population (from 16 to 29 years) in Croatia has less than 60% of median income and is at high risk of poverty. At the lowest risk of poverty in 2012 was the young population in Cyprus (7.8%), and Slovenia (10.7%).

Graph 3 Young people's at-risk-of-poverty rate (from 16 to 29 years)



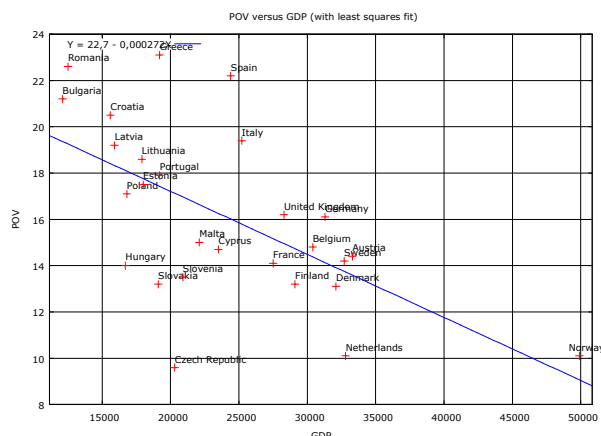
Source: Authors' design according to Eurostat

Below, we analyse the effect of increasing GDP per capita on poverty reduction.

### THE EFFECT OF GDP ON POVERTY TRENDS

Scientific and technical research on poverty indicate that an increase in income can reduce the poverty rate. Some economists argue that there is a strong link between economic growth and poverty reduction.[6] It is believed that an increase in income reduces the poverty rate. For the purposes of the paper, analysis of the influence of income on poverty reduction for all the EU Member States was conducted (including Croatia). In the first step, the point of analysis is cross-section for 2012 (the chart is presented below).

Chart 4 The Effect of GDP on Poverty Risk for EU Member States (n=28)

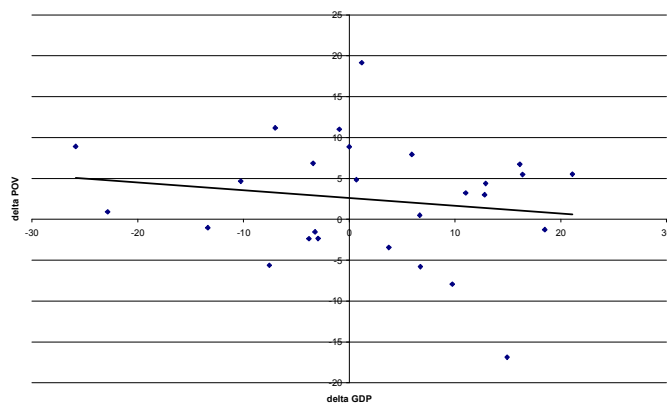


Source: Authors' calculation

The model shows a clear correlation (trend line, determination coefficient 0.360629, correlation coefficient 0.60052) between income and poverty risk. Countries with the highest income have the lowest risk of poverty, and countries with the lowest income per capita the highest. If countries were grouped, Croatia would be placed in a group of countries with Bulgaria, Romania, Greece, and Spain.

The model for time series for the period between 2005 and 2012 analyses the impact of a unit change in GDP (delta GDP) on change in poverty (delta POV) for EU Member States.

Chart 5 The Impact of a Unit Change of BDP on the Risk of Poverty for EU Member States (N=28)



Source: Authors' calculation

The chart and the regression model ( $Y = 3,12803 - 0,265244 * x$ ) for time series between 2005 and 2012 indicate that one per cent increase in GDP per capita reduces the poverty rate by 0.26%.

As stated in the methodology, Eurostat and CBS analyse the rate of material deprivation of the population as an indicator of the quality of life. Material deprivation rate is an

adequate indicator for high-income countries. Specifically, according to data for 2012, Croatia recorded: 9.7% of people living in households that cannot afford adequate heating in the coldest months; 71.1 people living in households that cannot afford one week of vacation away from home for all members of the household; 16.2% of people living in households that cannot afford a meal which contains meat, chicken, fish (or a vegetarian equivalent) every second day; 67.3% of people living in households who cannot meet an unexpected financial expenditure from their own resources; 28.2% of people living in households that were late in paying utility bills in the past 12 months due to financial difficulties, 33.8% of people living in households that have difficulties making the ends meet, 33.0% of people who have minor difficulties making the ends meet (the smallest percentage of people lives in households that make ends meet easily, only 0.3%); 62.0% of people living in households in which total housing costs are a significant financial burden, while only 3.0% live in households in which total housing costs are not a financial burden. The material deprivation rate in Croatia in 2012 amounted to 35.3% [11].

## **CONCLUSION**

The initial hypothesis, that poverty in Croatia is increasing, is verified in the paper. Its increase has been particularly pronounced after 2008 when Croatia had the highest increase in the poverty rate among the EU Member States. According to official statistics, 20.5% people were living at risk of poverty in Croatia in 2012 and material deprivation rate in Croatia in 2012 amounted to 35.3%. This means that almost every third inhabitant is so poor according to this indicator that Croatia could not be classified on a global scale as the high developed country, although it is belonging to high income countries. Research results also shows that people who only completed primary education are at greatest risk of poverty. This is improved by increasing education.

It is argued in the paper that poverty risk rate can be reduced by an increase in income. It was established with an econometric model that the poverty risk rate is reduced by 0.26% when GDP per capita is increased by 1%.

The calculations in this paper are based on the Survey on Household Consumption from 2011, and on EURO-SILC results of survey of the EU population. This is also the biggest disadvantage and a typical limitation in the application of this research methodology based on a survey, because there is always a certain probability that inaccurate indicators will be obtained, because respondents, for example, do not have to express all kinds of income they generate on various grounds.

Further research should be focused on the causes of poverty and establishing additionally the significance of individual indicators of the poverty. This would allow precise identification of specific measures to reduce poverty.

Given that the research proved that the Croatian population has been affected by the crisis more than other EU Member States, because Croatia has had the fastest growth of poverty rate since 2008, for policy makers, it means that the burden of overcoming the crisis must not be constantly transferred to the sector of population.

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