DEVELOPMENT OF POVERTY IN THE CZECH REPUBLIC BETWEEN 2008 AND 2018

Martin Murín

Abstract

Many economists consider poverty to be one of the most urgent problems of the future. There are opinions that modern capitalism has caused an increase in poverty and income inequalities. However, it seems to depend mainly on the angle of vision, whether the authors take a country or broader region approach. Under digital progress, new socio-economic tasks are emerging, and poverty might become even more prominent problem. There is no doubt that one of the crucial factors to reduce poverty is economic growth and how economic growth affects income distribution. This study focuses on the development of poverty and income distribution development in the Czech Republic between two recent economic peaks, specifically between 2008 and 2018. The contribution aims to find how poverty and related income distribution have changed over this period and make a comparison among selected European countries. Results suggest that in the case of Czech poverty it is the lowest among followed countries. However, good performance in terms of overall data is not as satisfying in a more detailed view. Even though female poverty rate in the Czech Republic is the second-lowest, the ratio between female and male in poverty is the highest.

Keywords

Poverty, Income Distribution, Income Inequality, Economic Growth, Czech Republic, European Union

I. Introduction

Poverty is one of the struggling issues of the current world. Even though the world has made massive progress in the last two centuries, there is still a relatively high portion of people living under the most challenging conditions. World Bank (2020) estimates that in 2015 approximately 10% of the world population lived in extreme poverty, which is in comparison with 36% in 1990 significant achievement, but it still counts for 734 million people. The current pandemic of COVID-19, in conjunction with the populist and irresponsible political leadership in many countries, will make things even worse.

Extreme poverty is defined by the World Bank from the monetary perspectives as living with less than 1.90 international $ per day per head. Such conditions are desperate, and from our views, it is almost impossible to imagine it in Europe. We realize that poverty in Europe is different from the rest of the world. Majority of European countries belongs among the wealthiest and most developed counties with social policy tends to help, which has an impact on the low level of extreme poverty. For this reason, we decided to focus on the broader definition of poverty, which can be approximated by the concept of being at risk of poverty or social exclusion. Based on the literature review, this is not the only method to follow poverty but has several advantages like data availability and comparability, and it is relatively easy to track and compute. This indicator combines three features. The first is the monetary approach slightly similar to the method used in the extreme poverty threshold, the second is material deprivation, and the third is living in households with very low work intensity.

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This contribution is more of a descriptive paper rather than the contribution to the worldwide knowledge of poverty. The research interest is to investigate the development of the Czech Republic poverty in recent years, specifically period between two economic peaks 2008 and 2018. As history has taught us, improvements in poverty rates are mainly due to economic growth. Economic growth has been the primary factor for millions to escape monetary and material deprivation. Logically, a positive correlation between poverty rate and economic growth is possible only because of improvements in income distribution. For these reasons, the analytical part of this study focuses not only the poverty but follows indicators of income distribution and economic growth as well. Hence the paper aims to find how poverty and related income distribution have changed in the Czech Republic over the period from 2008 to 2018 and make a comparison among selected European countries.

From the results stem that the Czech poverty rate between 2008 and 2018 could be considered as the lowest one. Macro data shows that the relationship between poverty and economic growth can be regarded as important as well in case of developed countries. There is no evidence that economic growth directly leads to change in income inequality, on the other hand, as Ravallion (2015) or Roser and Ortiz-Ospina (2019) point out, economic growth is necessary but not sufficient condition for poverty to reduce. Czech income inequality measured by the Gini coefficient is not the lowest but belongs among the low ones. Despite the relatively good overall performance in poverty, we found that the ratio between female and male poverty rates is significantly highest. Czech women could be regarded as not so poor in comparison with other countries, but their relative position to men is much different. The average ratio of female to male poverty rate was 1.27 in Czechia and 1.09 in EU-27.

II. What is poverty and how to measure it?

Poverty is a social phenomenon that could be characterized by material and income deprivation. Deprivation can have broader consequences than only social or economic but the political too. For instance, Boone et al. (2018) discussed unequal and injustice distribution of democratic power between the poor and non-poor which can lead the governments to adopt suboptimal measures for the poor. In this vein, Krumer-Nevo (2017) points out that it is not like that poor are quietly; instead, they are not wanted to be heard by the rest what creates a lack of social, hence political, power the poor have.

The question which is used as a name for this section is by Krumer-Nevo (2016) the ontological one. In his literature review, one can find relatively in-depth discussion on the ontogenesis of the academic viewing of poverty. The cultural theory of poverty sees poverty as psychological, moral, behavioral and cultural pathologies or deficit of person. Cultural poverty of Lewis (1966) somehow led to stigmatizing because it allowed portraying poor people as “clients of the welfare state”, as damaged ones. There have been severe criticisms of cultural poverty, which is primarily based on a critic of neoliberalism and paradigm of individualism. This retraction has led to an understanding of poverty to be a more complicated and complex problem. The structural approach is the second ontology. Structural approach perceives poverty as societal inequality and injustice. Krumer-Nevo (2016, p. 4) claims that according to structural approach “poverty is the result of a structure of limited opportunities that are particularly confining for certain groups like women or ethnic minorities” and others. The best way to highlight the difference between these two ontological views is an easily imaginable example. Let’s imagine a poor single mother. From culture poverty perspective one can say that she is single because she is somehow damaged, like her personality is immoral or problematic, or it is a consequence of internalization of family’s norms. On the other hand, the structural approach perceives single

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2 The term "between two economic peaks" is used only for this study and is not mean to be semantical accurate. One should keep in mind that the economic peak in researched countries was not in 2018 but 2019. However, data for 2019 is not available yet for every cross-sectional unit.
mother, for instance, as a result of insufficient supply of men who could become reliable breadwinners in the context of poverty, violence, incarceration and unemployment For all these and more see Edin and Kefalas (2005). The main difference is while the culture of poverty places responsibility on people in poverty, structural approach places it on institutions.

According to Krumer-Nevo (2016), the third approach which answers the ontological question “what is poverty?” is covered by poverty-aware paradigm. Poverty-aware paradigm sees poverty as a violation of human rights. This approach is built upon and extends the structural approach. Krumer-Nevo (2016, p. 5) claims that poverty not only as a lack of material and social capital (e.g., adequate housing, education and health), but also as a lack of symbolic capital, manifested in stigmatization, discrimination, ‘Othering’, lack of voice and ignoring the knowledge of poor people (Krumer-Nevo, 2016, p. 5).

Culture of poverty, structural approach and poverty-aware paradigm are crucial ontological views of poverty. The chosen one is then important for policy and social practice, especially for social work practitioners. Understanding and perceiving of poverty by politicians are consequential for open discussion. If the neoliberal paradigm, individualism or stigmatizations represented by the theory of culture of poverty is predominant, then the society will not call for severe measures, because treating the poverty is not an easy thing do.

Despite the importance of the ontological point of view, for this contribution, it is more in-need to ask not what poverty is but ask how to measure it. In this manner, we mostly rely on Ravallion (2015) and Roser and Ortiz-Ospina (2019). The first decisive thing is to settle whether we are exploring absolute or relative poverty. Absolute poverty means that we set criterion (criteria) with no relative connotation to the region by means of we distinguish whether the household is poor or not. Relative poverty could be characterized as a rule which takes into consideration the living standard in a particular region. Then one can determine whether the household is poor or not. The easiest way to explain the differences between absolute and relative poverty is to look at monetary (income) poverty. Monetary poverty is based on income criterion. World Bank (2020) sets 1.90 international $ per day of a member of the household as a threshold for extreme poverty. World Bank’s extreme poverty is an example of absolute poverty. On the other hand, monetary poverty defines by Eurostat (2018b) as people at risk of monetary poverty is an example of relative poverty. The income threshold definition is 60% of the national median equivalized disposable income after social transfers. If people have their equivalized disposable income (after social transfers) below the threshold, they are considered as being at risk of poverty or relatively poor to the rest of the nation. It is clear that the actual value of the threshold differs between countries, due to the difference in national medians.

Monetary poverty is one of the most useable method to measure mainly because it is relatively easy to follow and compute. Using historical research approach, Bourguignon and Morrisson (2002) were able to estimate income poverty as far back as 1820. They showed that the world had made enormous progress in last 200 years, and all was allowed due to the economic growth, which broke the assumptions of Malthus economy. In 1820 almost 84% of the population live below 1$ per day in comparison with 23.7% in 1992. As Hellebrandt and Mauro (2015) show these positive trends will continue onto the future. They estimated that the world income distribution would be less unequal in 2035 than is today.

However, for such a long span into history like Bourguignon and Morrisson’s (2002) one, the validity of the comparison is at least questionable. In this vein, Roser and Ortiz-Ospina (2019) present some remarkable comments. It is almost impossible to compare these two periods because the different availability of goods and services in time. For instance, their example of an inter-periodic difficulty of comparison is brilliant: “Nathan Rothschild was surely the richest

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3 Measures are computed in PPP $, 1990 = 100.
man in the world when he died in 1836. But the cause of his death was an infection — a condition that can now be treated with antibiotics sold for less than a couple of cents. Today, only the very poorest people in the world would die in the way that the richest man of the 19th century died.” (Roser and Ortiz-Ospina, 2019).

Eurostat (2018a) presents other, but a rather modern, approach to tracking poverty. It is material deprivation. From the methodical point of view, estimating poverty as far back as Bourguignon and Morrisson (2002) seems to be at least challenging if it is even possible. Material deprivation is defined as a state when households cannot afford to pay unexpected expenses, a one-week annual holiday away from home, a meal involving meat, chicken or fish every second day, the adequate heating of dwelling, durable goods like a washing machine, color television, telephone or car, being confronted with payment arrears. The indicator of material deprivation indicates that someone is deprived when she/he could not afford three items. If someone cannot afford four or more things, then she/he is severe material deprived.

Last indicator from the Eurostat (2018c) which is somehow helpful to follow poverty is persons living in households with very low work intensity. It could be characterized as the number of persons living in household where members of working age worked less than 20% of their total potential during the previous 12 mounts (Eurostat, 2018c). This indicator does not directly focus on poverty, but rather on the risk of being at poverty or better risk of being socially excluded. It is because the working income forms a substantial part of the net living income of households.

### Table 1 The dimensions, indicators, deprivation cutoffs, and weights of MPI

<table>
<thead>
<tr>
<th>Dimensions of poverty</th>
<th>Indicator</th>
<th>Deprived if…</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>Nutrition</td>
<td>Any adult under 70 years of age or any child for whom there is nutritional information is undernourished.</td>
<td>1/6</td>
</tr>
<tr>
<td></td>
<td>Child mortality</td>
<td>Any child has died in the family in the five-year period preceding the survey.</td>
<td>1/6</td>
</tr>
<tr>
<td>Education</td>
<td>Years of schooling</td>
<td>No household member aged 10 years or older has completed 6 years of schooling.</td>
<td>1/6</td>
</tr>
<tr>
<td></td>
<td>School attendance</td>
<td>Any school-aged child+ is not attending school up to the age at which he/she would complete class 8.</td>
<td>1/6</td>
</tr>
<tr>
<td>Living standards</td>
<td>Cooking fuel</td>
<td>The household cooks with dung, wood, charcoal or coal.</td>
<td>1/18</td>
</tr>
<tr>
<td></td>
<td>Sanitation</td>
<td>The household’s sanitation facility is not improved (according to SDG guidelines) or it is improved but shared with other households.</td>
<td>1/18</td>
</tr>
<tr>
<td></td>
<td>Drinking water</td>
<td>The household does not have access to improved drinking water (according to SDG guidelines) or safe drinking water is at least a 30-minute walk from home, round trip.</td>
<td>1/18</td>
</tr>
<tr>
<td></td>
<td>Electricity</td>
<td>The household has no electricity</td>
<td>1/18</td>
</tr>
<tr>
<td></td>
<td>Housing</td>
<td>At least one of the three housing materials for roof, walls and floor are inadequate: the floor is of natural materials and/or the roof and/or walls are of natural or rudimentary materials.</td>
<td>1/18</td>
</tr>
<tr>
<td></td>
<td>Assets</td>
<td>The household does not own more than one of these assets: radio, TV, telephone, computer, animal cart, bicycle, motorbike or refrigerator, and does not own a car or truck.</td>
<td>1/18</td>
</tr>
</tbody>
</table>

Source: Alkire and Jahan (2018)

Eurostat’s monetary poverty, material deprivation and persons living in households with very low work intensity are used to compute indicator called people at risk of poverty or social exclusion. This indicator is substantial for this contribution. Nevertheless, we must emphasize other methods. Poverty from its nature is a multidimensional issue, see for instance Ravallion
(2015), Roser and Ortiz-Ospina (2019) or Bader et al. (2016). It means that only the income/expenditure approach could overlook broader aspects of poverty. Some certain goods and services might be affordable, but what if someone does not buy them and instead buy something useless? Income/expenditure in the context of the welfare of a person might not tell the whole story. Therefore, then the multidimensional approach of measuring poverty has in Bader’s et al. (2016) study several dimensions. Education, health and standard of living. Probably the most used indicator is MPI (multidimensional poverty index) which employs Alkire and Foster (2011) method.

Table 1 shows MPI and its dimensions, indicators, deprivation cutoffs, and weights. From the table, it is well seen the multidimensionality of MPI approach to the poverty. Hence, this indicator should be better to track poverty than income/expenditure methods, although, the MPI is not compute for the OECD and EU countries yet.

### III. Poverty in the Czech Republic between 2008 and 2018

This study focuses on the development of poverty and income distribution development in the Czech Republic between two recent economic peaks, specifically between 2008 and 2018. The contribution aims to find how poverty and related income distribution have changed over this period and make a comparison among selected European countries. These countries are Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovenia, Slovakia, Spain, Sweden, United Kingdom plus Iceland, Norway and Switzerland.

For these reasons, we must first decide what poverty is in this study. We know that European countries have a different experience with poverty than Asia, Africa or Latin and South America. It brings as an idea that extreme poverty is not the best indicator for developed countries. Hence then we understand poverty stricter. Eurostat (2020) published indicator called people at risk of poverty or social exclusion which track a person who is below the poverty line at 60% of median equivalized income, or suffers from material deprivation, or lives in a household with low work intensity, or both (for more detailed definitions see the previous section). In the following text, this indicator is used to describe poverty and its percentage of the population is called the poverty rate.

Figure 1 shows the development of the poverty rate in Czechia (short term for the Czech Republic), Slovakia and EU_27, which represents all members of the EU from period 2007 to 2013.

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4 For more detailed information see link https://ophi.org.uk/research/multidimensional-poverty/alkire-foster-method/.
Figure 1 Development of the poverty rate in Czechia, Slovakia and EU-27

![Graph showing poverty rate trends](image)

Source: own elaboration, data retrieved from Eurostat (2020)

From the selected time series, the poverty rate between 2008 and 2018 has a declining trend. However, the economic crisis reflected in the lagged inclining in poverty rates since 2009. In Slovakia and Czechia, 2009 is the year of the most significant economic downturn since separation in 1993. From figure 1, it is seen that the poverty line in Czechia is the smallest. Data for 2018 shows that Czechia’s poverty rate (12.2%) is the lowest among followed countries. The second, Iceland, has a poverty rate at 12.8% and the third, Slovenia, at 16.2%. Worst three economies in 2018 are Bulgaria (32.8%), Romania (32.5%) and Greece (31.8%). Average value for EU_27 is 21.8%.

According to many researchers, for instance, Roser and Ortiz-Ospina (2019) or Hellebrandt and Mauro (2015), the primary measure of improvement in poverty is economic growth. For this reason, we decided to look at the relationship between the change in the real GDP per capita and the change in the poverty rate during the period from 2008 to 2018. Figure 2 shows the results. It seems like a declining relationship, although not very strong because not every country behaved as predating by the estimated line. For instance, Finland recorded a lower GDP per capita in 2018 than 2008, but the poverty rate lowered by 5.2%. The majority of economies grew. Only Cyprus, Finland, Greece and Italy did not, despite these we could not conclude that the poverty line declined in all other countries.
Figure 2 Economic growth and changed in poverty rates in European countries

![Economic growth and poverty rates scatter plot](image)

*Source: own elaboration, data retrieved from Eurostat (2020)*

The scatter plot in figure 2 can be divided into four quarters according to vertical and horizontal lines putting at 0. First quartal represents economies which grew, and the poverty rates fell. Second quartal contains countries which grew too, but the poverty line increased. The third represents countries with negative economic growth and positive change in the poverty rate. Fourth quartal shows economies where the GDP per capita and poverty rates both fell. When we split the graph like this, we see that the distribution is:

\[
(q_1, q_2, q_3, q_4) = (19, 9, 3, 1),
\]

where \(q_i\) stands for quartal \(i = (1, 2, 3, 4)\) in respect with text above. It means that 22 cases are in line with the expectation that economic growth leads to a decrease in poverty and vice versa. On the other hand, 10 cases go against it. Hence, economic growth itself is not the only condition. As Roser and Ortiz-Ospina (2019) economic growth should be accompanied by the appropriate change in income distribution. For that reason, we look at the Gini coefficient and its development during examined period.

Figure 3 presents time series of Gini coefficient in the period from 2008 to 2018. We can see that the Gini coefficient of EU-27 is relatively stable. In Czechia, the only a modest decline since 2016 is marked. Slovakia seems to be different because its Gini coefficient is more volatile than the other two, and we might say it has been declined since 2016. From these three cross-sectional units, Slovakia has the lowest income inequality measured by the Gini coefficient. If one look at the dataset, he could see that the Slovak Gini coefficient in 2018 is the smallest one among all examined countries. It was 20.9. The second smallest were in Slovenia (23.4) and the third in Czechia (24). The highest Gini coefficient was in Bulgaria, it reached 39.6. Second highest was obtained in Lithuania (36.9) and the third highest was the Latvia’s one (35.6).
We detect that some countries with relatively high poverty rate were seen to have relative high Gini coefficient in 2018, namely Bulgaria, Romania or Latvia. On the other hand, some countries whose poverty rates performed best had relatively small Gini coefficients. Hence, for that reason, we had decided to look at the relationship between the poverty rate and the Gini coefficient. We calculated averages of both in the period from 2008 and 2018. The result can be seen in figure 4.

The automatically estimated smoothing line of figure 4 is almost linear and increasing. It means that for nearly all cases apply that the higher poverty rate, the higher income inequality measured by the Gini coefficient. On the other hand, countries like Croatia, Hungary, Romania or Iceland seem to be slight outliers. For instance, if one looks at Croatian and Hungarian levels of poverty rate, if the relationship held perfectly, their Gini coefficient should place somewhere between Italy and Lithuania.
We were curious how is the Gini coefficient associated with the economic growth in our sample. We know that economic growth is the most influential determinant for poverty rates to decline. However, economic growth should lead to a decrease in income inequality to the previous statement holds. Figure 5 presents the scatter plot of the changes in real GDP per capita and the changes in Gini coefficient both in the period from 2008 and 2018. Figure 5 suggests no relationship between these two variables. As we already know from figure 2 only 4 economics decreased their GDP per capita between 2008 and 2018. Nevertheless, 12 economies increased their income inequalities.
Figure 5 Economic growth and change in Gini coefficient in European countries

![Figure 5](image)

Source: own elaboration, data retrieved from Eurostat (2020)

Figure 5 can be divided into four quadrants, like figure 2. First-quadrant represents cases when GDP per capita change was positive, and the Gini coefficient declined. Second-quadrant presents all countries with increased both GDP per capita and Gini coefficient. The third shows only Cyprus and Italy, therefore economies where economic growth had a negative trend, and the Gini coefficient increased. Last, the fourth quadrant represents all cases with declined GDP per capita and decreased Gini coefficient. Distribution among all quadrants is:

\[(q_1, q_2, q_3, q_4) = (18, 10, 2, 2),\]  

Macro data could help us to reveal some major information about poverty in the economy, but this approach can be very misleading. For instance, Jahoda and Sirovátka (2019) examine in-work poverty in the Czech Republic and they show, that despite the low global in-work poverty rate, the partial results might not be so satisfying. In this introductory study, we decided to look at only one of the considering microdata, and it is the gender.

In global, Czech females’ poverty rate in 2018 is the second lowest among examined countries. The same result we get, when we look at the averages. Czech female’s poverty rate is 15.8% on average. The European average is 24.6%. The highest rate is in Bulgaria (45.3%). It seems like the country rank follows a similar pattern like the macro poverty rate.

We find a considerable difference when we look at the ratio between female and male poverty rates. Figure 6 shows the scatter plot of average female to male ratio and average poverty rate. The Czech position in figure 6 is evident. Despite the low average poverty rate, the ratio of female to male poverty rates is highest among all countries. When we explored the differences between 2008 and 2018 ratios, we found that the Czech ratio increased mostly. It can be seen in figure 7. The over the time change in the Czech poverty rate is not the best.
Slovakia, Romania, Bulgaria, Hungary and Poland decreased their poverty rates more than the Czech Republic. In eleven countries, the relative position of females got worse, and only in Sweden, it was accompanied by an increase in the poverty rate. Other ten countries had a higher poverty rate in 2018 than in 2008. We see that twenty-one cases improved relative position of females to males in term of poverty rates. However, we are not able to conclude that it was due to the change in global poverty. Eleven of them achieved a lower poverty rate and ten the opposite. Change in the ratio of female to male poverty rates is not influenced by the change in the poverty rate of whole population in the country.

Data reviled that the position of Czech women is very good in international comparison. However, in term of relative position within-country population, it gains the worst rank almost every year. Only in 2014, the ratio was higher in Switzerland and in 2016, which is the year with the lowest Czech value, Norway and Estonia overcame the Czech. Since 2016 the increase in the ratio is skyrocket. It goes from 1.22 in 2016 to 1.43 in 2018.\(^5\)

When we see the outlying Czech position among all followed countries in the vein of the relative state between women and men poverty rate and its development in the period between two economic peaks, it quickly becomes a topic for the next study. From research perspectives, it is crucial to explain why it has occurred. We know that thinks like real GDP per capita, economic growth and development of the poverty rate itself is not able to explain these differences. We believe that institutions (social and political) play the main importance here. Hence then, we need to test and verified it within our future study.

\(^5\) In 2019 the ratio was 1.40 based on data from Eurostat (2020). However, we do not incorporate 2019 into the analysis because data are not available for every cross-sectional unit.
IV. Conclusion

Poverty is one of the most challenging socio-economical problems of the modern world. Even though tremendous progress made historically, there are millions of people who could be considered as a poor one. We focus on poverty development in the Czech Republic in comparison with European countries during the period between 2008 and 2018. These countries have a different experience with poverty than for instance Asian or African countries. For that reason, we defined poverty stricter than the World Bank (2020) does. In this paper, the poverty could be characterized by the indicator at-risk-of-poverty or social exclusion. As it was mentioned several times, this paper is mainly the descriptive one and has no direct aspiration to shed more light on poverty knowledge. On the other hand, a simple descriptive analysis shows some remarkable facts, which are useful for its future study.

We showed that the overall Czech poverty rate is one of the lowest. There is a positive relationship between economic growth and poverty rate. However, the effect of economic growth on income inequality seems to be ambiguous among followed countries. However, the Czech Gini coefficient is still one of the lowest. When we look at the position of females, we discovered that Czech females are at a shallow level of poverty rate in comparison with almost all examined countries. Czech females' poverty rate was 15.8% on average. The European average was 24.6%. The highest average percentage of females in poverty was in Bulgaria (45.3%). However, when we look at the ratio of females' poverty rate to the males' poverty rate, we discovered that the ratio is outlying in the Czech Republic in comparison with every other country. The average ratio of female to male poverty rate was 1.27 in the Czech Republic and 1.09 in EU-27. Hence then, in the future, we must attempt to explain these differences and try to answer the question, why is the relative state of females to males so different in the Czech Republic in comparison with other European countries.
References


