

SOCIAL TRANSFER EFFECTIVENESS BEFORE AND AFTER CRISIS REGARDING GENDER – CASE OF CEE REGION

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Abstract

The advent of the crisis urged on the need for structural reforms of the current welfare state in the CEE region – especially as for pensions hand in hand with the country's fiscal consolidation. The future development of poverty is now burdened with serious downgrade risks, especially in case of women. The aim is to indentify the main changes of the social transfer effectiveness before and after the crisis (in the years 2008 and 2012) in the CEE region with a special regard to the gender issue. The descriptive analysis is based mainly on the EU-SILC surveys using MS Excel statistical applications. The results shows that the poverty has generally become more severe since the beginning of the crisis. The effects of the pension system in reducing female poverty became even more important. The major challenge is to monitor and anticipate the impacts of the planned pension reform on women.

Key words: effectiveness, social transfers, gender, crisis

1. INTRODUCTION

The advent of the crisis urged on the need for structural reforms of the current welfare state in the CEE¹ region – especially as for pensions hand in hand with the country's fiscal consolidation. The future development of poverty is now burdened with serious downgrade risks. The special focus should be made on females as a one of the most vulnerable groups in the society which are in the highest risk of being threaten by the future development.

The question of the effectiveness of the social transfer system is now important more than ever. For a good setting of countries' economic policy in the future, it is necessary to capture the recent trends and development. As a base of comparison, the authors use the countries from the CEE region because of their social system similarities. The paper deals with the problem of extent and intensity of poverty measured by the Europe 2020 at-risk-of-poverty rate and the Eurostat poverty gap.

The aim of the paper is to indentify the main changes of the social transfer effectiveness before and after the crisis (in the years 2008 and 2012) in the CEE region with a special regard to the gender issue. The descriptive analysis is based mainly on the EU-SILC surveys and follows existing research results in particular from the 2008 and 2012 using MS Excel statistical applications.

2. SOCIAL TRANSFER EFFECTIVENESS

Firstly, the distinction between the effectiveness and efficiency of the transfer system is needed. European Commission (ECOFIN, 2007, p. 26) defines these notions as follows: *“Regarding redistribution, effectiveness of social spending can be defined by the degrese to which the realized allocation approaches the socially desired outcome. For example, a social objective could be to reduce the risk of poverty (defined by some income threshold). If the market allocation without government intervention leaves 30% of the population at risk of poverty, effectiveness is measured by the extent to which government intervention reduces the poverty risk. Efficiency can be defined by the*

¹ The authors uses the term CEE in accordance with the OECD definition (OECD, 2014) including Bulgaria, Croatia, the Czech Republic, Hungary, Poland, Romania, the Slovak Republic, Slovenia, and the three Baltic States: Estonia, Latvia and Lithuania. Albania is the only omitted country because of the lack of comparable data.

amount of foregone resources by moving towards the desired allocation. Social spending is more efficient if less resources are used for a given change, or if, for a given level of foregone resources, the economy moves closer to the desired allocation.”² The analysis in this paper will be concentrated only on the effectiveness as a poverty elimination effect of social transfers neglecting the efficiency issue.

2.1 Extent of poverty

The effectiveness of social transfers can be measured by comparing the risk of poverty rate before social transfers and after them. We find out the proportion of people elevated above the poverty line thanks to the social transfers – the changes in the extent of poverty. Because the largest item of social transfers are the pensions, we monitor the effectiveness of transfers both including and excluding pensions. The most positive values (poverty is understood as a negative phenomenon) are highlighted. The Table 1 shows the Eurostat data for the female population from the year 2008 before the start of the latest crisis and the latest complete available data from the year 2012.

Between 2008 and 2012 the average poverty before social transfers (if we understand pensions as a social transfer) increased (from 13.7 to 45.5) while the standard deviation decreased significantly (from 4.8 to 4.1). At the same time, the poverty after social transfers decreased (from 18.4 to 17.6) which was accompanied by the decrease of the standard deviation (from 5.9 to 4.1). These results are also very well visible on the development of the coefficient of variation. The results for the total population have the same tendency but the changes in results are not so significant. The role of the pension system in reducing poverty became even more important in case of women.

Females	2008			2012		
	Poverty before social transfers*	Poverty before social transfers**	Poverty after social transfers	Poverty before social transfers*	Poverty before social transfers**	Poverty after social transfers
Bulgaria	41.2	28.5	22.9	43.7	27.5	22.8
Czech Republic	40.8	21.2	10.1	41.4	18.6	10.5
Estonia	39.4	27.2	22.0	42.9	25.3	18.1
Croatia	46.3	27.1	19.0	47.4	30.9	21.6
Latvia	40.1	32.2	28.1	46.6	25.4	19.1
Lithuania	41.0	28.8	22.0	47.1	28.3	19.0
Hungary	54.2	29.7	12.4	51.7	26.8	13.9
Poland	46.2	24.8	16.7	44.4	22.8	17.1
Romania	49.6	31.6	24.3	50.9	28.4	23.2
Slovenia	41.1	24.5	13.6	44.4	26.2	14.6
Slovakia	40.7	18.9	11.5	40.5	19.8	13.3
Average	43.7	26.8	18.4	45.5	25.5	17.6
Standard deviation	4.8	4.1	5.9	3.6	3.7	4.1
Coeff. of variation	0.1	0.2	0.3	0.1	0.1	0.2

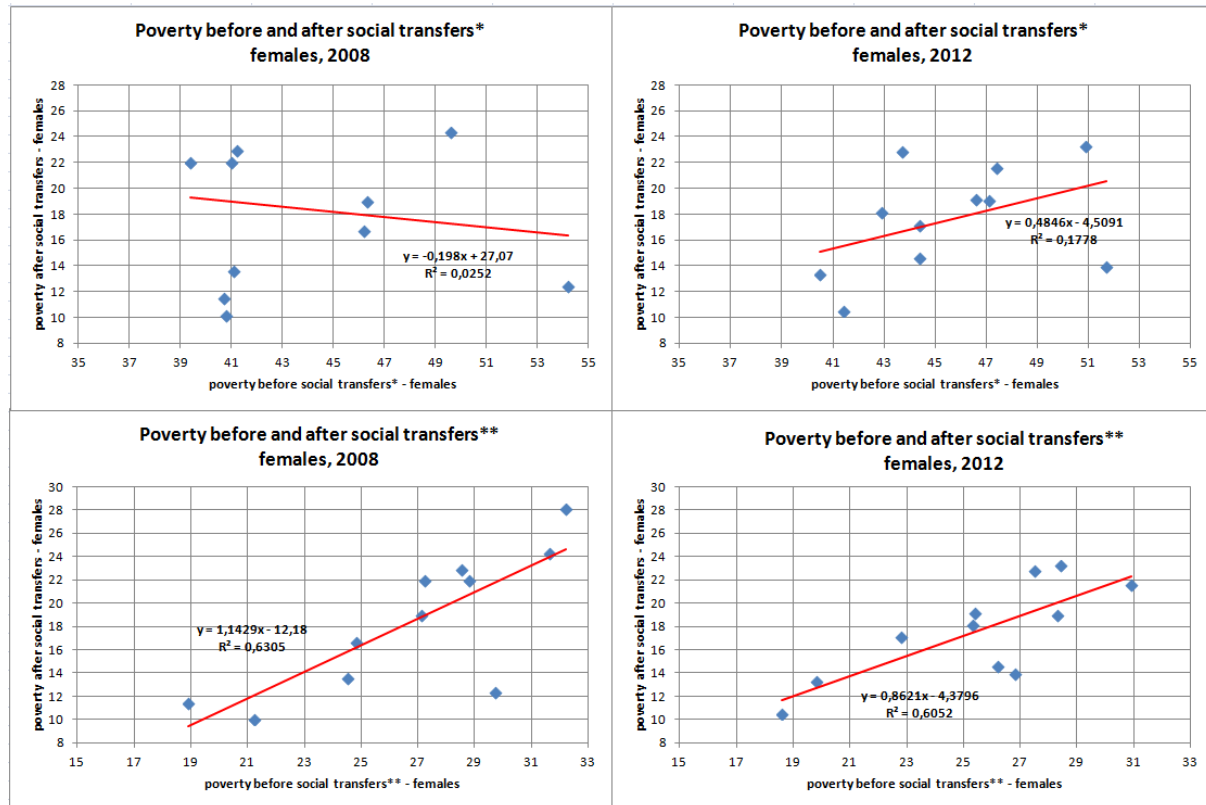
Table 1: At-risk-of-poverty rate before and after social transfers (%), Females, 2008 and 2012

Source: Eurostat, 2014; author's calculations

*pensions are included in social transfers, **pensions are excluded from social transfers

² Herrmann and col. (2009)

The Graph 1 shows the data on poverty before and after social transfer from the Table 1 in the form of a simple scatter-plot. Taking into account the role of the pension system, the poverty measures moved from negative to positive correlation between 2008 and 2012 but practically without fitting a model ($R^2=0,18$). The correlation of the poverty measures excluding pension from social transfers decreased in 2012 compared to 2008 hand in hand with the decrease of the coefficient of determination which is still higher than in case of the total population (0.6 in 2012).



Graph 1: At-risk-of-poverty rate before and after social transfers (%), Females, 2008 and 2012

Source: Eurostat, 2014; author's calculations

*pensions are included in social transfers, **pensions are excluded from social transfers

The Table 2 and the Table 3 compare different ways of calculating the poverty elimination in 2008 and in 2012. Firstly, we use the models from the Graph 1 to predict the poverty rate (poverty before social transfers predicts poverty after social transfers) and then we calculate residuals to measure how far the real value is away from the predicted value. This method was used for example by Herrmann and col. (2008) where it was proven as more accurate method to measure the effectiveness of the poverty reduction than the European Commission's standard methods. Poverty is a negative phenomenon, thus the residuals are reversed in this case. The Table 2 and the Tabel 3 present also the European Commission's methods reporting the simple difference before and after social tranfers rate (poverty elimination in absolute terms) and percentage change of these two rates (poverty elimination in relative terms).

From the results presented in the Table 2 and the Table 3 we can conclude that the effectiveness of the social benefits in the elimination of poverty risk in case of women is relatively high. The effect of the social transfers (included pensions) in 2008 ranged from 29.9 % (Latvia) to 75.2 % (the Czech Republic). In 2012, the effect was even stronger – the rates ranged from 47.8 % (Bulgaria) to 74.6 % (the Czech Republic), which confirms conclusions about the increasing importance of the pension system in reducing poverty. The role of the pension system in reducing poverty is more important than before the crisis.

Females	Pensions included in social transfers				Pensions excluded from social transfers			
	Predicted value (%)	Residual*	Poverty elimination		Predicted value (%)	Residual*	Poverty elimination	
			Absolute	Relative (%)			Absolute	Relative (%)
2008								
Bulgaria	18.9	-4.0	18.3	44.4	20.4	-2.5	5.6	19.6
Czech Republic	19.0	8.9	30.7	75.2	12.0	1.9	11.1	52.4
Estonia	19.3	-2.7	17.4	44.2	18.9	-3.1	5.2	19.1
Croatia	17.9	-1.1	27.3	59.0	18.8	-0.2	8.1	29.9
Latvia	19.1	-9.0	12.0	29.9	24.6	-3.5	4.1	12.7
Lithuania	19.0	-3.0	19.0	46.3	20.7	-1.3	6.8	23.6
Hungary	16.3	3.9	41.8	77.1	21.8	9.4	17.3	58.2
Poland	17.9	1.2	29.5	63.9	16.2	-0.5	8.1	32.7
Romania	17.2	-7.1	25.3	51.0	23.9	-0.4	7.3	23.1
Slovenia	18.9	5.3	27.5	66.9	15.8	2.2	10.9	44.5
Slovakia	19.0	7.5	29.2	71.7	9.4	-2.1	7.4	39.2
Average	18.4	0.0	25.3	57.2	18.4	0.0	8.4	32.3
St. deviation	0.9	-5.9	8.2	15.2	4.7	-3.6	3.7	14.7

Table 2: Poverty elimination, females, 2008

Source: Eurostat, 2014; author's calculations

* Poverty is a negative phenomenon, thus the residuals are reversed

When we exclude pensions from the social transfers, the results in 2008 varies from 12.7 % (Latvia) to 58.2 % (Hungary) and in 2012 from 17.1 % (Bulgaria) to 48.1 % (Hungary). After the crisis, it is not the Czech Republic but Hungary that has the most effective social transfers among the mentioned CEE countries in terms of reducing the extent of poverty studied in this paper.

In general, when we focus our attention on the social system including the pensions, the effectiveness of the social benefits in the elimination of poverty risk increased both in relative and absolute terms. Excluding the pensions, average poverty reduction rate (absolute and relative) decreased hand in hand with the decrease of the standard deviation.

Females	Pensions included in social transfers				Pensions excluded form social transfers			
	Predicted value (%)	Residual*	Poverty elimination		Predicted value (%)	Residual*	Poverty elimination	
			Absolute	Relative (%)			Absolute	Relative (%)
2012								
Bulgaria	16.7	-6.1	20.9	47.8	19.3	-3.5	4.7	17.1
Czech Republic	15.6	5.1	30.9	74.6	11.7	1.2	8.1	43.5
Estonia	16.3	-1.8	24.8	57.8	17.4	-0.7	7.2	28.5
Croatia	18.5	-3.1	25.8	54.4	22.3	0.7	9.3	30.1
Latvia	18.1	-1.0	27.5	59.0	17.5	-1.6	6.3	24.8
Lithuania	18.3	-0.7	28.1	59.7	20.0	1.0	9.3	32.9
Hungary	20.5	6.6	37.8	73.1	18.7	4.8	12.9	48.1
Poland	17.0	-0.1	27.3	61.5	15.3	-1.8	5.7	25.0
Romania	20.2	-3.0	27.7	54.4	20.1	-3.1	5.2	18.3
Slovenia	17.0	2.4	29.8	67.1	18.2	3.6	11.6	44.3
Slovakia	15.1	1.8	27.2	67.2	12.7	-0.6	6.5	32.8
Average	17.6	0.0	28.0	61.5	17.6	0.0	7.9	31.4
St. deviation	1.7	-3.7	4.2	8.3	3.2	-2.6	2.6	10.3

Table 3: Poverty elimination, females, 2012

Source: Eurostat, 2014; author's calculations

* Poverty is a negative phenomenon, thus the residuals are reversed

2.2 Intensity of poverty

To calculate the effectiveness of the social transfers, it is not sufficient to look only on the extent of the poverty phenomenon (limited in this paper to the Europe 2020 at-risk-of-poverty rate) but also on the intensity of poverty. We focus on the widely used poverty gap indicator which highlights the depth of poverty („how poor are the poor ones“). Poverty gaps are measured as the percentage difference between the average income of the poor and the poverty threshold. In this paper, the poverty threshold is set as the 60 % of median income which means the same threshold as for the Europe 2020 at-risk-of-poverty rate. As Eurostat does not publish the data for male and female population separately, we have to look at the data for the whole population.

Regarding the Table 4 we can conclude that the poverty has generally become more severe since the crisis. The increase of the indicator is visible in the majority of the CEE countries, especially strong increase was in Hungary. Lithuania is the only country where there have been the notable fall in the poverty gap between 2008 and 2012.

In 2008, the country with the least intense poverty (the lowest poverty gap) was Hungary, altered by Slovenia in 2012. The best country in reducing poverty intensity was Lithuania.

	Poverty gap (%)		Poverty elimination	
	2008	2012	Absolute	Relative (%)
Bulgaria	29.8	34.6	-4.8	-16.1
Czech Republic	20.0	21.2	-1.2	-6.0
Estonia	26.5	29.9	-3.4	-12.8
Croatia*	28.3	31.3	-3.0	-10.6
Latvia	29.5	32.1	-2.6	-8.8
Lithuania	30.6	26.6	4.0	13.1
Hungary	18.1	21.7	-3.6	-19.9
Poland	21.6	23.8	-2.2	-10.2
Romania	32.6	33.3	-0.7	-2.1
Slovenia	19.8	19.5	0.3	1.5
Slovakia	19.3	21.4	-2.1	-10.9

Table 4: Relative median at-risk-of-poverty risk gap (% , people 16-64 years), 2008 and 2012

Source: Eurostat, 2014; author's calculations

* Data from the years 2010 and 2012

The increase of the intensity of poverty can be confirmed by the data on the dispersion around the different at-risk-of-poverty thresholds (Table 5). In the female population, a significant increase between 2008 and 2012 was in the group with an equivalised disposable income below 40 % of the median. This was accompanied by the decrease of the standard deviation. This suggests that within the population under the at-risk-of-poverty threshold, more people have dropped to the bottom of the income distribution since the beginning of the crisis.³

It is also interesting to look at the 70 % threshold which is above the official poverty line. The average poverty rate increased in this case from 25.0 % in 2008 to 25.9 % in 2012 with the decrease of the standard deviation from 6.6 to 4.3. It also indicates the overall shift of the part of the female population closer to the poverty line. This is not visible from the poverty gap, which Eurostat calculates for the total population.

³ This situation is worse than in 2011 and negative effect will probably continue to influence the results even in 2014 (European Commission, 2012)

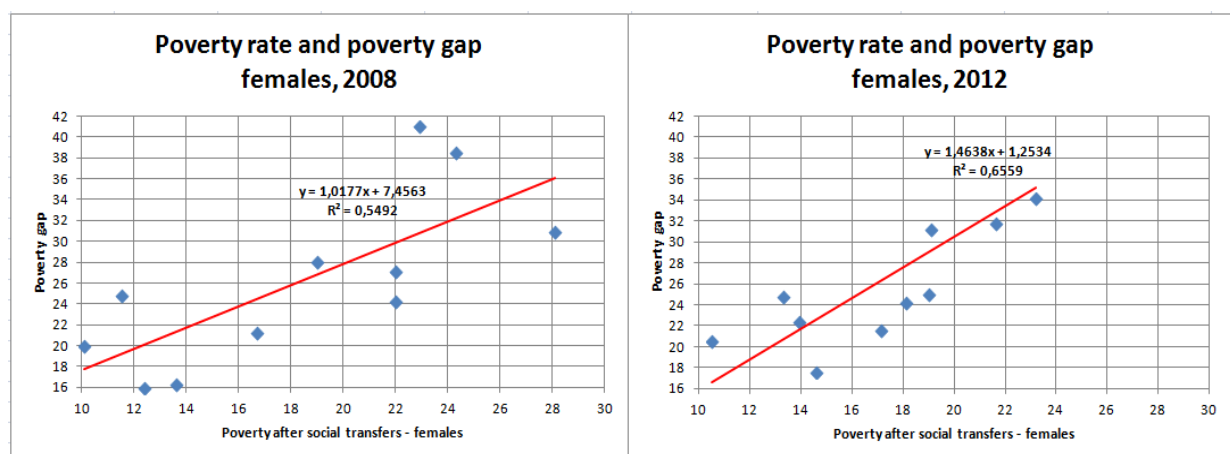
Females	2008				2012			
	40%	50%	60%	70%	40%	50%	60%	70%
Bulgaria	8.6	15.6	22.9	30.4	10.5	16.3	22.8	30.3
Czech Republic	2.2	4.7	10.1	18.8	2.8	5.4	10.5	18.8
Estonia	5.4	12.4	22.0	30.5	6.2	10.4	18.1	29.0
Croatia*	3.0	6.0	19.0	14.0	9.0	14.2	21.6	28.3
Latvia	12.1	20.8	28.1	34.2	7.4	12.8	19.1	29.5
Lithuania	7.0	14.8	22.0	29.7	6.4	11.0	19.0	28.6
Hungary	2.6	6.3	12.4	20.4	3.5	8.0	13.9	21.7
Poland	4.9	10.0	16.7	25.3	5.1	10.2	17.1	25.2
Romania	11.4	17.2	24.3	31.1	10.7	16.8	23.2	30.7
Slovenia	3.1	7.4	13.6	20.4	3.0	7.8	14.6	21.9
Slovakia	3.0	5.7	11.5	19.7	4.2	7.9	13.3	21.2
Average	5.8	11.0	18.4	25.0	6.3	11.0	17.6	25.9
St. deviation	3.6	5.5	5.9	6.6	2.9	3.7	4.1	4.3
Coeff. of variation	0.6	0.5	0.3	0.3	0.5	0.3	0.2	0.2

Table 5: At-risk-of-poverty rate after social transfers by poverty threshold (% median equivalised income) – females

Source: Eurostat, 2014; author's calculations

* Data from the years 2010 and 2012

Looking again on the standard 60 % threshold, the indicators of the extent of poverty and the intensity of poverty became more positively correlated in 2012 than before the crisis. The fit of the model in 2012 is higher, explaining about 66 % of variations in poverty gap (compared to 55 % in 2008).



Graph 4: At-risk-of-poverty rate (%) and relative median at-risk-of-poverty risk gap (%), females, 2008 and 2012

Source: Eurostat, 2014; author's calculations

3. CONCLUSION

The authors tried to deal with the social transfers effectiveness in terms of reducing poverty with the special stress to the gender and the CEE region. Comparing the social transfer effectiveness within the CEE region before and after the crises reveals some important facts.

The effectiveness of the social transfers in the elimination of poverty risk in case of women stayed relatively high even after the crisis. But – more women have dropped to the bottom of the income distribution since the beginning of the crisis. We can see the overall shift of the part of the female population closer to the poverty line. In general, the results show that the poverty has generally become more severe since the beginning of the crisis. In countries with a very good poverty results (the at-risk-of poverty rate under the EU28 average), it is the pension system which contributes significantly to the results in terms of relative poverty. The effects of the pension system in reducing female poverty became even more important.

The CEE region is now undergoing fundamental changes towards the modern welfare. Structural reforms, especially the reforms of pension, and the austerity measures present the serious threat for the one of the most vulnerable groups in the society – females. The major challenge is to monitor, carefully, and if possible all the related changes and their impacts on the women issue. This should go hand in hand with the prevention of the negative consequences in time through the social policy.

REFERENCES

- Czech Statistical Office (Český statistický úřad, ČSÚ), *Příjmy a životní podmínky domácností 2005-2012*, SILC, cit. 2014-06-15, available from: <http://www.czso.cz/csu/2013edicniplan.nsf/publ/3012-13-r_2013>
- European Commission: *Employment and Social Developments in Europe 2012*, Luxembourg: Publications Office of the European Union, 2012, 469 pp., ISBN 978-92-79-27159-5, cit. 2014-07-05, available from: <<http://ec.europa.eu/social/main.jsp?catId=738&langId=cs&pubId=7315>>
- Eurostat: *At-risk-of-poverty after social transfers*, cit. 2014-06-12, available from: <<http://epp.eurostat.ec.europa.eu/tgm/refreshTableAction.do?tab=table&plugin=0&pcode=tsdsc350&language=en>>
- Eurostat: *At-risk-of-poverty rate before social transfers (pensions included in social transfers) by poverty threshold, age and sex*, cit. 2014-06-15, available from: <http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=ilc_li09&lang=en>
- Eurostat: *At-risk-of-poverty rate by poverty threshold, age and gender*, SILC, cit. 2014-07-03, available from: <http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=ilc_li02&lang=en>
- Eurostat: *Relative median at-risk-of-poverty risk gap*, cit. 2014-06-12, available from: <http://epp.eurostat.ec.europa.eu/portal/page/portal/product_details/dataset?p_product_code=TESOV016>
- Herrmann, Peter; Tausch, Arno; Heshmati, Almas; Bajalan, Chemen S. J.: Efficiency and Effectiveness of Social Spending, May 2008, Discussion Paper No. 3482, published in: *Wirtschaft und Gesellschaft*, 2009, 35(1), 13-43, cit. 2014-06-05, available from: <http://www.iza.org/en/webcontent/publications/papers/viewAbstract?dp_id=3482>
- OECD, *Glossary of statistical terms*, 2014, cit. 2014-07-03, available from: <<http://stats.oecd.org/glossary/detail.asp?ID=303>>