

THE IMPACT OF SOCIAL TRANSFERS IN REDUCING INCOME INEQUALITY IN NORTH MACEDONIA

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Abstract: Social transfers as part of the social protection programs of the countries permanently experience rise as part of the governments expenditures, even though differ in volume and structure. One the main reason behind the rise of social transfers or expenditures is that through them countries tackle the problem with income inequality, enable more equal income distribution and stifle poverty. However, the aim of this paper is to examine and analyze the impact of social transfers in reducing income inequality in North Macedonia. Consequently, North Macedonia continuously has increased the public expenditures on social transfers, even though the main portion is reserved for pensions, in the last years it is noticed an increase in the other social transfers, such as the social assistance and the adoption of guaranteed minimum income scheme. On the other hand, North Macedonia is one of countries that have registered considerable high income inequality through the years, but there are positive results experienced in the last years in reduction of income inequality. The findings of our study confirmed the impact of the social transfers in reducing income inequality in North Macedonia and proof the inverse relationship. Respectively, the increase in social transfers contributes in reducing income inequality. Hereby, social transfers ought to be one of the policies that the country may enforce in the future for further reduction of income inequality and to ensure fairer redistribution of the income.

Keywords: social transfers, income inequality, social assistance, North Macedonia, Gini Index

1. INTRODUCTION

The rate of income inequality have been constantly high in emerging and developing economies, being an ongoing challenge for the policymakers and governments of the respective countries. In general, social protection expenditures, respectively, the social transfers have been considered as one of the mechanisms that plays a crucial role in the struggle of reducing income inequality. Likewise, social transfers might impact income inequality in two ways: 1) by having a direct effect on disposable income inequality through benefits and taxes and 2) through the effect on market income inequality, for instance, altering the incentives in the labour market for working and investing (D'Agostino et al., 2020). Hereby, countries have continuously widened their social protection system and in meantime, increased the expenditures for social transfers aiming to reduce income inequality, alleviate poverty and enable better income redistribution.

North Macedonia, the country that is in the focus of our study, belongs to the group of the countries that have constantly increased the social expenditures in parallel with the increase of government expenditures. In meantime, the country have enriched and undertaken several reforms of the social protection system through the years. For instance, the expenditures for social programs in North Macedonia is around 12 %, even higher than the Western Balkans average (9-10%), but lower than the Baltic regions (13-14%) and far below the EU-27 average (24-25%). Hence, despite the permanent increase of social expenditures, they are still in lower levels. Mainly, as a result of the not so much stronger economic base and growth, respectively the limited economic capacity for increasing investment and expenditure in social programs.

According to a recent study of IBRD (2022) on the social protection analysis of North Macedonia, social protection programs cover more than 50 percent of the population, with 40 percent of the population receiving support from social insurance, close to 14 percent from social assistance, and finally, 2 percent participating in labor market programs. Furthermore, the country expenditure on social insurance is higher than the Western Balkans average (9.9 % of GDP as compared to the average of 8.5 %), but the expenditure on social assistance despite the constant increase is still below the region average (1.3 % compared to 2.1 %) and even lower than the low income countries average which accounts for 1.47 % of GDP. On the other hand, the country through its history have experienced constantly high income inequality, with exception of the last years where it is witnessed a constant decrease in income inequality starting from 2016 and onwards.

The witnessed permanent increase in public expenditures on social transfers and the noted decrease in income inequality in recent years, are the phenomena that rely behind our initiative to study and examine the impact of social transfers in reducing income inequality in North Macedonia. For this purpose, two research objectives are set in this study: 1) to investigate the impact of social transfers in reducing income inequality in North Macedonia and examine their correlation; and 2) to enrich the existing literature and available research on social transfers and income inequality with a recent study. Likewise, the following research questions are addressed: a) How social transfers impact the income inequality in North Macedonia?; and b) What is the relationship between social transfers and income inequality?. Furthermore, in this study are constructed the below stated research hypothesis:

H_0 : Increase in the level of social transfers, do not reduce the income inequality in North Macedonia

H_1 : Increase in the level of social transfers, reduces the income inequality in North Macedonia.

The paper is structured as follows. The next section is reserved for the literature review, where is presented the available literature and recent research on this topic. Third section graphically present, make brief trend analysis and gives information concerning the level of social transfers and income inequality in North Macedonia through the years. While, the upcoming section outlines briefly the used methods, data collection, analysis procedures and statistical method used to analyze the data. Whereas, fifth section is determined for the results and discussion part, where will be outlined and explained the findings and result of the study, followed by related discussions. The last section is for the concluding remarks and the encountered limitations.

2. LITERATURE REVIEW

Social protection expenditures or as commonly called “social transfers” has caught continuously a significant portion in the government expenditures and grow in importance. Many countries through them have seen the right mechanism to tackle income inequality and alleviate poverty. However, social transfers produce by itself several effects onto the national economies and the well-being of the citizens. Thus, in this paper we are focused to examine the effect of social transfers in reducing income inequality and for this matter, many researchers and scholars have undertaken numerous studies from various angles and perspectives.

According to the study of Augustino et al. (2020) where is used an instrumental variable (IV) approach, the government expenditures of the OECD countries in social transfers have been effective in reducing income inequality during the last decades and in particular, empirical results of the study suggest that for an increase of 1% of social transfers, the income inequality is reduced for approximately 0.5%. Another recent study on this matter, confirm the role of social transfers in reducing income inequality in this case in Ukraine for the period 2010-2021, where regression results suggest that an increase of the social transfers for households for 1%, cause a reduction in income inequality by 0.13% (Kerimov & Shapoval, 2024). In addition, Luebker (2011) points out that income inequality can be significantly reduced by tax and transfer systems, taking as such cases the EU countries, Netherlands and Sweden.

Concerning the impact of social transfers in reducing income inequality - case of North Macedonia, which is the core topic of our study, we encountered several studies that have been conducted and investigated this issue, differing by the methods applied and regarded perspectives. For instance, Tevdovski (2015) the high income inequality reigning in the country in that period attributes to two main drivers: political patronage system and installed neoliberalism. Whereas, a substantial study from Petreski & Blazhevski carried out in 2017, make a clear distinction of the level of income inequality, with and without the social transfer existence. Based on them, without social transfers, the income inequality in North Macedonia would have been 40.9% according to Gini Index, while with the current social protection system in function, the income inequality decrease constantly by at least 2.2 p.p Gini. Consequently, a year later, in 2018, Kozuharov and Petreski through econometric analysis i.e., using regression and correlation analysis found a significant link between social transfers and income inequality. Hence, the respective study came with a conclusion, that the country of North Macedonia can reduce income inequality by increasing the public expenditures on social transfers. According to the United Nations (2020) country analysis, the role of social transfers have been crucial in reducing the income inequality in the country and especially, with the further increase of the social transfers as a results of the reform of social protection system in 2019, the income inequality is expected to continue the decline. In this context, Mehmedi (2022) by using time series regression analysis and OLS techniques found out an inverse relationship between Gini and social transfers for the period 2008-2019. While, Dimitar Funa (2021) approached the study of income distribution and inequality from different angle, using personal income tax and Pareto interpolation to estimate share of income distribution and came up with a conclusion that previous estimates mainly using Gini coefficient differ significantly from the estimates done with tax data, further claiming for higher wealth inequality.

Hereby, based on the reviewed literature, sprouts out the need for a recent study that will examine the relationship between social transfers and income inequality in North Macedonia for a longer period and provide an outlook of the current situation on this important issue.

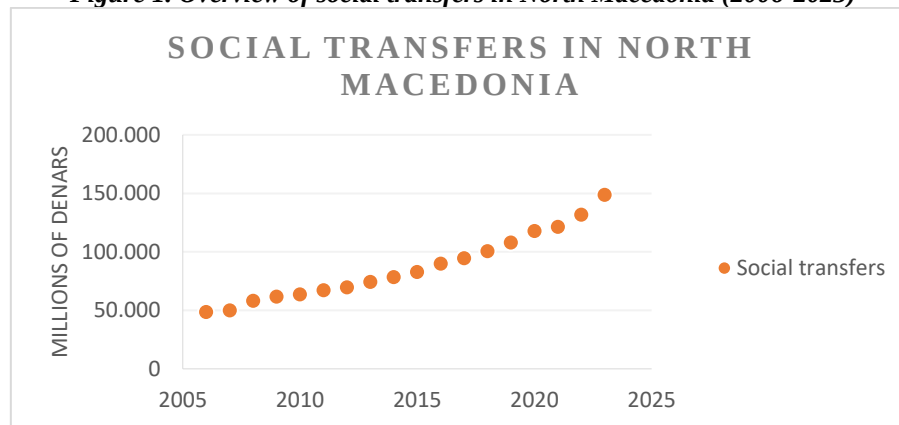
3. AN OVERVIEW OF THE SOCIAL TRANSFERS AND INCOME INEQUALITY IN NORTH MACEDONIA

Prior to proceeding to the empirical part and analysis, it is important to provide some brief information on the social protection system of North Macedonia, present data and short analysis of the development pace of both levels of social transfers and income inequality through the years. The social protection system of North Macedonia is comprised by four pillars: social assistance, social services, social insurance and labour market programs (IBRD, 2022). The country it is constantly aligning its social protection system with EU system, through a process of ongoing reforms, but there is still an evident need for more decentralization, further reforms and additional enrichment of its social programs. In addition, many experts and organizations share the

idea that the country should continue to widen the range of the social services and improve the process of targeting and coverage that directly impacts the effectiveness level of all the pillars part of the social protection system.

Concerning the trend and the levels of the country's expenditure on social transfers during the 18 year period (2006-2023) object of our study, the first thing that can be easily noted is the constant increasing pattern and levels of the social transfers during the whole observed period. Based on the latest data taken from the Ministry of Finance of North Macedonia, the social transfers in 2006 were accounting for only 48,762 million of denars, while following an increasing pace, after a decade in 2016 doubled and were 89,905 million of denars, and in 2023, social transfers account for 148,867 million of denars, after considerable increase in the last years. After analysis, beside the positive increasing trend observed during the whole period, relatively higher rise of the social transfers is registered from 2019 onwards, with the highest registered rise of the social transfers during the period 2022-23, accounting for double digit increase from 17,109 million of denars. Thus, below in the graphic presentation it can be easily observed the levels for all consecutive years and the development pace of the social transfers in North Macedonia.

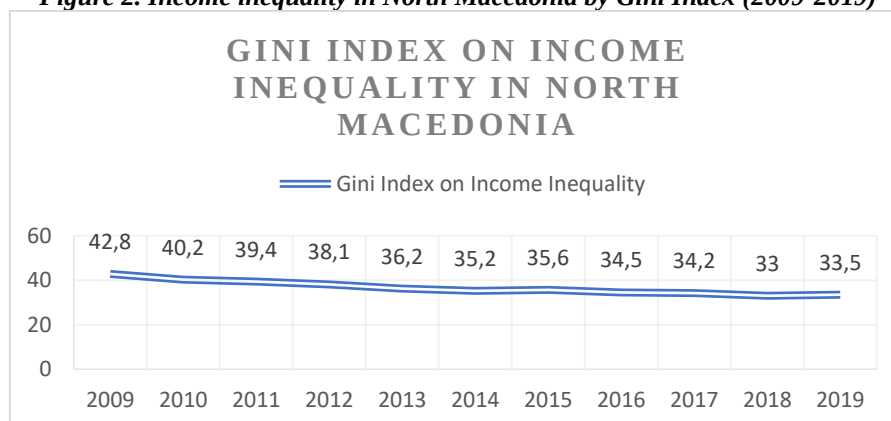
Figure 1. Overview of social transfers in North Macedonia (2006-2023)



Source: Author's elaboration on the data from Ministry of Finance of North Macedonia

Whereas, when it comes to income inequality in the country, we took data based on the Gini Index coefficient and latest available from the World Bank database for a 10 year period (2009-2019). In general, from the first sight observation on the data it can be seen that income inequality has experienced a decreasing pattern, quite stable declining pace with minor fluctuations from time to time, during the whole observed period. Beginning from 42.8% in 2009, the income inequality decreased to 35.2% in 2014 and reached up to approximately two digit decrease in 2019, accounting for 33.5%. During this period, the biggest drop in income inequality is registered in 2009-2010 accounting for 2.6%, while during the whole period onwards there is a decrease on average of 1%, with minor fluctuations and short term mere rise in the period between 2014-2015 (0.4%) and in 2018-2019 (0.5%). Hereby, based on the developments of both indicators, it can be concluded an increase in social transfers and a decrease in income inequality in North Macedonia, a fact that makes more interesting our research on investigating the relationship between both indicators and see the effects of the observed increase in the social transfers on the constant decrease in income inequality noted in the country.

Figure 2. Income inequality in North Macedonia by Gini Index (2009-2019)



Source: Author's elaboration on the data from World Bank

4. RESEARCH METHODOLOGY

The main aim of this study is to examine and quantify the impact of social transfers on reducing income inequality in North Macedonia, including the expectations to encounter an inverse relationship, respectively, an increase in the social transfers will lead to a decrease in the income inequality. The main sources of the secondary data are World Bank and the respective Ministry of Finance of North Macedonia. The data for social transfers are taken in millions of denars (the domestic currency of the country) and data about income inequality by Gini Index as a percentage, on annual basis.

This research employs a quantitative approach through use of time series data analysis to determine the impact of social transfers on reducing income inequality in North Macedonia over 18 years period (2006-2023). The study is conducted using a descriptive and regression analysis using the statistical program (STATA) for estimations. For this purpose, it is constructed a simple linear regression model. The table below outlines the model's variables, abbreviations and respective sources.

Table 1. Description of the data

Variable name	Description	Source
Independent variable		
Social_trans	Social Transfers	Ministry of Finance
Dependent variable		
Gini_Incom	Gini Index of Income inequality	World Bank

Sources: Author's elaboration

The constructed regression model is as follows:

$$Gini_Incom_t = \beta_0 + \beta_1 Social_trans + u_t$$

Where Gini_Incom is Gini Index for income inequality which is the dependent variable and as independent variable is considered Social_trans as social transfers.

5. RESULTS AND DISCUSSION

First, a correlation test was conducted to determine the inter-variable relationship or significance between social transfers and income inequality measure by Gini Index. Thus, the results from the performed test suggest a highly inverse relationship between social transfers and income inequality by Gini Index. (see Table 2).

Table 2. Correlation matrix

	Gini_Incom	Social_trans
Gini_incom	1.0000	
Social_trans	-0.9023	1.0000

Source: Author's calculations

Regarding the respective model of the study it can be seen from Figure 3 that the number of observations is 11. And for every 1% increase in social transfers, the income inequality reduces by 0.18%. The coefficient is highly statistically significant based on the p-value it is observed that p is 0.000 which is less than 0.001 and thus, have 0.1% significance level. Also, the coefficient is highly statistically significant, based on the t statistics which in absolute value is much greater than the critical value. Whereas, the coefficient of determination or R-squared is 0.8141 which means 81.41 % of variations in the income inequality can be explained by the chosen explanatory variable of this model. Also, the F statistics is 39.42 greater than 4 and hence, statistically significant.

Figure 3. Results of time series regression model

Source	SS	df	MS	Number of obs	=	11
				F(1, 9)	=	39.42
Model	79.253247	1	79.253247	Prob > F	=	0.0001
Residual	18.0958439	9	2.01064933	R-squared	=	0.8141
				Adj R-squared	=	0.7935
Total	97.3490909	10	9.73490909	Root MSE	=	1.418

Gini_Incom~q	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
Social_trans	-.0001805	.0000288	-6.28	0.000	-.0002456 -.0001155
_cons	51.23573	2.368627	21.63	0.000	45.87753 56.59394

Source: Author's calculations

According to the regression results, we reject the null hypothesis and confirm the alternative hypotheses that *Increase in the level of social transfers, reduces the income inequality in North Macedonia*. In the Figure 4 below you may find the graphical representation of the relationship between social transfers and income inequality by Gini Index in a scattered graph.

Figure 4. Graphical representation of the relationship between social transfers and income inequality



Source: Author's elaboration

6. CONCLUSION AND LIMITATIONS

Social transfers in several times have proven to be one of the effective mechanisms of the countries in tackling income inequality, especially, in developing countries. As such, most of the countries have followed the trend of increasing the public expenditures reserved for social transfers. However, the effectiveness rate of the social transfers in reducing income inequality do not depend only on the size of the transfers, but also, on the institutional quality of the country implementing the policy (D'Agostino et al.,2020).

Concerning the case of North Macedonia, our findings confirmed the mitigating role of social transfers in reducing the income inequality and the inverse relationship between both indicators. Hence, the impact of social transfers throughout the observing period (2006-2023) in reducing income inequality came out to be significant, even though not in such higher effective rate as expected. Nonetheless, social transfers proved to be one of the policies that contributes towards reducing income inequality in North Macedonia and represent one of the factors that have contributed in the experienced decreasing levels of income inequality in the last years. In addition, one of the few limitations in this study is the absence of data on Gini Index for income inequality for the last 4 years of the observed period (2020, 2021, 2022, 2023), which may be an element that disabled us to

get a higher level of impact of the social transfers in reducing income inequality, but, for now it is only an assumption.

In the future, the study may be widened in the direction of deeper analysis on the separate pillars of the social transfers and their solely effects on reducing income inequality. By that we can have a clearer picture on which of the part of the social transfers have the most impact on reducing income inequality and those findings could be significant, in particular, for policymakers. Also, for the purpose of comparative analysis, the study can be widened by including in the research more countries and different regions. Thus, upgrade the regression model with more explanatory variables and use panel data analysis that might provide us with additional findings, open perspectives and diverse implications.

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