

INCOME REDISTRIBUTION THROUGH THE ROMANIAN TAX-BENEFIT SYSTEM: ESTIMATION OF PRO-POOR EFFECTS

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ABSTRACT

The paper attempts to assess the effect of the Romanian tax-benefit system on household income redistribution. The estimation of the effects of the tax-benefit system on income redistribution is a central issue in economic and social policy analysis. The dynamics of household income distribution is a complex process, result of macroeconomic changes, policies, institutions and behaviours, and of the interactions among them. Poverty and income inequality incidence in Romania are amongst the highest in the EU. In this context, our paper aims at analysing whether the income redistribution in Romania is beneficial for the poor. Our analysis uses annual micro data for Romania from the European Union Survey on Income and Living Conditions (EU-SILC), which is a nationally representative survey. For the estimation of direct effects of social benefits and taxes on household incomes we use the tax-benefit microsimulation model EUROMOD.

Keywords: Tax-benefit system, Income redistribution, Poverty, Microsimulation

JEL Classification: C63, D31, H31, I31

1. Introduction

This paper attempts at investigating the extent of income redistribution through the Romanian tax-benefit system. The tax-benefit system of a country is redistributive by definition, but if the income distribution becomes or not more egalitarian after redistribution is an essential problem (Esping-Andersen and Myles, 2009). The effect of the tax-benefit system on household income distribution is a fundamental issue in social, fiscal and economic policy analysis. The tax-benefit system is an instrument used by governments to influence the initial distribution and the redistribution of

HOLISTICA Journal of Business and Public Administration
No. 3/2015

income. A progressive fiscal system and targeting of social benefits to the poor is generally conducive to inequality and poverty reduction. But, besides these, the evolution of income distribution is a complex process, influenced by the macroeconomic framework, policies, institutions, behaviours and the interaction among them.

Poverty has remained a persistent problem in Romania in spite of positive economic evolutions preceding the crisis and has even deepened during the economic crisis. Poverty and income inequality incidence in Romania are amongst the highest in the EU and the situation does not seem to improve, even though we note important governmental concerns in this area. In this context, our paper aims at analysing whether income redistribution in Romania is beneficial for the poor. Our analysis uses annual micro data for Romania from the European Union Survey on Income and Living Conditions (EU-SILC) and relies on microsimulation techniques in order to simulate the components of the tax-benefit system and to measure the direct effects of social benefits and taxes on household incomes.

The paper is organized as follows. It continues with a general theoretical and empirical framework on income redistribution through the tax-benefit system. The following section describes our data and methodology and then, the main findings are presented. The paper ends with a section of conclusions.

2. Theoretical and empirical framework of income redistribution

The tax-benefit system of a country is the most important tool for income redistribution as it compensates for market and information failure (Barr, 2001). First of all, we have to disentangle horizontal from vertical redistribution (Hills, 2004). The horizontal dimension of income redistribution refers to the life cycle reallocation of income through social insurance schemes covering risks such as old-age, unemployment, sickness, etc. The vertical redistribution is achieved through taxes and social benefits and this component is responsible for income inequality reduction, which is accomplished conditioned on the extent that taxes are progressive and the social benefits are target to the poor (Esping-Andersen and Myles, 2009). On the other hand, Korpi and Palme (1998) had put forward a thesis on the “paradox of redistribution” which argues that the very targeted social benefits could be harmful for a more egalitarian distribution because they generally are ungenerous and stigmatizing, in contrast to universal benefits which are more generous and could more likely reach those in need.

But, the tax-benefit system influences not only the post taxes and transfers income distribution, but also the initial distribution of income (i.e. original distribution, market income). By affecting the work incentives of individuals who benefit of certain out-of-work benefits, the tax-benefit system influences the level of market incomes (Atkinson, 1995).

HOLISTICA Journal of Business and Public Administration
No. 3/2015

The design of the tax-benefit system and the extent of redistribution are certainly influenced by politics, redistribution being usually linked with left parties (Korpi, 1983). Other theories, such as the framework of the median voter model, either support the idea that high levels of earnings inequality pushes towards redistribution through the tax-benefit system (Milanovic, 2000), or the contrary, that higher earnings inequality can be associated with less redistribution in favour of the poor (Moffitt et al., 1998). In the same context, other findings (Moene and Wallerstein, 2003) show that higher earnings inequality leads to an increased demand for redistribution, but also for non-redistributive insurance and that social spending is higher in countries with more egalitarian distributions. On the other hand, poverty reduction effects depend on the level of social spending (“size redistribution theory”) (Smeeding, 1997), but it is also strongly influenced by the institutional design of the tax-benefit system (Esping-Andersen, 1999; Palme, 2006).

The welfare regimes have different impact on the extent of income redistribution in favour of the poor, or, in other words, on the equality of income distribution. The Anglo-Saxon, liberal regimes spend less on social protection; social benefits are targeted to the poor, but even so, they accomplish less redistribution in favour of the poor compared to the social-democratic or Nordic regime that spends the most for a universal social protection and still achieves better redistribution (“the paradox of redistribution”). Nevertheless, the pre transfers and taxes income distribution is more egalitarian in countries which have adopted a social-democratic welfare regime.

The measurement of income redistribution through the tax-benefit system has been subject of numerous studies and three main approaches can be emphasizes: the Gini coefficient, the decile approach and the poverty-rate approach.

Studies that evaluate the redistributive effect of the tax-benefit system have unanimously concluded that the effect is positive for the poor, so the result of redistribution is towards a more egalitarian income distribution. In fact, any income redistribution should be for the poor, according to the Rawlsean maximin principle of justice. Most of the redistribution is done through social benefits rather than through taxation, and social insurance contributions generally have no redistributive effect (Immervoll et al., 2005). Nevertheless, the relationship between the tax-benefit system and income redistribution is influenced by the socio-demographic characteristics of the population (Esping-Andersen and Myles, 2009).

If the traditional approach of investigating the effect of the tax-benefit system on income distribution was following a macroeconomic perspective (Esping-Andersen, 1990; Korpi and Palme, 1998), the more recent approaches have shifted to a microeconomic approach and towards the use of household survey data, which have the advantage of offering relevant and detailed information in order to perform rigorous quantitative estimations. And even more recently, the use of microsimulation models, which model the behaviour and interaction of micro units (individuals, households) has gained grounds. In Europe especially, the analysis of tax-benefit policies’ effect on income distribution/ redistribution has benefited of a great attention

HOLISTICA Journal of Business and Public Administration
No. 3/2015

because of the idea of tax-benefit system harmonization across EU countries; and the first attempts in this context belong to Atkinson (1988). The empirical findings on the effects of the tax-benefit system on income distribution are diverse. For example, Sutherland (2005) has shown that post transfers and taxes income inequality is reduced to a greater extent when the benefits are not means-tested. Paulus et al. (2008) have compared the effect of the tax-benefit system on poverty reduction across 19 EU countries and concluded that social benefits contribute to the reduction of relative poverty by a percent ranging from 30-50% to 10-20%. The measurement of the redistributive effect of taxes has been extensively studied (Verbist, 2004; Verbist and Figari, 2014), and the estimation of the contribution of each tax-benefit component to redistribution as well (Callan and Bargain, 2007; Avram et al., 2014).

In Romania, the concern for the analysis of the effects of the tax-benefit system on income distribution is rather recent. We mention the studies of TARKI (2011) which have estimated the social benefits' impact on child poverty reduction and Avram et al. (2013) who have investigated the impact of fiscal consolidation measures on income distribution.

3. Data and methodology

Our analysis relies on national representative survey data for Romania collected through the EU-SILC (European Union Survey on Income and Living Conditions) in 2010. The sample consists of approximately 7800 households. The collected data refers to household members aged 16+ years who are interviewed, but household level information is requested as well from the household reference person. The variables of interest for our analysis are related to individual and household income, detailed by income sources, and to household size and composition characteristics. The income reference period is the calendar year before data collection. We use different income concepts; therefore we define them as follows.

The *market income* (original income) is the income that individuals earn from employment or self-employment, financial income, income from property, etc. Market income is collected in gross value at individual level and it can be aggregated by household membership.

The *disposable income* is calculated as the sum between market income and social benefits, minus social contributions and income taxes. Disposable income is calculated at household level, as most of the social benefits are granted after the evaluation of household/ family context (household size, household composition, number of children, etc.). Tax allowances are also calculated based on family characteristics (number of dependent persons).

Social benefits represent the state intervention for the social protection of individuals and households at risk of old-age, disability, sickness, social exclusion, etc. (according to the ESSPROS Manual). In our paper, we only take into account cash

HOLISTICA Journal of Business and Public Administration
No. 3/2015

benefits. In the EU-SILC database, the benefits are aggregated following the ESSPROS classification by functions. For our analysis, the benefits have been disaggregated to individual benefits, on the bases of eligibility criteria and amounts. Thus, social benefits could have been further on grouped by other criteria, more useful for our analysis, such as *mean-tested benefit* and *non-means-tested benefits*.

Means-tested benefits imply an income or asset test for benefit entitlement, while *non means-tested benefits* do require neither income nor asset testing, the eligibility being based on other characteristics, such as age, labour market status, etc.

Social contributions are due for the insurance against risks such as old-age, sickness, unemployment, etc. In general, employees, self-employed and employers pay social contributions, but other categories could be liable for paying certain social contribution (e.g. pensioners, etc.).

The *personal income tax* is a flat rate tax, accounting for 16% of the taxable income.

We use the tax-benefit microsimulation model EUROMOD for the simulation of social benefits entitlement and tax liabilities. The utility of the model is considerable because through simulation, for each household included in the sample, we can determine whether or not it is entitled to certain social benefits (Note: not all benefits can be simulated due to the lack of information in the EU-SILC database), the amount of the benefit received, the direct taxes due and their amount. The advantage of using microsimulation results is the possibility of obtaining detailed results (in EU-SILC, social benefit amounts are collected aggregated in groups of benefits) and that of using scenarios and evaluate hypothetical situation. EUROMOD uses some strong assumption, such as 100% benefit take-up and no tax evasion. Simulations are static, therefore behavioural changes are disregarded.

For our paper, the data collected in 2010 is updated to 2013 by using detailed updating factors by income component. Thus, the population characteristics are kept constant as were in 2010 (the year of data collection), and incomes are adjusted with the market evolutions.

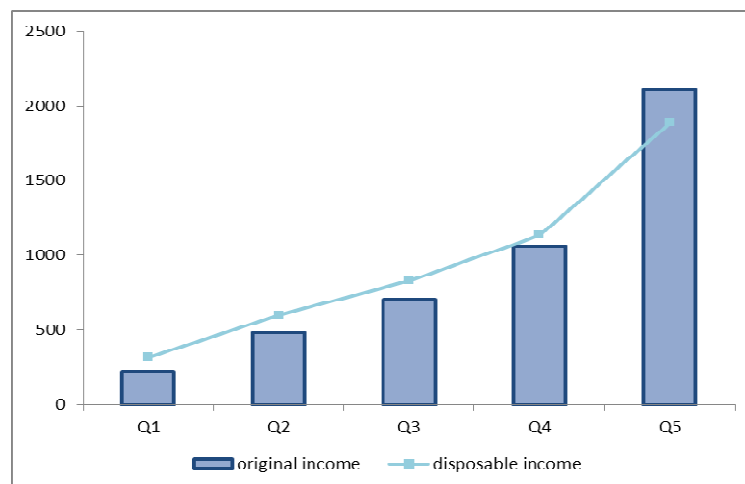
Our approach relies on the representation of income distribution by quintiles, each quintile consisting of one fifth of the total number of households. Household income is adjusted using the modified OECD equivalence scale in order to take into account the size and age composition of the household, thus each household member has the same amount of income. Quintiles are based on the equivalised household disposable income.

4. Main findings: Income redistribution, the tax-benefit system and pro-poor effects

We have attempted to take a closer look to the income distribution in Romania, both before and after social benefits and taxes and argue on the extent of redistribution in favour of the worst off. Our analysis refers to the year 2013.

The investigation of original and calculated disposable income by quintiles (see Fig.1 below) reveals that, except for the richest quintile (5th quintile), the value of the disposable income exceeds that of the original income. This means that after income redistribution, the bottom and middle quintiles increase their income. The additional income gained through redistribution is declining when the initial (original) income increases, thus indicating a progressive redistribution of income, mostly favourable to the poor. We cannot ignore the fact that the disposable income of the households in the richest quintile (5th quintile) is six times higher than compared to the first quintile. This is an indication of a very high income inequality in the income distribution in Romania, even after redistribution through taxes and social benefits. Before taxes and transfers, the ratio between the average incomes of the 5th and 1st quintiles reaches almost ten.

Fig. 1: Average original and disposable income, by quintiles, 2013, Lei (monthly)



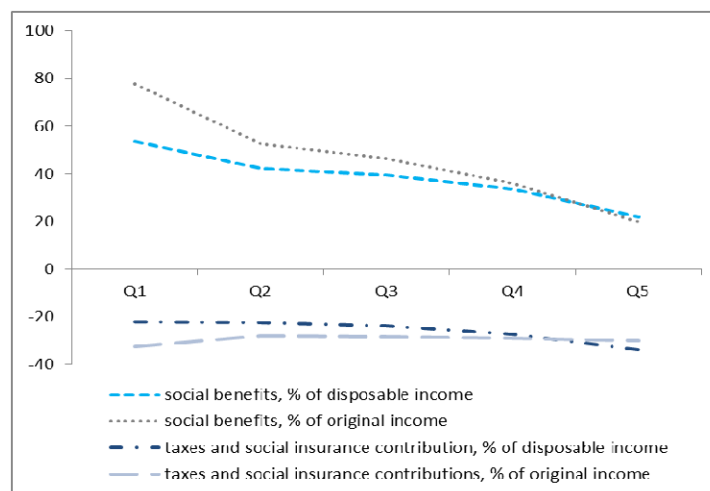
Source: own calculations using EU-SILC, EUROMOD ver. F 6.36

Note: quintiles are based on equalised household disposable income

HOLISTICA Journal of Business and Public Administration
No. 3/2015

Based on its calculation, we break down the equivalised disposable income into social benefits and direct taxes (personal income tax and social contributions). In absolute figures, we remark that greater amount of social benefits are transferred to the richer quintiles, but they pay more taxes and social contributions as well. The high amount of social transfers received by the households in the upper quintiles can be explained by the pension income. Pensions are the most important social transfer in Romania, accounting for approximately 25% of the average household disposable income, and the average pension income is increasing by quintile. But, if we calculate the relative contribution of social benefits and direct taxes to disposable income (see Fig. 2), we see that in the case of the bottom quintiles (1st and 2nd quintiles), around 40-60% of the disposable income consist of social benefits. The proportion of social benefits in the disposable income of the better off households accounts for less than 20%.

Fig. 2: Structure of disposable income, by quintiles, 2013, %

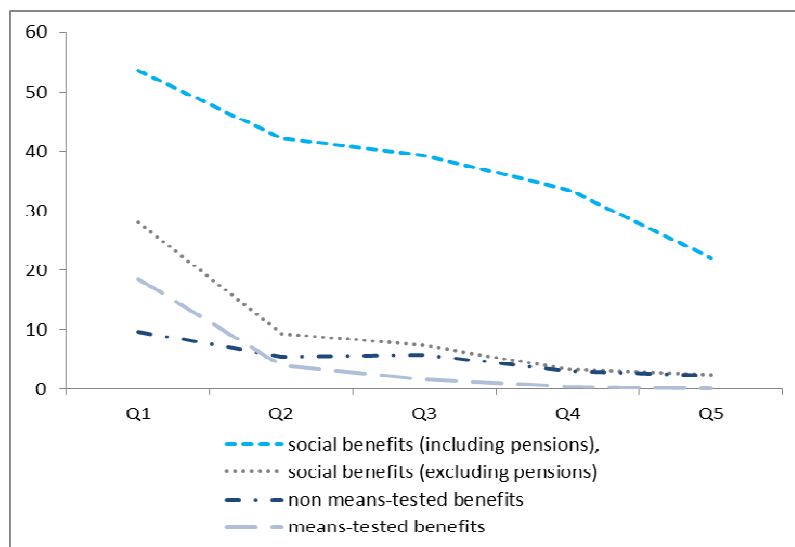


Source: own calculations using EU-SILC, EUROMOD ver. F 6.36

Taxes and social insurance contributions have stable weights in the average disposable income by quintiles, as a result of a flat-rate income tax and the design of social contributions which are paid in the same percent relative to earnings. One idea drawn from our analysis is that the redistribution in favour of the poor is mostly achieved through social benefits and less through taxation, which is in fact happening in many EU countries. The role of social contributions is to achieve a horizontal redistribution of income through the life course, rather than a vertical one (for the worst off).

On the other hand, the range of social benefits is very broad though and the contribution of each benefit to redistribution could be very different, thus a detailed analysis by more detailed social benefit groups is needed. As described in more detail in the section on the methodology of the paper, we have split social benefits in means-tested and non means-tested benefits, and we evaluate pension separately. The results are shown in the figure below (see Fig. 3).

Fig. 3: Structure of social benefits, by quintiles, 2013, % of disposable income



Source: own calculations using EU-SILC, EUROMOD ver. F 6.36

When we exclude pensions, we remark that the contribution of social benefits to household disposable income declines by approx. 30 pp, most considerably for the middle quintiles. The worst off households (1st quintile) rely mainly on pensions and means-tested benefits (i.e. minimum guaranteed income, means-tested family allowance, heating allowance, minimum pension, etc.). We remark the increasing share of non-means tested benefits in the case of the middle quintiles (2nd quintile, 3rd quintile). The most important benefit among the non means-tested benefits is the child raising allowance, which is received by families having very young children (less than two years old) and the amount of which is linked to previous earnings. As shown in the figure above, the non means-tested benefits account for less in the vertical income redistribution (in favour of the poor). On the whole, the effect of social benefits on income distribution is clearly progressive; the bottom of the distribution receives much more than the middle or top of the distribution.

5. Conclusions

The paper has attempted to examine income redistribution in Romania through the tax-benefit system. Our analysis has used annual micro data for Romania from the European Union Survey on Income and Living Conditions (EU-SILC) and employed the EUROMOD tax-benefit microsimulation model in order to detail the components of the tax-benefit system and to measure the direct effects of social benefits and taxes on household incomes.

Our analysis has revealed that after receiving social benefits and paying direct taxes, the household income changes, in the sense that the bottom and middle quintiles increase their income. The additional income gained through redistribution is declining with the increase of the initial (original) income, thus indicating a progressive redistribution of income, mostly favourable for the poor.

The tax-benefit component which drives most of the changes is pensions because of its magnitude, both as number of recipients (pensioners) and as share in the household income (i.e. families with zero income before pensions). The second driver of redistribution is the group of means-tested benefits, which are naturally oriented towards the bottom of the income distribution. Less redistributive effect we see in the case of personal income tax and social contribution due to their design which does not favour vertical income redistribution.

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HOLISTICA Journal of Business and Public Administration
No. 3/2015

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HOLISTICA Journal of Business and Public Administration
No. 3/2015

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