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LOCAL SOCIAL BENEFITS IN CROATIA: HOW MUCH DO THEY ADDRESS THE POVERTY RISKS AND NEEDS OF FAMILIES WITH CHILDREN?

Family policies and their impact on the well-being of families are a frequent topic of research. However, local social benefits are the least researched of such policies. This paper aims to explore the extent to which the most important cash and in-kind local social benefits offered by the Croatian capital Zagreb and by the country's three largest cities (Split, Rijeka and Osijek) cover the costs of child-rearing and reduce child poverty. Using microsimulation techniques, the support provided to families with children is estimated, and the distributional impact of these policies is assessed. The results reveal that local benefits greatly complement central government policies and substantially increase support for families but with differences among cities; the policies of Zagreb and Rijeka prove to be the most generous and effective, followed by those of Split and Osijek. The main limitations of this study come from the use of microsimulation models: the assumption of full benefit

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take-up for some policies and the lack of simulation for other policies due to a lack of data. This is the first comprehensive study of family benefits at the central and local government levels in Croatia.

Keywords: *miCROmod, local self-government, family policies, child poverty*

1 INTRODUCTION

Raising children is expensive; families with children bear additional costs that often put them in situations of financial hardship. These involve direct costs, such as food, clothes and education, as well as a number of indirect costs to parents (Letablier, Luci, Math, & Thévenon, 2009). The latter can be income and career losses due to childcare, as well as gender equity imbalances. As a consequence, across the European Union (EU), children are at higher risk of poverty compared to adults, which is an issue that has been recognised by the Europe 2020 Strategy (European Commission, 2010), the European Pillar of Social Rights (European Commission, 2017) and United Nation's Sustainable Development Goals (United Nations [UN], 2019). In Croatia, child poverty is a problem that requires special attention, as identified by previous research (Ajduković, 2016; Stubbs, Ledić, Rubil, & Zrinščak, 2017; Šućur, Kletečki Radović, Družić Ljubotina, & Babić, 2015).

Cash benefits such as child benefits, grants for new-borns, and tax reductions are usually meant to partly or fully compensate for the direct costs of child-rearing. Some of the in-kind benefits, such as kindergarten subsidies, can have multiple beneficial effects for parents, children, and the government by covering both direct and indirect costs. These benefits also constitute an important investment in human capital for society and generate several additional positive externalities, i.e., children as public goods (Donovan & Watts, 1990; Folbre, 1994; Olsaretti, 2013).

Methodologically, microsimulation has been extensively used as a tool for assessing the distributional impact of social benefits aimed at families with children, as it allows for a very detailed analysis of policies and their effects on disposable income (Figari, Paulus, & Sutherland, 2007; Popova, 2016; Sutherland & Piachaud, 2001; Urban & Pezer, 2018). Other quantitative studies have covered related topics. Banks & Brewer (2002) evaluated the generosity of government financial support aimed at families with children, while the study of Verbist & Van Lancker (2016) introduced the index of horizontal equity to measure to what extent child-rearing costs are covered by benefits. Further refining previous research, Penne, Hufkens, Goedemé, & Storms (2018) measured the social benefits' coverage of child-rearing costs, combining hypothetical and empirical analyses,

while Urban & Pezer (2020) calculated compensation indices and assessed the adequacy and evenness of the financial support provided to families.

Among microsimulation and other studies, there is scant research on local social benefits and their distributional impact, as well as only a small number of studies that include in-kind benefits. Our research attempts to fill in this gap by exploring the extent to which local social benefits (cash and in-kind) contribute to the coverage of child-rearing costs in Croatia and impact child poverty levels, further pointing to possible reforms at the local government level. This analysis is the first of its kind conducted for Croatia and highlights the great potential in microsimulation for improving evidence-based policy making.

This paper examines the impact of various policies on the disposable income of households with children in the four largest Croatian cities: Zagreb, Split, Rijeka and Osijek. Zagreb is the Croatian capital, inhabited by 18% of the total Croatian population, while 10% of the population lives in the other three cities. Families living in these cities obtain support from all three tiers of government (central, regional and local), but the focus of this study is on central and local government benefits.[1] The research uses microsimulation techniques and indicators of child-rearing cost coverage. Our methods enable us to not only assess the impact of these policies on the poorest households but to also explore the extent to which local policies meet the needs of other families with children.

The structure of the paper is as follows: Section 2 describes the background for our research. Section 3 explains the methods and data used in this research. Section 4 presents and discusses the results. Section 5 concludes by summarising the most important findings and policy implications of this work. The Appendices provide more detail on the analysed policies and how the calculations were done.

2 CONCEPTUAL FRAMEWORK

Croatia is the most recent state to join the EU and is among the least wealthy and developed members. It is facing strong population decline due to recent high emigration and persistently low fertility rates. The child-at-risk-of-poverty rate was 21.4% in 2017, the 8th highest poverty rate in the EU-28 (Eurostat, 2018b). The respective material deprivation rate was 25.4%, the 6th highest rate among EU-28 countries (Eurostat, 2019c). Croatia was also ranked 3rd from the bottom for fema-

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[1] Regional self-government units (counties) provide only a few minor social benefits (typically, one-time social assistance benefits), which it is not possible to capture with our model.

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le labour force participation, with 58.3% of women employed (aged 20-64); only Italy and Greece had lower percentages (Eurostat, 2019a).

Considering that Croatia is an ex-Yugoslav country and the aforementioned statistics resemble those of the Mediterranean countries, it is not straightforward to classify Croatia as a welfare regime. As proposed by Dobrotić & Vučković Juroš (2016) and debated by Baturina, Bežovan, & Matančević (2011), Croatia belongs to the post-communist welfare regime (based on Esping-Andersen's regimes; see Aidukaite, 2009) and to the explicit familialistic regime (based on Leitner's classification). These classifications imply that Croatia is a country with very low expenditures on benefits for families and children and that Croatian families have a very important role in taking care of their members (Ajduković, Matančević, & Rimac, 2017). Previous studies have indicated a causal relationship between family benefits expenditure and child poverty (Letablier et al., 2009). Since Croatia is facing strong demographic pressures, policies should be designed carefully and compensate for (at least part of) child-rearing costs.

Stubbs et al. (2017) investigated the coping strategies of poor households with children in Croatia. Their research emphasised the problem of persistent child poverty, poor coverage of basic household needs by state transfers and everyday problems in making ends meet for such households. Similar issues were identified for the special subgroup of pre-school children, whose poverty rates have been exacerbated during the recent financial crisis (Šućur et al., 2015). Ajduković (2016) advocates for greatly needed innovations in social policies to reduce child poverty.

Central government policies, as the main pillar of child support, have been the topic of many investigations, while regional and local social benefits are often neglected in research. Croatia provides financial support (cash or in kind) to households to assist and protect families through central, regional and local government policies.[2] According to Šućur, Babić, Urban, & Baran (2016), local benefits are relatively generous, particularly in larger and wealthier cities and municipalities. According to data from 2016, 20.3% of GDP was spent on total social protection at the central government level, and at the regional and local level, this was equal to 0.9% of GDP. While 73.7% of total expenditure for social protection at the regional and local level is devoted to "Family/children" benefits (predominantly for kindergartens and other preschool institutions), the corresponding share for the central government is only 5.5% (Croatian Bureau of Statistics, 2019; Eurostat, 2019b).

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[2] The general government in Croatia "has three levels: (a) the central government includes state ministries, budgetary and extrabudgetary funds, (b) the regional self-government entails 20 counties and the City of Zagreb, and (c) the local self-government involves 127 cities and 428 municipalities" (Urban et al., 2018b). With its special status, the City of Zagreb performs the functions of both the regional and local self-government unit.

Thus, local benefits represent an important complement to the family benefits provided by the central government. Despite their broad range and notable size, the anti-poverty role of local family benefits is often unobserved by the public. One reason is that the majority of this support comes in the form of subsidies and services that are not as apparent or easily quantified as cash benefits.

Due to high inequalities among counties, cities and municipalities in Croatia, there are high discrepancies in the support provided. On the one hand, there are less developed parts of Croatia that are facing higher unemployment, poverty, etc., so they require much greater funding for social protection, while their fiscal capacity is low. On the other hand, the more economically developed parts of Croatia provide more generous benefits (Šućur et al., 2016). Some of the largest differences between local units come from housing benefits and kindergarten subsidies, which are both within the scope of our research.

This analysis explores the variations in support provided in four cities of Croatia, arising solely from differences in policy design. The aim of the research is to provide guidelines and recommendations for potential reforms that will improve the wellbeing of families with children. By pointing out the most successful policies in tackling child poverty, the research provides advice on the kind of policy instruments that should not be neglected, even in situations where the fiscal capacities of local government units are limited.

3   DATA, METHODS AND DEFINITIONS

This section explains the methodological approach of the analysis. It describes the data used, the definitions and necessary assumptions for calculations and provides a brief description of the family policies in question.

3.1   Methodology and data

The main tool for our analysis is the tax-benefit microsimulation model miCROmod, which simulates social insurance contributions, personal income taxes, and social benefits for individuals and households, giving their disposable income as a final result. Microsimulation models are valuable tools for policy evaluation, as they can be used to predict the effects of potential reforms on budgets, work incentives, and the income distribution across the population (Figari, Paulus,

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& Sutherland, 2015). Among these models, one of the most widely used is EURO-MOD—the tax-benefit microsimulation model for the EU (Sutherland & Figari, 2013). However, the EUROMOD module for Croatia only simulates the benefits provided by the central government. Therefore, miCROmod—a EUROMOD spin-off model for Croatia that also simulates several types of local government social benefits—is used (Urban, Bezeredi, & Pezer, 2018b).

Microdata used for this research come from a national income survey called the Income and Living Conditions Survey (ILCS), collected by the Croatian Bureau of Statistics (CBS). The dataset is a representative sample of the Croatian population in 2016, with income data from 2015. Since the policies under consideration relate to 2017, the data were uprated using various indices obtained from administrative sources to reflect the 2017 values (Urban et al., 2018b; Urban, Bezeredi, & Pezer, 2018a). The economic prices of services (kindergarten and transport) have not been CPI adjusted to preserve differences among cities.[3]

Our analysis is performed on the subsample of income units who live in large cities.[4] This subsample better reflects the socio-demographic conditions of the citizens of the cities that fall under the scope of this research. Furthermore, due to a lack of residency data, the analysis does not consider the population actually living in these cities; instead, the policies of each city are simulated on the entire subsample of the population. The advantage of this approach is that it enables us to isolate the effects of the policies from differences in the socio-demographics and other characteristics among cities (similar to Pezer, Bezeredi, & Leventi, 2018).

The analysis is performed at the household level. Income, taxes and benefits are equivalised using the modified OECD's equivalence scale (MOS), which assigns the following weighting factors: 1 for the head of the household, 0.5 for each other member aged 14 or older, and 0.3 for members aged 0 to 13 years. Full benefit take-up is assumed (e.g., all citizens entitled to the child benefit receive the benefit; all citizens entitled to subsidized transport buy tickets regularly) and full tax compliance; the only exception is kindergarten subsidies, for which the actual enrolment data from the survey are used. Children are defined as persons aged less than 18.

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[3] Based on available data and public information (e.g., Numbeo: a large user-contributed database enabling, among other things, comparison of living expenses between cities: https://www.numbeo.com/cost-of-living/, accessed 13 November 2018), there is almost no difference between Zagreb, Split and Rijeka in consumer price levels; only Osijek has slightly lower price levels.

[4] This information is based on the EU-SILC variable "Degree of urbanisation" (db100). Municipalities are classified by Eurostat as "densely populated", "intermediate" and "thinly populated". To be considered a "densely populated" municipality, besides a high population density, the municipality must also have a population of at least 50 thousand. Among the densely populated cities are the following: Osijek, Pula, Rijeka, Slavonski Brod, Split, Zadar and Zagreb (Urban et al., 2018b). The original sample has 19,635 individuals, whereas the reduced sample has 4,182 individuals.

The monetary value of all the provisions that a household obtains on behalf of children is referred to here as *child support*. It is typically provided through family cash or in-kind benefits, such as child benefits, grants for new-borns and kindergarten subsidies, as well as parental benefits. In addition to these policies, this study takes into account benefits such as cash social assistance, housing benefits and the public transport subsidy, which are not child-centred but improve the well-being of children. Furthermore, the bulk of child support comes from personal income tax (PIT) reliefs on behalf of children; this kind of child support is referred to as *tax reduction*. All these policies are considered family policies according to the so-called broader definition of family policies (i.e., including all policies that make an impact on family well-being) proposed by Gauthier (2002).

To capture the impact of policies both directly and indirectly related to children, the method of child-contingent payments is applied (Corak, Lietz, & Sutherland, 2005; Figari, Paulus, & Sutherland, 2011). This approach is adapted to the Croatian tax-benefit system in Urban & Pezer (2020), who provide a detailed description of the methodology. In short, to capture child support, miCROmod is used to calculate benefits and taxes in a baseline scenario where children are included in the dataset. In our counterfactual scenario, children are removed from the dataset, and benefits and taxes are recalculated. The difference between benefits and taxes between the two scenarios equals the amount of child support that the tax-benefit system provides to households.

3.2 Family policies

This section provides a brief description of the analysed family policies at the central government level, as well as for the four cities in question, while a more detailed description is available in Appendix A. The policy rules are valid as of June 30, 2017.

(A) Central government (CG) benefits

A child benefit is a means-tested benefit for (lower-income) families with children, which also includes the so-called pronatality supplement, provided to families with three or more children. The guaranteed minimum benefit (GMB) is provided to persons and households with low incomes to cover their most basic needs. The presence of children increases the benefit entitlement of the household. GMB is complemented by compensation for electricity costs. Parents of a new-born are entitled to a lump-sum grant. A similar benefit is also paid by the cities; to

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differentiate between central and local government benefits, the labels "CG grant for new-born children" and "LG grant for new-born children" are used. Parents are also entitled to parental benefits.

PIT payers with dependent children are entitled to a tax allowance that increases with each additional child in the household. Due to the progressivity of the PIT system, higher-income households receive greater support from the child tax allowance, while low-income taxpayers cannot effectively use the support from it if their income is below the basic personal allowance.

(B) Local government (LG) benefits

The housing benefit is a means-tested benefit intended for low-income households to cover costs such as rent and utility bills.

The subsidy of preschool programmes in public kindergartens is the most generous benefit provided at the local level. It is determined by income and other criteria (e.g., the number of children in kindergarten, disability status, and single parent status). Public city transportation is subsidized in the four analysed cities in the form of reduced monthly or yearly tickets. To determine the amount of child support coming from these subsidies, the difference between the economic and subsidised prices is calculated.

3.3 Income concepts

Several different income concepts are employed. *Pre-PIT income* (X) of a household is the sum of gross original income and private transfers received minus social insurance contributions. *Pre-benefit income* (Y0) equals the pre-PIT income minus the PIT and the local surtax. The remaining three (post-fiscal) income concepts are obtained by the subsequent addition of different social benefits:

Y1 = Y0 + cash social benefits provided by the central government;

Y2 = Y1 + cash social benefits provided by the local government;

Y3 = Y2 + in-kind social benefits provided by the local government.

Observe that the post-fiscal income Y2 is equivalent to the common concept of disposable income; Y1 represents disposable income considering only central government benefits; Y3 represents an "augmented" disposable income.[5] The

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[5] The definition of "augmented" disposable income is similar to that in Paulus, Sutherland, & Tsakloglou (2009).

counterfactual income Ψ is calculated as Y3 minus the amount of child support, thus representing the augmented disposable income without child support.

3.4 Poverty analysis

The poverty analysis is based on the Foster-Greer-Thorbecke (FGT) poverty indices (Foster, Greer, & Thorbecke, 1984). The poverty headcount denotes the percentage share of children in the population from households with disposable income below the poverty line. The poverty gap sums the average income distance from the poverty line and expresses it as a percentage of the poverty line, but it can also be interpreted as the percentage of total income that is needed to lift children out of poverty. The formula is available in Appendix B.

Poverty lines in the analysis are obtained as 60% median MOS-equivalised household income; different income concepts are used, depending on the enquiry. The analysis is based on both relative and fixed poverty lines. The fixed poverty threshold (for all cities) is used to compare the effectiveness of the tax-benefit policies of the central government and of each city, while changing the poverty line with income and for each city contributes to a clearer understanding of poverty for each income concept, as the sequential addition of various benefits increases the median income.

3.5 Compensation indices

Compensation indices measure the extent to which support for families with children compensates for child-rearing costs. However, it is difficult to determine these costs because they vary with the children's age, the parents' lifestyle and other factors (Gray & Stanton, 2010; Letablier et al., 2009; Nelson, 1993). To simplify the calculations, the modified OECD's equivalence scale to capture this cost is employed. The method is described in detail by Urban & Pezer (2020) and is similar to the method used by Verbist & Van Lancker (2016).

The child-rearing cost is estimated as the monetary amount required by a household with children to maintain a living standard equal to its identical counterpart that has no children. This method is based on the approaches used in previous research (Lindert, 1980; Verbist & Van Lancker, 2016). The use of the relative equivalence scale means that child-rearing costs rise with income; i.e., children in

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wealthier families cost more due to the preferred lifestyle choices of their parents (Becker, 1960). However, it can also be assumed that basic child-rearing costs are income-independent; in this case, they are fixed to a certain value that assures an "average standard of living" (to meet needs for food, clothes, education, etc.).

Following Urban & Pezer (2020), relative and absolute compensation indices are calculated. The relative index assumes that the cost of children increases with income, while the absolute index fixes the cost to an arbitrary value—in this paper, this value is set at the median MOS-equivalised income Ψ (the counterfactual income, equal to augmented income Y3 minus the monetary value of child support). More details are available in Appendix C.

4 RESULTS

4.1 Basic statistics

The weighted analysed sample presents the (urban) population of 1,088 thousand people, of which 16% are children (aged below 18). These people live in 429 thousand households, and 25% are households with children. The majority (53%) of households with children have one child, 35% have two children, 10% have three children, and only 2% have four or more children.

Table 1 presents summary statistics for the four analysed cities based on the calculations using miCROmod. It shows how income (at the median household level and per capita) evolves with the addition of benefits (and taxes). Pre-PIT incomes (X) are at the same level for all cities. Y0 income levels (minus the PIT) reveal the impact of the surtax, which ranges from 10% in Split to 18% in Zagreb. The addition of central government benefits increases incomes by approximately 3% (Y1, both at the median and per-capita level). If Y2 (disposable income) and Y3 (augmented disposable income) are compared, a more pronounced change in income levels after local government in-kind benefits are introduced is noticeable. This reveals the higher impact on incomes coming from subsidies than cash benefits at the local government level. The counterfactual income (Ψ) demonstrates how incomes decrease if child support is excluded.

Per-capita child support from various policies clearly depicts the value of tax reductions as one of the most generous child support instruments, closely followed by parental benefits. Of the local government benefits, the cash benefits are relatively modest, and the majority of child support is obtained from subsidies. These results will be further analysed in the following subsections.

Table 1:

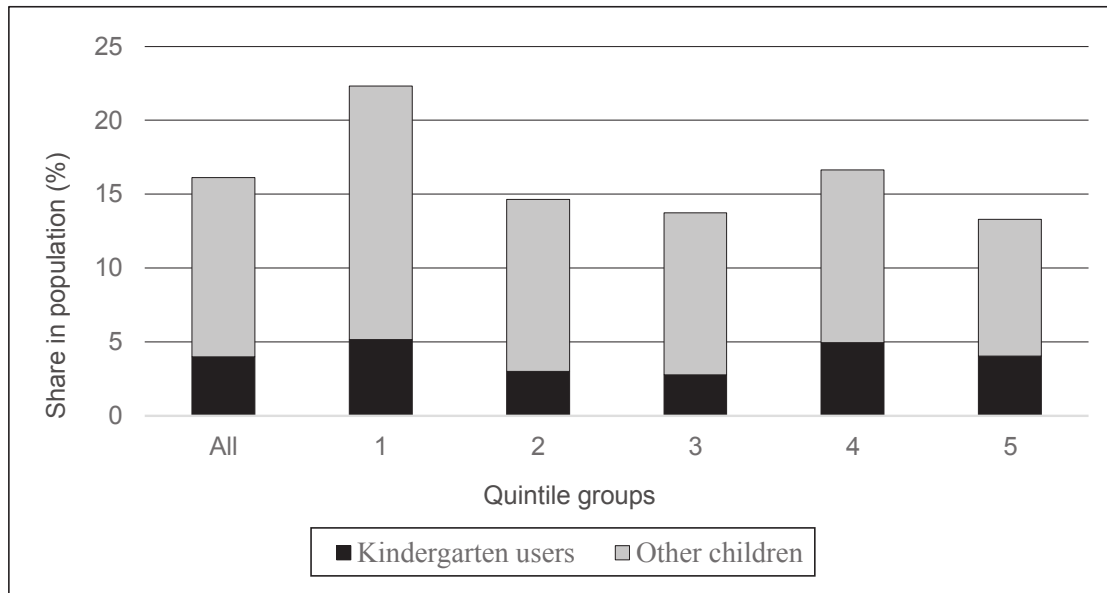## DESCRIPTIVE STATISTICS, 2017 (YEARLY AMOUNTS IN HRK).

	Zagreb	**Split**	**Rijeka**	**Osijek**
I) Median MOS-equivalised incomes				
X (pre-PIT income)	55,182	55,182	55,182	55,182
Y0 (pre-benefit income)	54,091	54,190	54,128	54,152
Y1 (Y0 + CG benefits)	55,760	55,808	55,778	55,790
Y2 (Y1 + LG benefits in cash)	55,993	55,899	55,778	55,853
Y3 (Y2 + LG benefits in kind)	59,063	58,106	58,208	58,043
Ψ (Y3 – child support)	55,964	56,467	56,141	56,218
II) Per capita incomes				
X (pre-PIT income)	43,411	43,411	43,411	43,411
Y0 (pre-benefit income)	40,082	40,303	40,165	40,220
Y1 (Y0 + CG benefits)	41,486	41,708	41,570	41,625
Y2 (Y1 + LG benefits in cash)	41,723	41,884	41,817	41,730
Y3 (Y2 + LG benefits in kind)	43,737	43,604	43,531	43,589
Ψ (Y3 – child support)	41,331	41,475	41,360	41,440
III) Per capita child support from:				
Central government (CG)	1,200	1,163	1,186	1,177
tax reduction	550	513	536	527
child benefit	185	185	185	185
social assistance benefits	19	19	19	19
CG grant for new-born children	10	10	10	10
parental benefits	436	436	436	436
Local government (LG)	1,206	966	985	972
housing benefit	12	12	30	12
LG grant for new-born children	109	21	19	24
kindergarten subsidy	826	765	719	695
city transport subsidy	260	169	217	241
Total CG + LG	2,406	2,129	2,171	2,149

Source: Authors' calculations.

Figure 1 shows the distribution of children (and kindergarten users) across quintile groups. The bottom quintile group includes a considerably higher share of children than all other groups. The top two quintile groups have similar shares of kindergarten users as the bottom quintile group, which means that they have larger kindergarten enrolment.

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Figure 1:

DISTRIBUTION OF KINDERGARTEN USERS AND OTHER CHILDREN ACROSS QUINTILE GROUPS

Source: Authors' calculations.

Note: Quintile groups are formed according to the MOS-equivalised pre-PIT income of all households in the sample.

4.2 Distribution of child support

Figure 2 illustrates the distribution and structure of the child support provided by the central government. Households are divided into groups based on income quintiles and the number of children they include.[6] The amounts are expressed as HRK per child and are obtained by dividing the total support for households with children in a certain group by the number of children in this group.

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[6] Due to their low number in the sample (only 6 households), the results of the analysis for households with more than three children are not presented in the paper.

Figure 2:

CHILD SUPPORT FROM THE CENTRAL GOVERNMENT: STRUCTURE OF THE MEAN MONTHLY AMOUNT PER CHILD, BY PRE-PIT INCOME AND THE NUMBER OF CHILDREN IN A HOUSEHOLD, 2017.
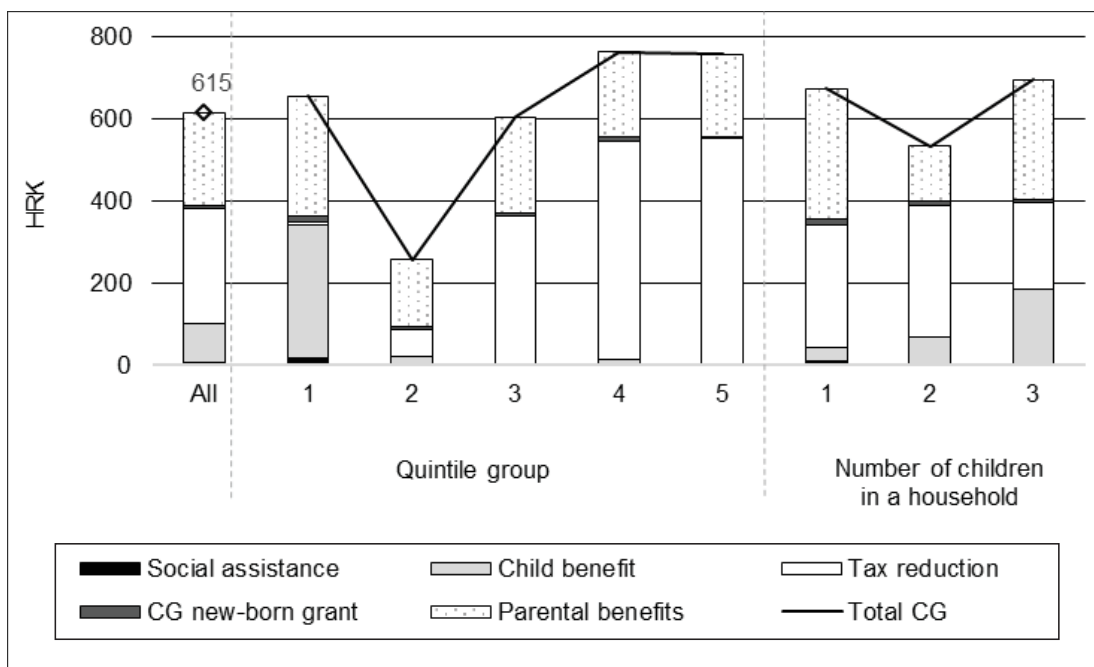
Source: Authors' calculations.

Note: Quintile groups are formed according to the MOS-equivalised pre-PIT income of all house-holds in the sample.

The first quintile group receives modest support, which consists mainly of the child benefit. However, the child benefit abruptly falls for the second quintile group because the income of these households exceeds the benefit's income cut-off; at the same time, their income is too small to secure substantial support through tax reduction.[7] In contrast, quintiles 3-5 achieve relatively generous tax reductions, and their total support from the central government exceeds that obtained by the lowest quintile.[8]

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[7] If the full support obtained from the allowance is set to HRK 420 per child, 98% of households with children in quintiles 1-2 do not obtain the full amount, in contrast to only 20% of households in quintiles 3-5. The amount HRK 420 is the product of the bottom marginal PIT rate (24%) and the nominal amount of the child tax allowance for the first child (HRK 1,750).

[8] This uneven (V shaped) distribution across quantile groups raises equity concerns and has been the topic of several papers (Šućur et al., 2016; Urban & Pezer, 2020). However, the child

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Households with two and three children obtain somewhat more support from the central government than households with one child do. Households with three children have much larger child benefits, which is thanks to the pronatality supplement. In contrast, they obtain lower benefits through tax reductions; their incomes are not high enough to ensure receipt of the full amount of the PIT allowance.[9]

Figure 3 focuses on child support provided by the four cities. Two types of support from the local government are distinguished: support from cash benefits (the housing benefit and LG grant for new-born children) and support from in-kind benefits (the kindergarten subsidy and city transport subsidy). When total city support is considered, Zagreb is the most generous city (HRK 623 monthly per child on average). Rijeka is the second most generous (HRK 509), closely followed by Osijek (HRK 502) and Split (HRK 499).[10] In all cities, cash benefits comprise only a small fraction of total support; the lion's share is composed of in-kind benefits, i.e., the two subsidies.

The housing benefit is means-tested and only obtained by the poorest households. For the average amount, Rijeka stands out with the highest support from the housing benefits due to special eligibility rules. Zagreb provides a notable amount of support through the grant for new-born children. Although this is a universal benefit, the average amount per child falls with income (because lower income-quintile households tend to have more children). The distribution of the city transport subsidy is relatively uniform with somewhat higher average amounts in the bottom quintile groups due to the larger share of beneficiaries with free tickets. The same is true for the kindergarten subsidy, but its distribution is also affected by the number of users in the different quintile groups (see Figure 1).

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benefit reform that has been in place since 1 July 2018 extends the top income threshold amount substantially, which improves the distribution to some extent.

[9] There is extensive variation in obtaining full support from the tax allowance (as defined in footnote 7) across households with different numbers of children. 54% of households with one child receive the full amount, followed by 50% of those with two children, and only 19% of three-child households.

[10] Expressed in average Croatian net wage in 2017 (HRK 5,984; Croatian Bureau of Statistics, 2018), the amount of local child support (per child) is equal to 10% in Zagreb and 8% in other cities.

Figure 3:

CHILD SUPPORT FROM THE LOCAL GOVERNMENT:
STRUCTURE OF THE MEAN MONTHLY AMOUNT PER CHILD,
## BY PRE-PIT INCOME, 2017.
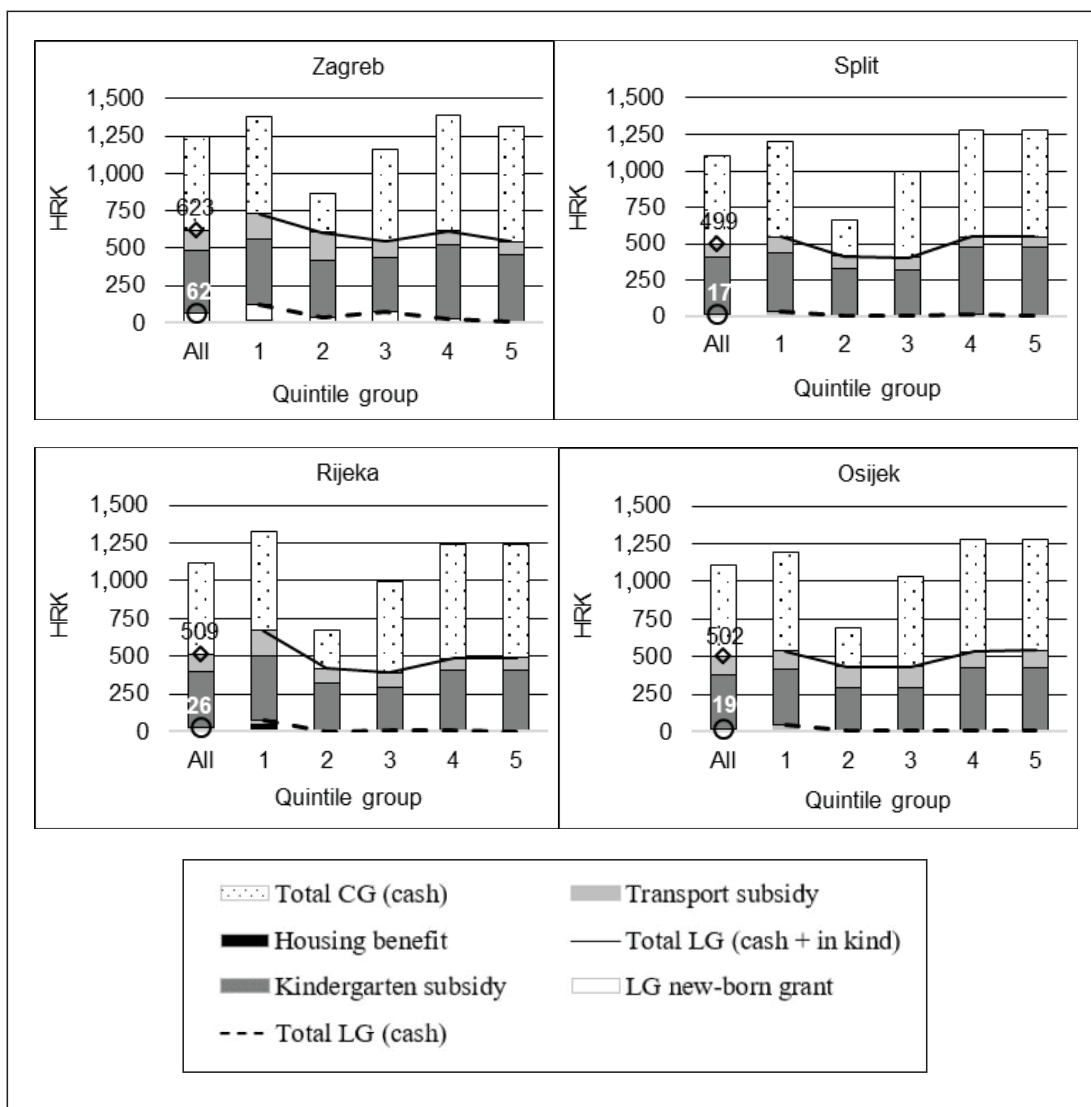
Source: Authors' calculations.

Note: Y axis shows the average amount of support per child in the respective quintile group. X axis presents quintile groups formed according to equivalised pre-PIT income using modified OECD equivalence scale on the entire sample.

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Average local child support per child gradually increases with the number of children (Figure 4), especially in the case of Zagreb, due to the LG grant for new-born children. In all cities, households with two and three children have higher support from kindergarten subsidies than households with one child; this is thanks to the design of this benefit, which provides generous or full price reductions to families with two or more pre-school children.

Figure 4:

AVERAGE MONTHLY AMOUNT OF SUPPORT FOR FAMILIES PER CHILD DEPENDENT ON THE NUMBER OF CHILDREN IN HOUSEHOLD, 2017.
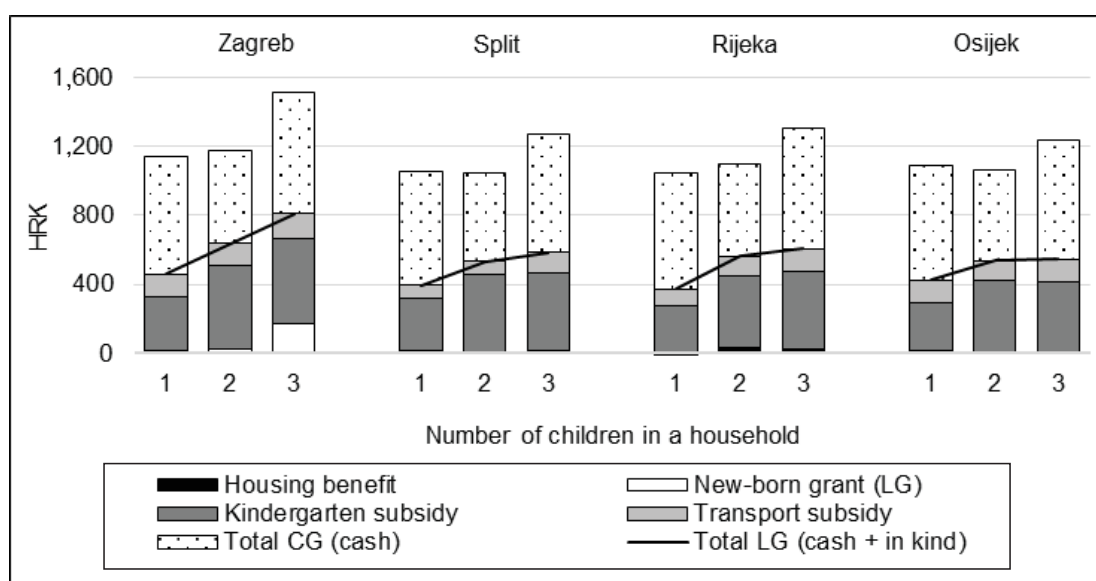
Source: Authors' calculations.
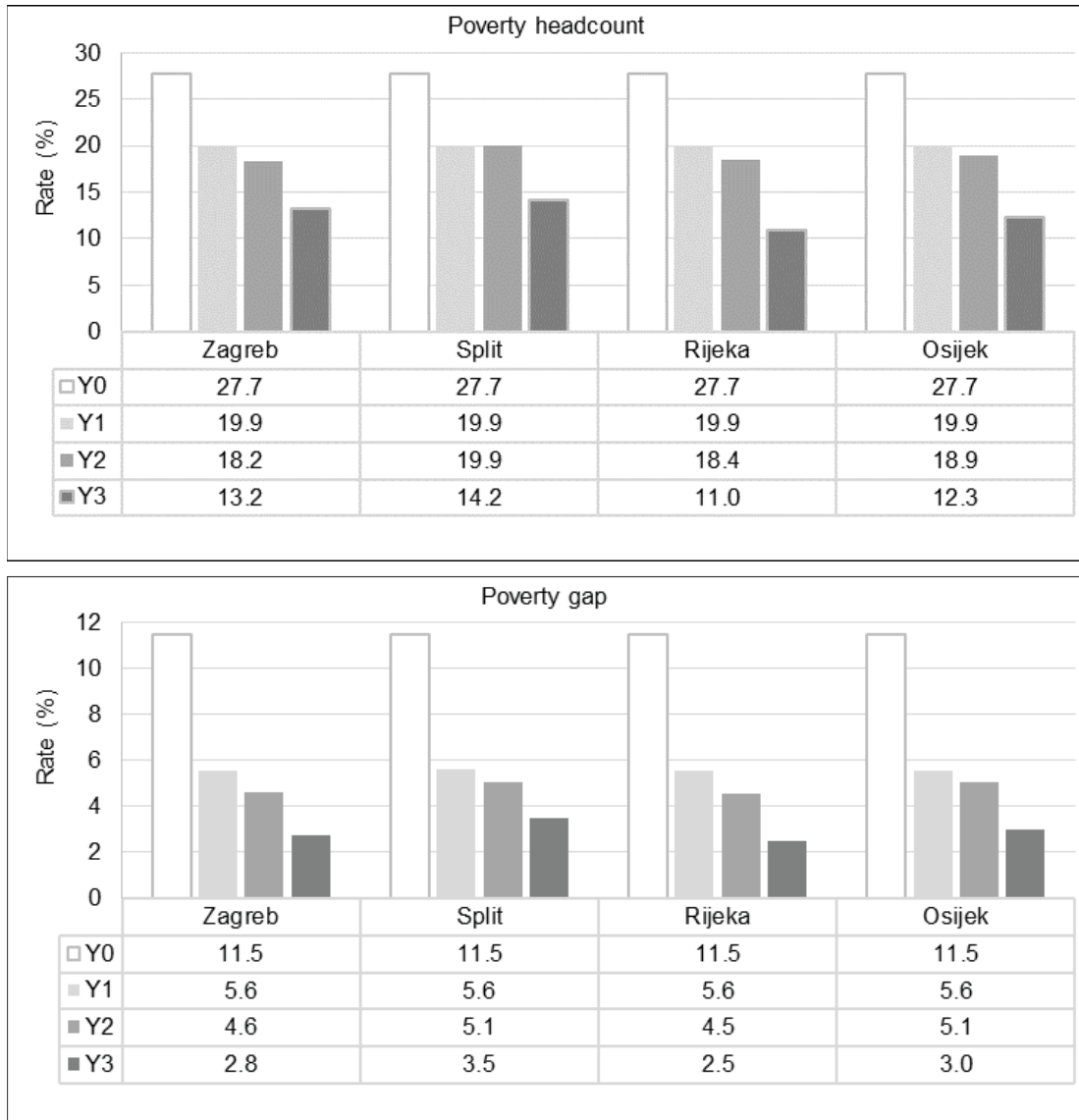
4.3 Poverty analysis

Do central and regional policies make a substantial contribution to reducing child poverty in Croatia? What are the policy instruments that reduce child poverty the most? How do poverty measures change if different income components and concepts are taken into account? This section aims to shed light on these policy-relevant questions.

In the first part of the analysis, for each income concept (and for each city), the FGT poverty headcount and poverty gap measures using a relative poverty threshold are calculated; these measures are presented in Figure 5. The transition from Y0 (i.e., pre-benefit income) to Y1 (the addition of CG benefits) shows that cash benefits provided by the central government decrease the poverty headcount (gap) by 8 (6) percentage points. As seen in the difference between the Y2- and Y1-based measures, local cash benefits have a limited impact on the poverty headcount and gap; the latter is reduced by 1 percentage point in Zagreb and Rijeka and by half a percentage point in Split and Osijek. In-kind local benefits, on the other hand, have a considerable impact on poverty; the transition from Y2 (disposable income) to Y3 (augmented disposable income) further reduces the poverty headcount (gap) by 6 (2) percentage points on average, despite the increase in median income (see Table 2).

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Figure 5:

POVERTY HEADCOUNT AND POVERTY GAP

Poverty headcount	Zagreb	Split	Rijeka	Osijek
Y0	27.7	27.7	27.7	27.7
Y1	19.9	19.9	19.9	19.9
Y2	18.2	19.9	18.4	18.9
Y3	13.2	14.2	11.0	12.3

Poverty gap	Zagreb	Split	Rijeka	Osijek
Y0	11.5	11.5	11.5	11.5
Y1	5.6	5.6	5.6	5.6
Y2	4.6	5.1	4.5	5.1
Y3	2.8	3.5	2.5	3.0

Source: Authors' calculations

Note: The Y axis values denote poverty headcount and gap levels for different concepts of post-fiscal income. Poverty lines are obtained separately for each income concept and city.

Table 2 shows how individual child support contributes to poverty reduction, taking the pre-benefit income (Y0) as a reference. The Y0-based poverty line is kept fixed throughout the whole exercise. Each child support measure is separately added to Y0, and the poverty measures are recalculated. The difference in the po-

verty measures obtained for Y0 alone and Y0 plus each child support policy is the estimate of the power of this policy to reduce poverty.

Table 2:

CONTRIBUTION OF INDIVIDUAL CHILD SUPPORT TO POVERTY REDUCTION

(a) Central government child support

	Poverty headcount		Poverty gap	
	Poverty rate (%)	**Difference (p.p.)**	**Poverty rate (%)**	**Difference (p.p.)**
Post-fiscal income (Y0)	27.7		11.5	
Y0 + Tax reduction	27.6	*0.2*	11.4	0.1
Y0 + CG new-born grant	27.5	*0.2*	11.3	*0.2*
Y0 + GMB	27.7	*0.0*	11.3	*0.2*
Y0 + Child benefit	24.7	*3.0*	8.2	*3.3*
Y0 + Parental benefits	24.3	*3.4*	9.4	2.0
Y0 + total CG	24.4	*3.3*	7.8	*3.7*

(b) Local government child support

	Zagreb		Split		Rijeka		Osijek	
Poverty headcount	**Rate (%)**	**Diff. (p.p.)**	**Rate (%)**	**Diff. (p.p.)**	**Rate (%)**	**Diff. (p.p.)**	**Rate (%)**	**Diff. (p.p.)**
Y0 + Housing benefit	27.7	*0.0*	27.7	*0.0*	27.7	*0.0*	27.7	*0.0*
Y0 + LG newborn grant	25.1	*2.6*	27.5	*0.2*	27.5	*0.2*	27.5	*0.2*
Y0 + Transport subsidy	25.7	*2.0*	25.9	*1.8*	27.4	*0.3*	27.1	*0.6*
Y0 + Kindergarten subsidy	21.3	*6.4*	22.3	*5.4*	22.1	*5.6*	22.1	*5.6*
Y0 + total LG	18.0	*9.7*	18.5	*9.3*	20.5	*7.2*	20.5	*7.2*
Poverty gap	**Rate (%)**	**Diff. (p.p.)**	**Rate (%)**	**Diff. (p.p.)**	**Rate (%)**	**Diff. (p.p.)**	**Rate (%)**	**Diff. (p.p.)**
Y0 + Housing benefit	11.2	*0.3*	11.2	*0.3*	10.9	*0.6*	11.2	*0.3*
Y0 + LG newborn grant	10.2	*1.3*	11.3	*0.2*	11.3	*0.2*	11.3	*0.2*
Y0 + Transport subsidy	9.8	*1.7*	10.3	*1.2*	9.8	*1.7*	10.3	*1.2*
Y0 + Kindergarten subsidy	8.3	*3.2*	8.4	*3.1*	8.3	*3.2*	8.3	*3.2*
Y0 + total LG	5.9	*5.6*	7.0	*4.5*	6.2	*5.3*	6.8	*4.7*

Source: Authors' calculations.

Note: Table presents poverty levels for poverty headcount and poverty gap measures for each child support. Starting with the post-fiscal income Y0, various child supports are added and new poverty levels are calculated. The difference in poverty obtained for Y0 and Y0 + child support is the measure of poverty reduction (denoted as 'Difference' or 'Diff.' in the table). The poverty line is fixed and obtained for Y0.

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Among central government child support schemes, the child benefit is the most potent (in terms of both poverty headcount and poverty gap reduction). This is due to its size and because it targets lower-income households by design. The child benefit is followed by parental benefits. The central government's new-born grant is the next highest contributor to the reduction in the poverty headcount. Child support from the GMB has no impact on the poverty headcount because its amounts are insufficient to push beneficiaries above the poverty line, but it is more important when the poverty gap is considered. As expected, tax reductions have little to no effect on poverty.

Moving to the local government policies for families, the kindergarten subsidy is by far the most successful policy in reducing poverty due to its universality and high monetary value. It is followed by the transport subsidy, which is also quite generous. The exception is in Zagreb, where the new-born grant takes second place in terms of its effect in reducing the poverty headcount. Similar to the case of the GMB, the housing benefit does not affect the poverty headcount but has a small impact on the poverty gap.

The analysis continues with a comparison of the poverty levels estimated using income concepts Y0 and Y3 for households with different numbers of children. The results are shown in Figure 6. In scenario CG, only central government policies are taken into account.

Without social benefits (Y0), the poverty levels of families with children are highest for families with three children, but the tax-benefit system also achieves the highest poverty reduction (d) for these households. The poverty headcount for households with three children is similar under all policy regimes. This is due to the CG child benefit (i.e., its pronatality supplement for the third child), which moves a large share of these households out of poverty. Local benefits do not further reduce the number of households with three children that are below the poverty line, but such benefits are successful in achieving an additional reduction in the poverty gap, especially in Zagreb and Rijeka. For households with one child, the policies of neither the central government nor the cities are highly effective in reducing the poverty headcount; however, the local government benefits do manage to reduce the poverty gap to a greater extent than the central government benefits.

Figure 6:

POVERTY HEADCOUNT AND POVERTY GAP FOR HOUSEHOLDS
WITH DIFFERENT NUMBERS OF CHILDREN
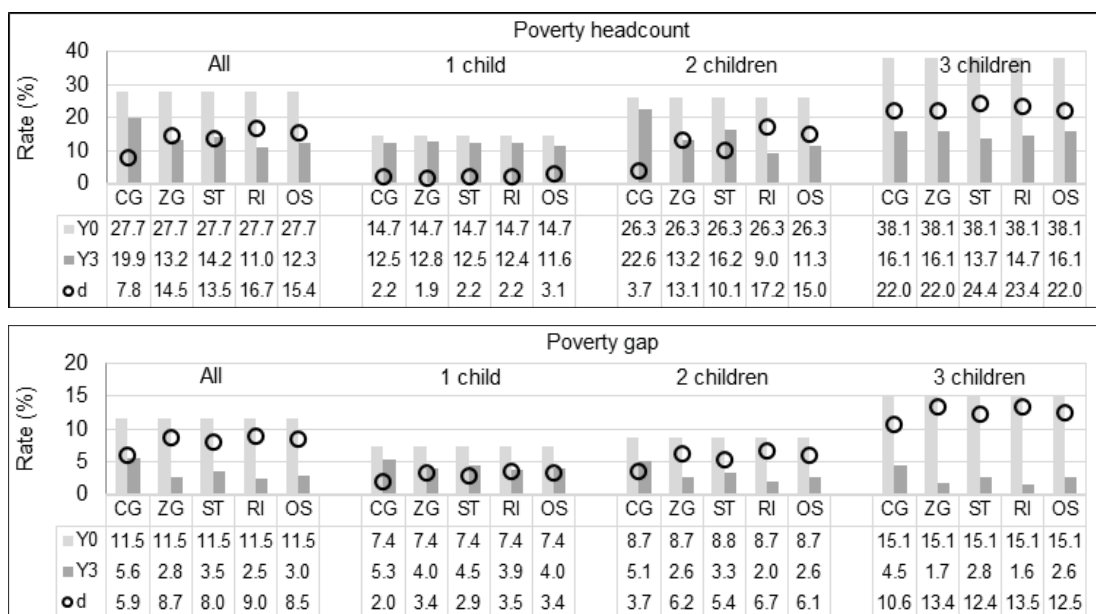
Source: Authors' calculations.

Note: The vertical axis values denote poverty (headcount and gap) levels for post-fiscal incomes Y0 and Y3; own poverty lines are used for each income concept and city. The symbol d denotes poverty reduction, i.e., the difference between poverty obtained by Y0 and Y3. ZG – Zagreb, ST – Split, RI – Rijeka, OS – Osijek.

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4.4 Compensation indices

Relative and absolute compensation indices for each of the four cities are calculated. Child support includes both central and local government support. In scenario CG, only central government child support is considered.

The upper chart in Figure 7 shows the mean relative compensation index for the overall population and by quintile groups. The results for the CG scenario reveal that central government child support covers on average 32% of relative child costs (23% if parental benefits are excluded). The highest relative coverage is for the lowest income households (61%), but the second quintile group is poorly covered (13%). The increase in the mean index between the second and fourth quintile groups indicates that child support increases faster than income.

The addition of local social benefits greatly increases the coverage of child-rearing costs. The mean relative compensation index ranges from 51% in Split to 56% in Zagreb. The shape of the distribution across quintile groups in these cities does not differ significantly from the CG scenario. However, it seems that local child support manages to equalise to some extent the relative support for the middle three quintile groups, especially in Zagreb.

The absolute compensation index (lower chart in Figure 7) has a very similar pattern to that of the distribution of support for families with children (see Figure 2 and Figure 3). Local government benefits increase the coverage of child-rearing costs, and Zagreb is found to be the most generous city, followed by Rijeka, Osijek and Split.

Figure 7:

MEAN RELATIVE AND ABSOLUTE COMPENSATION INDICES BY INCOME QUINTILE GROUPS.
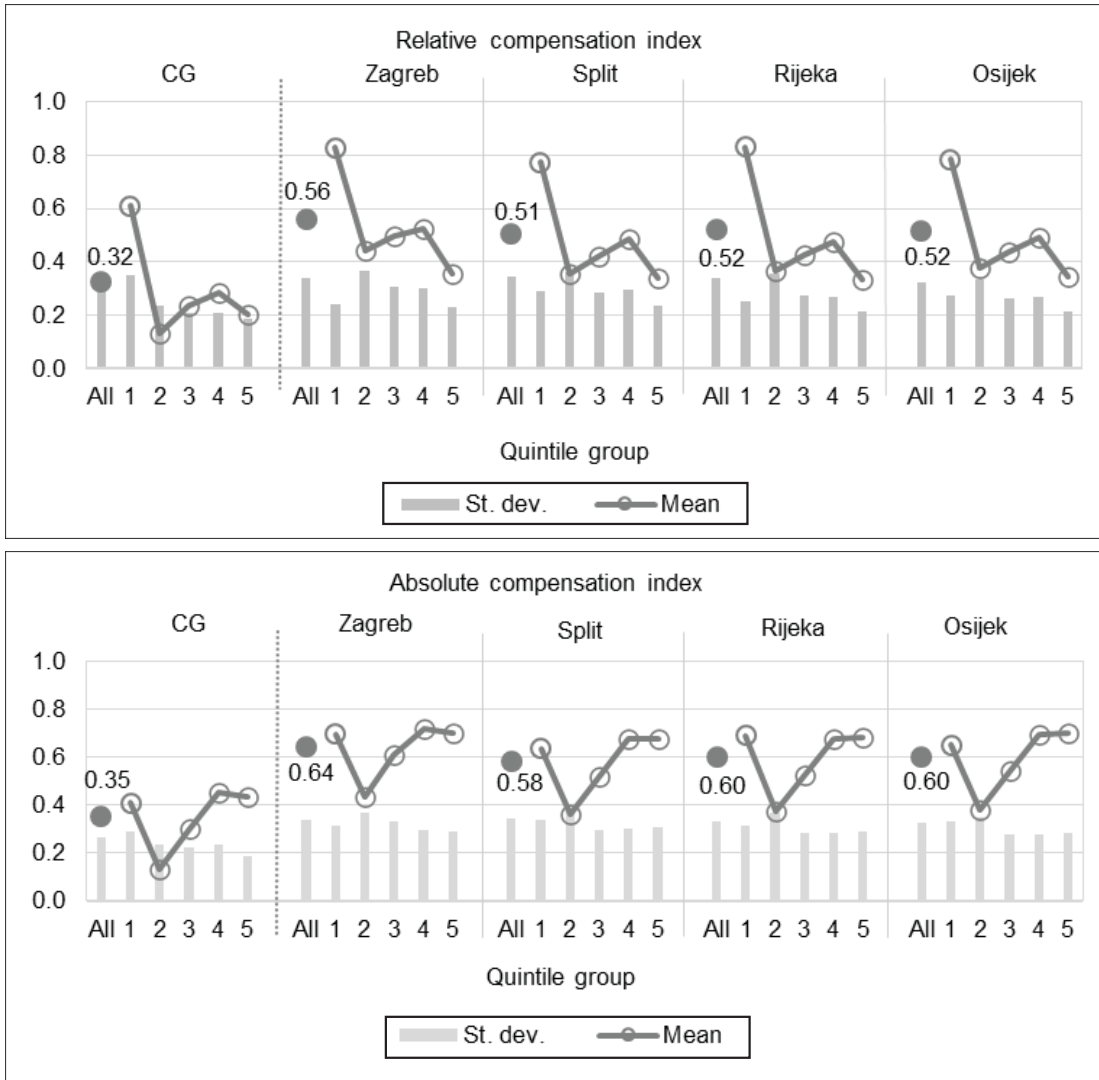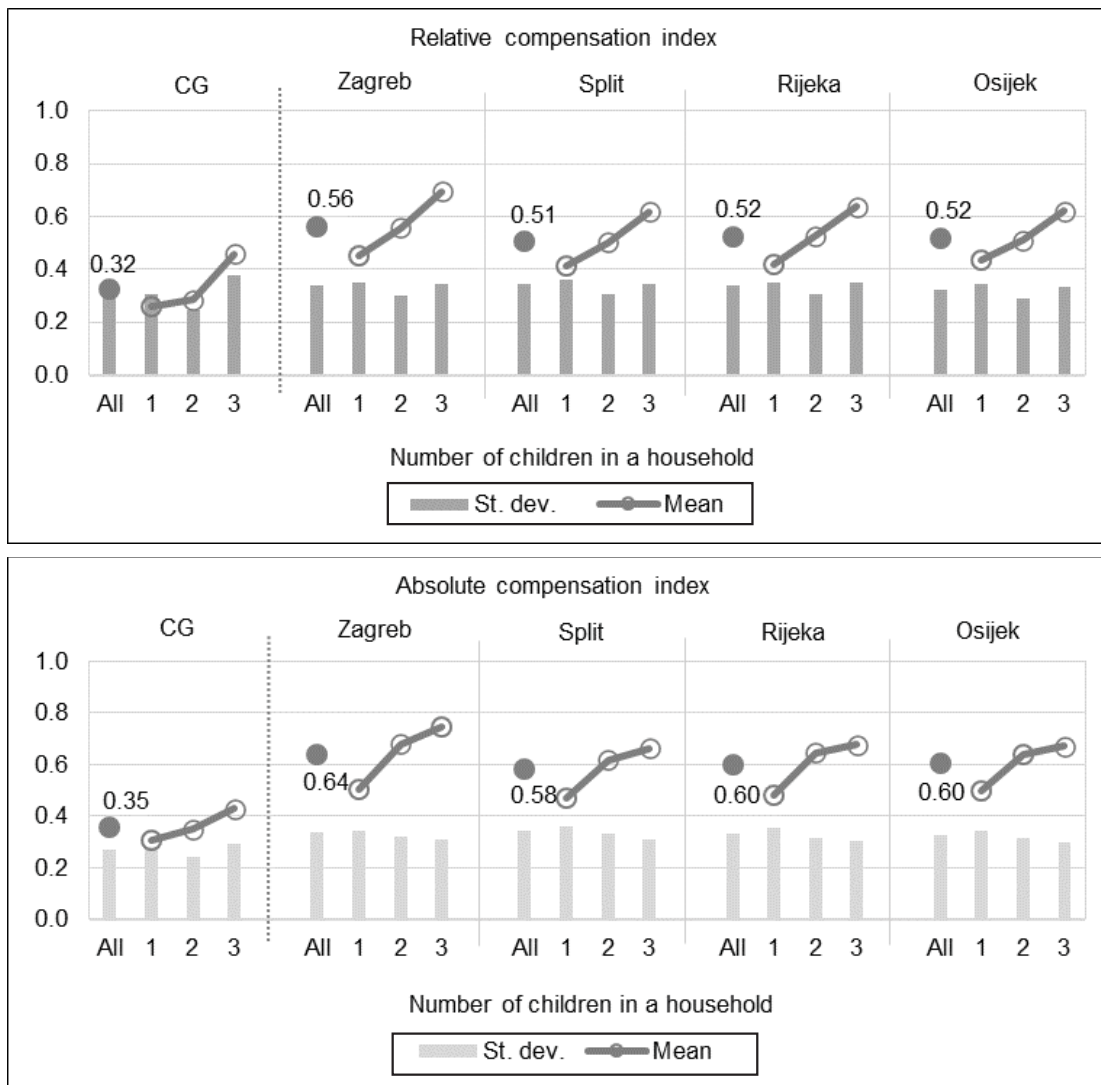

Source: Authors' calculations.

Note: Horizontal axis presents quintile groups formed according to MOS-equivalised pre-PIT income on the entire sample. Vertical axis shows the mean index in the respective quintile group. 'All' is the average value for all households. 'CG' represents a scenario which only includes the child support from the central government.

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Compensation indices for households with different numbers of children (Figure 8) show that support is doubled when local benefits are added to those provided by the central government but also reveal that families with three children receive almost double the compensation received by one-child households.

Figure 8:

MEAN RELATIVE AND ABSOLUTE COMPENSATION INDICES FOR HOUSEHOLDS WITH DIFFERENT NUMBERS OF CHILDREN.

Source: Authors' calculations

5 DISCUSSION AND CONCLUSION

Local child-related benefits represent an important complement to the respective tax-benefit policies administered by the central government in Croatia. However, little is known about their impact on child poverty and on the extent to which they compensate for child-rearing costs. Using novel indicators and micro-simulation techniques, this research attempts to fill in this gap by assessing the distributional impact of child support policies in four major Croatian cities: Zagreb, Split, Rijeka and Osijek. The impact of the policies in each region, had they been implemented in all densely populated parts of the country, is simulated. This approach allows us to isolate the distributional impact of local policies from that of sociodemographic and other characteristics of each city.

Our findings suggest that local family benefits greatly increase and complement central government policies. The additional support from local policies greatly increases the monetary magnitude of entitlements, with increases ranging from 83% in Split, Rijeka and Osijek to 100% in Zagreb (on average per child) over the CG-level entitlements. The analysis of the CG policies confirms the findings of previous research pointing to the regressive distribution of support for families with children (Urban, 2014; World Bank, 2014). With the addition of local benefits, the pattern of the distribution does not improve much, still maintaining a convex shape.

The subsidies for kindergarten and transportation were found to be the largest benefits across the income distribution and, as expected, they also prove to be (among the) most effective benefits in terms of poverty reduction. However, despite the seeming generosity of kindergarten subsidies, Croatia still lacks high-quality and affordable childcare, as its enrolment rates are among the lowest in the EU (Eurostat, 2018a; Mills et al., 2014). Kindergarten enrolment can have long-term positive effects on child development, even into college (Cameron & Heckman, 1999; Sylva, Melhuish, Sammons, Siraj-Blatchford, & Taggart, 2004; Whiteford & Adema, 2007). It can increase the labour supply of parents and in that way can also increase tax revenue (Goux & Maurin, 2008). Of the four cities under consideration, only Osijek provides fully subsidised kindergartens to the poorest, while Split has a universal subsidy for all households. The addition of the underdeveloped parts of Croatia to our simulations would reveal even greater differences: local units without subsidies and even no available kindergartens.

In a comprehensive study of the Croatian early childhood education and care (ECEC) system, Dobrotić, Matković, & Menger (2018) emphasised large regional differences in ECEC coverage rates, preferences for children with both parents employed and a lack of fiscal capacity at lower government levels, among other issues. Despite the fact that our analysis only covered the four most developed

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Croatian cities (with high pre-school enrolment rates), it showed how kindergarten subsidies greatly help the family budget. Taking into account the very low female employment rate, increased financing of kindergartens should be considered. In alignment with the conclusions of Dobrotić et al. (2018), due to the low fiscal capacities of some local units, the central government should partially finance child care and enable free ECEC for every child.

New-born grants are an important benefit for pre-school children and their parents (Šućur et al., 2016). Zagreb provides the most generous grant for families with three or more children, which proved to be an important contributor to disposable income for lower income households (much more so than in the upper quintiles) despite its universality. These grants are widely heterogeneous among the local units of the country, and it is a common practice to heavily support "large families" with new-born grants (Jurasić, 2018). The large difference between the benefit amount for the third and every subsequent child compared to the amounts provided for the first and second child calls for a closer investigation of the policy's design. To a certain extent, it is difficult to justify these measures, since previous research does not confirm that such policy designs actually increase the number of births—it solely affects their timing (Adda, Dustmann, & Stevens, 2017; Gauthier, 2007; Hoem, Prskawetz, & Neyer, 2001). These high pronatalist grants should be mostly provided in underdeveloped and underpopulated parts of the country with the aim of reducing the emigration of young families and decreasing the strong centralisation of Croatia.

Child poverty levels in Croatia might not be as high as in some other EU countries (e.g., Romania, Bulgaria, and Mediterranean countries), but there is still ample scope for improvement (Eurostat, 2018b). Overall, Zagreb and Split, closely followed by Rijeka, have the most successful policies in terms of poverty reduction, while the policies of Osijek are slightly less successful. The analysis of different poverty indicators enabled us to better understand the role of each benefit. On the one hand, the poverty headcount index pointed to the relevance of universal and generous benefits. On the other hand, the poverty gap measure demonstrated the poverty-reduction effects of targeted benefits (mainly social assistance benefits). As Rubil (2013) stated, when aiming for poverty reduction, the exact goals should be known: either poverty headcount reduction or an increase in the incomes of those closest to the poverty line. Such planning can be used to form successful policies. An example of a good policy is Rijeka's housing benefit, the most successful housing benefit in terms of poverty reduction due to its relatively generous means-testing thresholds. The budgets of cities are limited; however, following Rijeka's example would be a step forward in tackling child poverty.

A certain amount of caution is called for when interpreting our results. The main issues, which have to do with either our approach or our assumptions, are

briefly discussed below. First, the assumption of full take-up is unrealistic for the majority of benefits. However, accounting for benefit non-take-up has not been possible due to a lack of external information on the magnitude of this issue. Second, even though miCROmod allows us to simulate the Croatian tax-benefit system with a high degree of accuracy, certain aspects of it may still be simplified or not simulated at all (such as, for example, the social assistance benefits provided by some regional governments). Third, in-kind benefits provided by the central government are not simulated, such as health services and education. Their inclusion in the analysis would significantly alter the relative importance of local versus general government benefits. Finally, the lack of residency data in the ILCS does not allow for an exploration of the effects of these policies on local budgets. Gaining access to this information would enhance the relevance of this analysis and open new research horizons in terms of spatial microsimulation modelling (Ballas & Clarke, 2001; Harding, Vu, Tanton, & Vidyattama, 2009).

Keeping these caveats in mind, this research offers a detailed first look at the anti-poverty effectiveness of local child-related benefits in Croatia and the extent to which they compensate for child-rearing costs. Given the fiscal constraints that the country is facing, decisions related to social spending at the local and central levels are bound to remain a compromise between various conflicting targets and priorities. Reaching this compromise in an evidence-based way requires a sound understanding of the policies and their distributional potential. This analysis constitutes a vital step in this direction.

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APPENDIX A: DESCRIPTION OF FAMILY POLICIES

This appendix provides a brief description of analysed family policies on the central government level, as well as for the four cities in question. The policy rules are valid on June 30, 2017. More detailed information is available in EUROMOD and miCROmod reports (Urban et al., 2018b, 2018a). Information about the policies is collected from the official gazettes and websites of the central government, Zagreb, Split, Rijeka and Osijek.

(1)   Central government (CG) benefits

At the central government level, child benefit, grant for a new-born child, group of parental benefits, PIT allowance for dependent children and a group of social assistance benefits are assessed.

Child benefit (*doplatak za djecu*) is provided to households with children whose monthly net income per member is below the threshold of HRK 1,663. It is a means-tested benefit, and the entitled amount for each child depends on the household's income (Table A1). In addition to the basic amount, the so-called "pronatality supplement" is provided to families with three (HRK 500) and four or more children (HRK 1,000).

Table A1:

CHILD BENEFIT PER CHILD, MONTHLY (HRK), 2017.

Household net income per member	Amount per child
< 543.14	299.34
543.14 – 1,119.53	249.45
1,119.53 – 1,663	199.56

Source: Urban et al. (2018a)

The guaranteed minimum benefit (GMB; *zajamčena minimalna naknada*) is provided to persons and households with low incomes and is equal to the difference between their net household income and the household specific "means of subsistence". The presence of children in household increases the means of subsi-

stence for the household. Means of subsistence for a single person household are equal to HRK 800. For a multiple-member household the means of subsistence are equal to the sum of amounts for each member: HRK 480 for an adult member, HRK 320 for each child. In single-parent households the adult obtains HRK 800, and each child obtains HRK 440.

Among social assistance benefits, the compensation for electricity costs (*naknada za ugroženog kupca energenata*), which is provided to GMB beneficiaries or those entitled to a personal disability allowance in the amount of up to HRK 200, to cover the costs of electricity (in the form of a coupon) is also assessed.

Parents of a newborn are entitled to a grant (*novčana potpora za novorođeno dijete*), a lump-sum payment of HRK 2,328. A similar benefit is also paid by the cities; to differentiate between central and local government benefits, "CG grant for a new-born children" and "LG grant for a new-born children" labels are used.

Parents are also entitled to parental benefits which include the maternity leave benefit (*naknada za rodiljni dopust*), parental leave benefit (*naknada za roditeljski dopust*) and maternity and parental allowance (*naknada za rodiljnu i roditeljsku brigu i poštedu od rada*). These benefits serve also as income replacement during absence from work due to child-rearing. Since July 2017, parental benefits have been subject of a reform, which increased the minimum and maximum amounts of these benefits.

Employed and self-employed mothers are entitled to the maternity leave benefit from the 28th day (or 45th day with medical approval) before the expected delivery date, up to 6 months after the birth of the child. The benefit equals the benefit base, which depends on the mother's net income in the period preceding the maternity leave. The minimum benefit amount equals HRK 1,663.

Parental benefit can be claimed by both (self)employed parents and it can last from 6 to 30 months, depending on the number of children and split of the leave between parents. The benefit amounts from HRK 1,663 to HRK 2,661.

Maternity and parental allowance is a non-contributory parental benefit obtained by unemployed or inactive persons, temporary and agricultural workers, upon birth of the child. The amount of the benefit is HRK 1,663 and the leave lasts for 12 or 36 months (dependent on the number of children).

PIT taxpayers with dependent children are entitled to a tax allowance (HRK 1,750 for the first child, HRK 2,500 for the second child, HRK 3,500 for the third child, etc.). The effective support from the child tax allowance depends on the amount of income and the marginal tax rate. The PIT schedule has two brackets, with marginal rates of 24% and 36%. Due to the PIT progressivity, higher income households receive greater support from the child tax allowance. Furthermore,

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low income taxpayers cannot effectively use the support from child tax allowance, because their income is below the basic personal allowance. There is no joint taxation for couples in Croatia, but partners can split the child tax allowance in any desired ratio.

(B) Local government (LG) benefits

Housing benefit (*naknada za troškove stanovanja*) is a means-tested benefit intended for low income households to cover the costs such as rent and utility bills. The benefit ceiling is set to 50% of the "means of subsistence". Households eligible for the housing benefit of Zagreb, Split and Osijek are the GMB beneficiaries, while Rijeka applies its own income test, which captures a wider range of low-income households. Rijeka's income test is as follows. Total net income of a household with 1; 2; 3; 4; n > 4 members must not exceed HRK 2,300; 2,900; 3,900; 5,000; 5,000 + (n – 4) * 700. For a single parent household, the respective amounts are augmented by 20%.

LG grant for newborn children (*novčana pomoć za novorođeno dijete*) is the benefit provided to households with residence in the respective city. It is usually paid out as a one-time lump sum, and in some cases in several yearly instalments (Table A2).

Table A2:

NEW-BORN GRANTS OF ZAGREB, SPLIT, RIJEKA AND OSIJEK (HRK), 2017.

Child	Zagreb	Split	Rijeka*	Osijek**
First	1,800	2,000	1,500	
Second	3,600[a]	3,000[a]	2,000	
Third	54,000[c]	4,000[a]	3,000	2,000
Fourth	54,000[c]	5,000[b]	3,000	
Fifth	54,000[c]	6,000[b]	3,000	

Source: Urban et al. (2018b)

*Note: The amounts for the first five children are shown. * Low-income households receive an additional coupon for child products of HRK 2,000. ** GMB beneficiaries obtain HRK 3,000. [a (b, c)] Paid in 2 (3, 6) yearly instalments.*

Subsidy of pre-school programs in public kindergartens (*subvencioniranje cijene predškolskih programa*) is the most generous benefit provided at local level, and depends on income level and other criteria (e.g. number of children in kindergarten, disability status, single parent status). The amount of support is equal to the difference between the economic and subsidised price. The monthly economic price is fixed to HRK 2,000 for all four cities in the model (the actual economic prices vary from HRK 1,760 to HRK 2,167; see Urban et al., 2018b). Due to lack of information the following is assumed: all enrolled children attend the standard full-day kindergarten program, as this is the most common practice in the country. Table A3 shows subsidised prices and selected discounts for special groups of users.

Table A3:

PUBLIC KINDERGARTEN FEES FOR A FULL DAY PROGRAM, PER CHILD, MONTHLY (HRK), 2017.

	Zagreb	**Split**	**Rijeka**	**Osijek**
Subsidised price	150; 300; 450; 600 (according to income test)	480	550; 600; 720 (according to income test)	0; 640 (according to income test)
Selected discounts:				
Single parent	25%	50%	/	30%
GMB beneficiary	80%	100%	100%[a]	/
CB beneficiary	/	50%[b]	30%	/

Source: Urban et al. (2018b)

Note: CB – child benefit; GMB – guaranteed minimum benefit; [a] Including households with low incomes according to Rijeka income test; [b] for families with three or more children. Discounts are also available for the second, the third (and subsequent) children, when two or more children are simultaneously involved in the program.

Public city transport is subsidized (*subvencija javnog gradskog prijevoza*) in the four analysed cities in a form of reduced monthly or yearly tickets. Children in education usually pay lower rates. In low-income households, children, and often the head of the household, are entitled to fully subsidized transport. Analogously as for kindergarten subsidies, the support for families with households is defined as the difference between the subsidised and economic price. The monthly economic price is fixed to HRK 250 for all cities (actual economic prices vary between HRK 275 and HRK 360; Urban et al., 2018b). Table A4 provides more details about prices for different groups of users.

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Table A4:

PRICES OF MONTHLY TICKETS IN CITIES (MAIN ZONE) IN HRK, 2017.

	Zagreb	**Split**	**Rijeka**	**Osijek**
Reduced prices				
Pupils in elementary school	90	130	92	55
Pupils in high school	100	130	134	55
University student	100	130	134	120
Full price subsidy				
Pupils and students from low-income households	yes	yes*	yes	yes

Source: Urban et al. (2018b)

*Note: * From households with three or more children, which receive child benefit.*

Reduced prices in all cities are also available to pensioners. Full price subsidies are also available for various groups of adults (unemployed, with disability, recipients of social assistance benefits, etc.)

APPENDIX B: POVERTY ANALYSIS

The following formula was used to measure *child poverty*:

$$P_\alpha(I_i, z) = \frac{1}{N_c} \sum_{i=1}^{n} c_i w_i \max\left(0, \frac{z - \overline{I}_i}{z}\right)^\alpha, \tag{1}$$

where I_i represents the income, $\overline{I}_i$ is the MOS-equivalised income, z is the poverty line, $N_c = \sum_i^n c_i w_i$ is the total number of children in the population, w_i is the sample weight of household i, and n is the number of households in a sample. For $\alpha = 0$ and $\alpha = 1$ the child poverty headcount and child poverty gap measures are obtained, respectively.

APPENDIX C: COMPENSATION INDICES

The following formula was used to calculate the relative compensation index RC_i:

$$RC_i = \frac{\min(S_i, C_i^R)}{C_i^R}, \tag{2}$$

where S_i denotes the total child support obtained by a household i, and C_i^R denotes the relative child-rearing cost, which is obtained as follows:

$$C_i^R = \frac{\Psi_i(0.5 \cdot e_i + 0.3 \cdot d_i)}{1 + 0.5 \cdot (a_i - 1)}, \tag{3}$$

where a_i, d_i and e_i denote the numbers of household members aged 18 years or more, 14 to 17 years, and 0 to 13 years, respectively, and Ψ_i represents the counterfactual income (equal to the monetary augmented income, Y3, minus the monetary value of child support). Evidently, C_i^R increases with income. The absolute compensation index, AC_i, is obtained analogously as in equation (1); C_i^R is replaced by the absolute child-rearing cost, C_i^A, which has a fixed amount for all households. C_i^A is set to be equal to the median MOS-equivalised income Ψ.

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LOKALNE SOCIJALNE NAKNADE U HRVATSKOJ: KOLIKO POKRIVAJU RIZIK OD SIROMAŠTVA I POTREBE OBITELJI S DJECOM?

Sažetak

Obiteljska politika i njen utjecaj na dobrobit obitelji česta su tema istraživanja. Međutim, lokalne socijalne naknade obično se u tim istraživanjima zanemaruju. Ovaj rad istražuje koliko najvažnije novčane naknade i naknade u naravi lokalne samouprave, koje pružaju glavni grad Hrvatske (Zagreb) i tri najveća grada (Split, Rijeka i Osijek), pokrivaju troškove brige o djeci i zaista smanjuju njihovo siromaštvo. Korištenjem mikrosimulacijskih tehnika procjenjuju se potpore obiteljima s djecom i njihovi distribucijski učinci. Rezultati pokazuju kako su lokalne naknade komplementarne naknadama središnje države i da značajno povećavaju potporu obiteljima, ali postoje razlike između gradova. Naknade Zagreba i Rijeke su najveće i najučinkovitije, a slijede ih naknade Splita i Osijeka. Glavna ograničenja ovog istraživanja proizlaze iz upotrebe mikrosimulacijskog modela. Naime, pretpostavlja se da svi potencijalni korisnici ostvaruju pravo na naknade, a određene naknade nije moguće simulirati zbog nedostatka podataka. Ovaj je rad prva sveobuhvatna studija o obiteljskim naknadama na razini središnje i lokalne države u Hrvatskoj.

Ključne riječi: miCROmod, lokalna samouprava, obiteljska politika, dječje siromaštvo