Investing in Children: The Impact of EU Tax and Benefit Systems on Child Poverty and Inequality

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Abstract

The EU committed to meet the poverty reduction target set in the European Pillar of Social Rights Action Plan, which entails to reduce the number of children at risk of poverty or social exclusion by 5 million by 2030. The paper assesses the impact of child-contingent cash support in EU-27 in 2019-2022 on child poverty and inequality and sheds light on the role this kind of support plays, or could further play, when it comes to meeting the 2030 child poverty target. We use the microsimulation model EUROMOD to identify child-contingent cash support and find significant variation in average support per child across EU-27, ranging from 3.2% of GDP per capita in Ireland to 12% of GDP per capita in Austria. Correspondingly, the impact of child-contingent cash support on reducing child at-risk-of-poverty rates varies from 4 p.p. in Portugal to 16 p.p. in Slovakia. The inequality-reducing effect is highly correlated with poverty reduction. With rare exceptions, countries rely on child benefits as a primary source of child-contingent cash support, as opposed to tax-based support. Non-poor households receive over 50% of total child-contingent cash support in most EU countries. Means-tested benefits, while better targeted to impoverished households, do not always provide enough support to lift them above the poverty line. We do not observe correlation between child-contingent cash support, other benefits, and in-kind child support.

Acknowledgements

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Executive summary

Investing in child welfare is a cornerstone of the European Union's social policy, integral to mitigating child poverty and promoting equity among families. The European Pillar of Social Rights Action Plan seeks to reduce the number of children living at risk of poverty and social exclusion by 5 million by 2030. In this context, the working paper provides an in-depth analysis of child-contingent cash support in EU-27 from 2019 to 2022 and its impact on child poverty and inequality. This analysis is crucial given the high child at-risk-of-poverty rates in the EU, with 19.3% of individuals under 18 being at risk of poverty in 2022, alongside significant variation in child at-risk-of-poverty rates across Member States. The EU has long recognized the importance of addressing child poverty, through initiatives such as the European Commission's Recommendation "Investing in children: breaking the cycle of disadvantage" and the recent adoption of the European Child Guarantee, which aims to provide effective and free services for children.

The paper's key conclusions reveal stark disparities in the extent, composition, and distribution of child-contingent cash support across EU Member States. The average support per child ranges from 3.2% to 12% of GDP per capita, with countries employing different policy mixes to reduce child poverty and inequality. Consequently, child-contingent cash support has varying impacts on reducing child at-risk-of-poverty rates, with reductions ranging from 4 to 16 percentage points. The effectiveness in reducing poverty and inequality is generally correlated, as countries achieving higher poverty reductions also experience greater inequality reduction through this support.

The main findings underscore the correlation between poverty reduction and inequality reduction, with successful countries typically relying on a mix of universal schemes, contributory parental leave, and means-tested policies to achieve significant results in decreasing child at-risk-of-poverty rates. Notably, non-impoverished households receive over 50% of total child-contingent cash support in most EU countries. Yet, non-means-tested benefits play a crucial role in poverty alleviation for children. Means-tested benefits, while well-targeted, often fail to lift families out of poverty due to low adequacy.

While on average EU countries that have higher pre-fiscal child at-risk-of-poverty rates also spend more on child-contingent cash support, there is a group of countries that spend little despite high pre-fiscal poverty and inequality. Moreover, the analysis reveals no observed correlation between child-contingent cash support and other types of spending, including in-kind child support, emphasizing the need for a multi-faceted approach to addressing child poverty and inequality in the EU.

The paper stresses the need for a comprehensive approach to child-contingent cash support to effectively address child poverty and inequality in the EU-27. It provides valuable insights for policymakers and stakeholders involved in the implementation of the European Pillar of Social Rights Action Plan and offers implications for future research and analyses. Future work could focus on investigating the broader effects of child-contingent cash support, analysing the labour supply effects of different child-contingent cash instruments, and simulating policy reforms to achieve higher EU convergence in reducing child poverty. The evidence produced shall become instrumental in guiding EU policymaking and further enhancing the understanding of child poverty and inequality in the EU.

1 Introduction

Children consistently face higher poverty than the rest of the population. In the European Union (EU), 19.3% of individuals under the age of 18 were at risk of poverty in 2022, compared to a population-wide average of 16.5%. Nevertheless, these numbers reveal a substantial extent of heterogeneity across EU Member States, with child at-risk-of-poverty (AROP[1]) rates exceeding 27% in Bulgaria, Romania and Spain, whereas remaining below 11% in Denmark, Finland and Slovenia.[2] The EU has undertaken major efforts to combat child poverty, fostering upward converge in this matter in the EU, and the importance of child well-being has consistently featured in EU policy discourse. Article 3 of the Treaty of the EU already laid down the protection of the rights of children as a guiding principle of the EU, and Article 17 of the Revised European Social Charter recognised the need of undertaking appropriate measures to ensure that children have the necessary care, assistance, education and training. In alignment with these principles, the European Commission adopted in 2013 a Recommendation entitled "Investing in children: breaking the cycle of disadvantage"[3], which provided EU Member States with guidelines to act against child poverty and social exclusion, focusing on ensuring access to adequate resources and affordable quality services, as well as supporting children's participation in society. The EU committed to meet the poverty reduction target set in the European Pillar of Social Rights Action Plan, which entails to reduce by 15 million the number of people at risk of poverty or social exclusion, including at least 5 million of children, by 2030. Additionally, a Council Recommendation aiming at establishing a European Child Guarantee was adopted in 2021 with emphasis on the provision of effective and free services for children, such as early childhood education and care.[4]

The allocation of public resources to children, complementing the role of families in this matter, is generally deemed as a sound public investment for its large socioeconomic significance. Specifically, by compensating the costs associated with raising children, this investment contributes to equivalising the incomes of families with and without children (Verbist and Van Lancker, 2016). Moreover, it proves high effectivity in combating (child) poverty (Bárcena-Martín et al., 2018; Leventi et al., 2019), thereby narrowing the gap between poorer and richer families, with family transfers characterized as one of the most progressive social transfers in several OECD countries (Joumard et al., 2013). Importantly, the effects extend beyond monetary outcomes, influencing key determinants of a child´s development, including improved educational (Danziger and Waldfogel, 2000) and health outcomes (Belli et al., 2005). The long-term returns of such investments are noteworthy: inclusive policies for children pave the way for their active participation in labour markets, fostering productivity and higher salaries. Growing up in poverty instead bears sizeable costs, such as larger welfare dependence if children become future precarious workers (Esping-Andersen, 2005), as well as crime and health-related costs (Holzer et al., 2008; Blanden et al., 2010). In addressing children needs, the allocation of public resources in this area might also help diminishing the intergenerational transmission of poverty (Jenkins and Siedler, 2007). The OECD has recently estimated the costs from socio-economic disadvantages in childhood to reach 3.4% of GDP annually (Clarke et al., 2022).

EU Member States support children in practice through a compiling variety of policy instruments, displaying large diversity in the design of family policies (Thévenon, 2011). These instruments broadly range from the provision of monetary transfers to in-kind assistance, and its precise combination varies according to diverse social preferences, distributional concerns, expected labour supply effects, fertility aspects, and others (Förster and Verbist, 2012). On the one hand, the provision of monetary

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[1]   We follow the Eurostat definition of at-risk-of-poverty (AROP) rate as the share of people with an equivalised disposable income (after social transfers) below the at-risk-of-poverty threshold, which is set at 60 % of the national median equivalised disposable income.

[2]   Based on Eurostat data as derived from the EU Survey on Income and Living Conditions (EU-SILC). If the indicator considers also social exclusion, the so-called at-risk-of-poverty rates or social exclusion go up to 24.7% in the case of children, and 21.6% for the whole population. Indicators [ilc_li02] and [ilc_peps01n], available at: https://ec.europa.eu/eurostat/data/database (last accessed: 19 January 2024).

[3]   2013/112/EU: Commission Recommendation of 20 February 2013 Investing in children: breaking the cycle of disadvantage.

[4]   Council Recommendation (EU) 2021/1004 of 14 June 2021 establishing a European Child Guarantee.

assistance typically involves transferring cash to families through social transfers and tax-based support, according to each Member State's tax and benefit legislation. According to Eurostat data, social transfers help reducing child AROP rates by 42% in the EU, depicting yet limited effects in Spain, Greece or Romania (of approximately less than 25%), whereas triggering much higher impacts in Finland, Ireland or Germany (of over 57%).[5] Notably, these numbers do not account for the extent of tax-based support, which holds relevance in several EU countries, calling for a comprehensive metric that encompasses both benefit and tax-based support (Figari et al., 2011). On the other hand, the provision of in-kind assistance typically involves the delivery of services, such as childhood education and childcare, healthcare for children, and others. These services can also help reducing child poverty, particularly through the facilitation of parents´ employment (Morrisey, 2017). Moreover, in-kind benefits might pose significant distributional consequences depending on the location of children in the income distribution (Paulus et al., 2010). Yet the measurement of in-kind mechanisms, particularly their transformation into monetary terms as to evaluate distributional effects remains a challenge (for a compendium of methodological issues, see Verbist and Matsaganis, 2014).

In this paper, we examine the extent and distribution of public resources available for children across all EU Member States over the period 2019-2022, mainly assessing the impact of monetary instruments on child poverty alleviation and inequality reduction. Our work builds upon the foundational studies of Corak et al. (2005) and Figari et al. (2011), which laid the groundwork for a comprehensive measurement of child-contingent cash support via microsimulation modelling, encompassing both benefit and tax-based monetary support. We aim at complementing their research by updating the reference period and extending its scope to include all EU-27 Member States, while emphasizing some granular aspects on the provision of child-contingent cash support, including their age-specific profile (along the lines of Fidanovski, 2023), as well as their means-tested and universal characteristics (in the spirit of Van Lancker and Van Mechelen, 2015). Additionally, we briefly explore the magnitude of in-kind support for children in the EU, through a calculation of child-related health and education expenses, albeit as a supplementary analysis to the main assessment of child-contingent support. In that respect, we explore whether any link between monetary and in-kind assistance manifests in our analysis. The underlying rationale for undertaking this work is to underpin and support EU and national policymaking, specifically, although not exclusively, within the context of the recently approved European Child Guarantee and the complementary target of reducing child poverty and social exclusion in the European Pillar of Social Rights Action Plan.

Our results confirm a large heterogeneity in the amount, composition, and distribution of child-contingent cash support in the EU, with support per child ranging from 3.2% of GDP per capita in Ireland to 12% of GDP per capita in Austria. Countries rely on different policy mixes, although a benefit-based approach typically predominates via the provision of transfers at childbirth or for child-rearing. The effectiveness in reducing child poverty and inequality varies, generally correlating with each other. Overall, countries with higher child AROP rates before child-contingent cash support achieve higher reductions through the support, with some exceptions. Countries successful in reducing child poverty typically employ a mix of universal schemes, contributory parental leave, and means-tested policies. Non-impoverished households receive a significant share of child-contingent cash support. Our analysis suggests that there is no direct link between child-contingent cash support and other spending types, including in-kind child assistance, and underscores the need for a multi-faceted approach to address child poverty and inequality reduction in the EU.

The document is organised as follows. After this introduction, Section 2 categorises further the public mechanisms available to support children, and revises relevant research exploring their distributional effects in the EU. Section 3 describes the data and methodology used, with special emphasis on the calculation of child-contingent cash support, while Section 4 presents the results. Section 5 concludes.

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[5] Based on Eurostat data as derived from the EU-SILC. Indicators [ilc_li10] and [ilc_li02], available at: https://ec.europa.eu/eurostat/data/database (last accessed: 19 January 2024).

2 Policy instruments to support children: a review of their distributional effects in the EU

The identification and categorization of policy instruments supporting the well-being and development of children is challenging. Following a conventional taxonomy, these instruments can be grouped into two categories: monetary transfers and in-kind assistance. On the one hand, the provision of monetary transfers involves giving cash to families, typically through benefits and tax-based support. According to Corak et al. (2005) and Figari et al. (2011), this category can be further divided into two subcategories: child-contingent and non-child-contingent cash support. Child-contingent cash support derives from schemes specifically tied to the presence of children in the household, such as a child benefit, a supplement payment for children in social assistance, or a child-related tax relief. Non-child-contingent schemes, on the contrary, are not contingent on the presence of children, such as an old-age pension, yet they may still serve as a source of support for children depending on how incomes are shared within the household. On the other hand, the provision of in-kind support, rather than offering cash to families, delivers direct services, such as childcare facilities, childhood education and healthcare, and other sources of non-monetary assistance (e.g. healthy nutrition, adequate transport to education facilities, etc.).

A large body of literature reflects on the effectiveness of different policy instruments for children in reducing poverty.[6] Considering data limitations, most comparative studies typically focus on the analysis of monetary assistance. At the outset of the 2000s, Immervoll et al. (2001) already pointed out the significant role of family benefits in preventing child poverty, although with varying impacts across the EU, underscoring the limited role of family transfers in southern European countries as compared to Belgium, Austria, France, or the Netherlands. Along the same lines, Matsaganis et al. (2006) explored in depth the case of southern Europe, accounting in their analysis for the role of tax reliefs as well. Their research delved into the potential role of implementing universal child-related schemes, which, at the time, and perhaps still persistently, had limited prevalence in southern Europe. The authors conclude that "combining a universal (if low) income base with targeted policies could be an effective way to reduce child poverty in southern Europe at a reasonable cost to the taxpayer" (p.194). More generally, the universalism-versus-targeting dilemma in the design of family policies is studied in detail in Van Lancker and Van Mechelen (2015). Their findings suggest that European welfare systems characterized by "targeting within universalism" tend to outperform other systems, either purely focused on targeting or universalism, in terms of poverty reduction. In the spirit of analysing different antipoverty strategies, Barcena-Martin et al. (2018), by means of accounting for all expenditure in social transfers yet missing the extent of tax reliefs, shows that a pro-child targeting strategy reduces child poverty to a larger extent than a pro-poor targeting strategy, considering the large presence of children in low-income deciles. In a similar vein, Leventi et al. (2019) delve into the budgetary dimension of various anti-poverty policies, specifically addressing their cost-effectiveness. Examining seven EU countries with diverse welfare systems, the study finds that child benefits, in conjunction with social assistance, emerge as particularly cost-effective means of poverty reduction compared to alternative policy options, such as adjustments to tax thresholds.

Of interest not just for its findings but also for its methodological approach to measuring monetary assistance for children, the studies of Corak et al. (2005) and Figari et al. (2011) propose a comprehensive measure of child-contingent cash support, hence accounting for a larger variety of tax and benefit instruments contingent upon the presence of children in the household. This approach contrasts with conventional studies based only on family transfers. Their findings reveal that analyses based only on transfers labelled for children significantly underestimate the extent of support, pointing out how tax reliefs and complements for children in housing or social assistance, for instance, can be

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[6]   Notably, our paper does not intend to offer a comprehensive overview of the literature. Instead, we reflect on some previous research as means of contextualizing our results. For a comprehensive literature review, for instance, within the field of microsimulation modelling of child benefits, see Urban and Pezer (2018).

of relevant magnitude in several EU countries. Additionally, they discuss the importance of non-child-contingent benefits in filling the gap left by child-contingent cash support. The latter can be particularly important in countries with a large presence of multigenerational households (e.g., southern Europe countries), in which pensions emerge as poverty-reducing mechanisms not only for the elderly, but also for children (Diris et al., 2017). Moreover, and upon the calculation of child-contingent cash support, Pezer (2022) recently brought attention to the extent of monetary support according to the birth order. The author shows that the generosity in child-contingent cash support tends to increase with each additional child for several EU countries, although points out that "while additional policies can be provided to large families who are at higher risk of poverty, generous targeted support for lower-income households, even with declining support with birth parity, can be shown to be more efficient in covering child-rearing costs for such households" (p.266).

Research centred on the distributional impact of in-kind assistance for children faces challenges in measuring non-monetary instruments (Verbist and Matsaganis, 2014), yet various studies provide insightful results. Förster and Verbist (2012) calculates an "extended income" concept to account for the monetary value of early childhood education and childcare services, illustrating how poverty is more than halved for children enrolled in childcare. Moreover, they find that both monetary and in-kind instruments contribute comparably to inequality reduction, although with varying heterogeneity across countries. Cash transfers perform better, for instance, in Austria, Ireland and Slovakia, as opposed to in-kind benefits in Denmark, Spain, Greece and Italy. With a similar comparative scope on the role of monetary versus in-kind instruments, Nygård et al. (2019) studied the evolution of monetary and in-kind spending for children in a wide range of European countries for over a decade. Their study emphasizes the importance of in-kind services for poverty reduction by enabling parent employment, outperforming the effects of cash benefits, which underwent cost containment practices over the studied period. Taking a closer look at the provision of early childcare services, Van Lacker (2013, 2023), shows that childcare use is however not equally distributed over income, with middle and high-income households benefiting the most. In this context, and as to benefit low-income households to a larger extent, Hufkens et al. (2020) show, throughout the simulation of scenarios aiming at increasing public childcare slots, the importance of targeting for child poverty reduction. In particular, they illustrate a trade-off between poverty reduction and the potential additional revenues retrieved by the introduction of new childcare slots, which in turn facilitate mothers' employment. If new childcare slots are primarily used by mothers with the higher likelihood to be employed, poverty effects are expected to be limited.

3 Data and methodology

3.1 Measuring child-contingent cash support in EUROMOD

This paper uses EUROMOD, the EU static tax-benefit microsimulation model (Sutherland and Figari, 2013). EUROMOD calculates for all EU countries the main tax liabilities and cash benefit entitlements based on the respective tax and benefit laws of each EU Member State. Simulations rely on microdata on individuals and households from the European Union Statistics on Living and Income Conditions (EU-SILC), including information on their sociodemographic and income characteristics. In particular, we use model version I5.99+ for the period 2019 to 2022, using EU-SILC data from 2020 and 2021, which include income-related information from 2019 and 2020, respectively. When the income reference period and the policy year differ (e.g. 2022 policies simulated on 2020 incomes), uprating factors are used to bring the income data up to the policy year.

EUROMOD typically simulates most child-contingent cash support, which we group into three categories, as in Hernández and Picos (2021). The first category encompasses benefits exclusively available for families with children, either at childbirth or until the child reaches a specific age. We refer to these benefits as *child benefits*. The second category includes supplementary payments within unemployment, housing, or social assistance benefits. While these benefits are typically accessible irrespective of the presence of children, they often offer additional amounts for families with children, which we designate as *other benefits*. A third category includes tax mechanisms, such as tax allowances or credits, designed to reduce taxes imposed on parents. We label these as *tax reliefs*. The precision in the simulation of these components varies across countries and can be consulted in Section 4 of the EUROMOD Country Reports, which assesses the validation of EUROMOD simulations vis-à-vis aggregate official statistics.[7]

For the precise calculation in EUROMOD of the abovementioned support, we follow closely the studies of Corak et al. (2005) and Figari et al. (2011). In summary, we remove children from the underlying EU-SILC-based datasets used by EUROMOD, run the model with these counterfactual datasets to deactivate all simulations related to the presence of children, and then compare the outcomes with the baseline simulations that include children. The difference in each household´s disposable income, including and excluding children, accounts for the extent of child-contingent cash support. It can be further decomposed into the arithmetical sum of child benefits, other benefits, and tax reliefs.[8]

A few technical notes on this approach are worth being mentioned. First, we define children as individuals aged below 18 years old cohabiting with their parents and without any sort of market-related incomes (i.e., they can be categorised as economically dependent). It is important to note that some policies might define dependent children at higher ages or based on specific characteristics such as disabilities or being in education. Our measure of child-contingent cash support does not include the support deriving from these alternative definitions. Second, some types of child-contingent cash support cannot be simulated in EUROMOD due to lack of data in EU-SILC, particularly regarding contribution histories. This limitation applies to parental leave benefits, whose entitlement depends on contributing for a specific period. Since these benefits can nevertheless represent a large extent of support in some countries, especially in those with well-developed parental leave schemes, we add them to our measure of child-contingent cash support as self-reported in the EU-SILC data. Third, EUROMOD simulations generally assume full take-up and no tax evasion, except for specific benefits in countries where there is substantial evidence of both phenomena. In this sense, we use the version

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[7]   Available at: https://euromod-web.jrc.ec.europa.eu/resources/country-reports (last accessed: 19 January 2024).

[8]   Notably, children are reintegrated for any subsequent calculations, particularly those on poverty and inequality. Their exclusion from the EU-SILC data serves only the purpose of deactivating in EUROMOD all simulations contingent to their presence. An alternative method would involve adjusting specific pieces of the EUROMOD code related to the presence of children. However, this would pose the risk of making errors in accurately identifying and deactivating the corresponding codes.

of EUROMOD as it is publicly released, thus including take-up and tax evasion adjustments where appropriate.[9]

In what follows, we typically present the amount of child-contingent cash support per child, and as share of GDP per capita to allow comparability across countries. Additional metrics, including Euros, Euros adjusted by Purchasing Power Parities (PPP), and as a percentage of median income, are provided in the Table 1 of Annex 1.

3.2 Computing the poverty and inequality alleviation effects of child-contingent cash support

Relative monetary poverty is commonly measured using the well-established Foster–Greer–Thorbecke indices (FGT, see Foster et al., 1984). They are based on the idea of setting a relative poverty line (usually based on median equivalised disposable income) and measuring the share of the population that lies below, the so-called at-risk-of-poverty (AROP) rate or poverty headcount (FGT(0)). Additionally, we can measure the average relative distance of the population to the poverty line[10], the AROP gap (FGT(1)). Once the poverty line is set, it is possible to measure poverty rates and gaps within specific subgroups of a given population (children in our case).

In the context of a tax-benefit system, we can measure to what extent taxes and benefits reduce the AROP rate. The usual practice is to set the poverty line at 60% of equivalised disposable income (i.e. after taxes and benefits) and compare how the poverty rates and gaps change when adding/subtracting benefits/taxes. For example, in our case we can measure how child-contingent cash support reduces AROP rates and gaps by comparing their values before and after adding this support to disposable income.

However, we find an issue when, besides computing the overall impact of child-contingent cash support in total, we want to calculate the effect of each income component (e.g. child benefits, other benefits and tax reliefs) on reducing the AROP rate. A sequential bias arises from the fact that the impact of an income component on poverty depends on ordering: it is typically larger if the income component is added before the rest of the components and smaller if added after the rest. To prevent any sequential bias of the income component ordering (which in any case is an artificial construction), we use the Shapley decomposition as in Shorrocks (2012): we add the groups of income components to pre-fiscal incomes in all possible sorting sequences and calculate the average impact on AROP rates and gaps across those sequences. In particular, the overall AROP rate reduction can be expressed as follows:

$$PR = \frac{1}{n} \sum_{i=1}^{m} \sum_{j=1}^{n} PR_i^j$$

where

PR_i^j is the AROP reduction induced by income component i within sorting sequence j

m is the number of components

n is the number of all possible sorting sequences

We also follow this approach to measure the impact of other types of social support that are not contingent upon the presence of children in the household (e.g., pensions, unemployment benefits and other assistance).

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[9] For a detailed list of take-up and tax evasion adjustments applied in EUROMOD, see Annex 3 in De Poli et al. (2023).

[10] I.e., the absolute distance to the poverty line divided by the poverty line itself. The index is computed for the whole population, considering zero distance for those above the poverty line. By construction, the maximum value of the poverty gap is that of the poverty rate, in the hypothetical case in which all individuals below the poverty line had zero income.

Similarly to poverty indices, the standard Gini coefficient can be computed before and after receiving specific income components to measure their (relative) inequality-reducing effect, i.e. to measure income redistribution. This redistribution can be decomposed by components, without any sequential bias, as shown in Hernández and Picos (2021), based in turn on Onrubia et al. (2014). In particular, the overall redistributive effect can be decomposed as a weighted average of the individual impact of each component, as follows[11]:

$$RE = G_I - G_F = \sum_{i=1}^{m} \frac{\overline{Y_I + C_\iota}}{\overline{Y_F}} (G_I - G_{I+C_i}) - R$$

where

Y_I is initial income (before child-contingent cash support)

Y_F is final income (after child-contingent cash support)

C_i is each of the m components of child-contingent cash support

G_I is the Gini coefficient of initial income

G_F is the Gini coefficient of final income

G_{I+C_i} is the Gini coefficient of initial income plus component *i* of child-contingent cash support

R is a re-ranking effect, i.e. the Gini coefficient of final income minus the concentration index of the same variable but sorted by initial income ($G_{Y_I} - C_{Y_I}$).

3.3 The challenge of measuring child in-kind support

Along with child-contingent cash support, governments support families with children by offering public services. To estimate the in-kind support in the form of public services in healthcare and education, we use the approach described in Lustig (2023), which focuses on production (de facto) costs. We use annual government expenditure data in Classification of the Functions of the Government (COFOG) disaggregation that follows the methodology described in Eurostat (2019).

We follow the actual use approach for allocating education expenditure, which is common in the literature (Garfinkel et al., 2006; Callan et al., 2008; OECD, 2011). We allocate the preschool, primary, secondary, or tertiary education costs to individuals de-facto enrolled in the corresponding education level as reported in EU-SILC. To distribute the aggregate amounts, we consider the sample weights, dividing the aggregate by the sum of corresponding sample weights and assigning the result to each observation. While we allocate tertiary and other education categories of aggregate spending to all individuals enrolled in a corresponding education level in EU-SILC, we only report numbers allocated to children below 18 years old in the final numbers. We also distribute the administrative and other recurrent educational spending equally across all individuals currently enrolled in education.

As per healthcare cost allocation, given the insufficient data on healthcare use in EU-SILC, we used age-specific healthcare cost profiles from the European Commission (2021), which were directly allocated to all individuals of corresponding ages. This approach allows reflecting the lower-than-average use of healthcare services by children older than one year old.

We do not consider regional differences in education or healthcare spending within the country due to data limitations. We also do not account for private healthcare and education use. Both limitations might have important distributional consequences. However, we are only interested in a country average in-kind spending per child.

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[11]   In particular, Hernández and Picos (2021) adapted to benefits the methodology used by Onrubia et al. (2014) for tax credits in their equation 9, which further decomposes each redistributive impact in level and progressivity effects, following Kakwani (1977). However here we adapt equation 8, with no further decomposition.

4   Results

This Section presents the main results, starting with the amount and the distribution of child-contingent cash support as measured by EUROMOD, and continuing by analysing their impact on child AROP rates, gaps and inequality. To put the results in context, child-contingent cash support and its impact are compared to non-child-contingent cash support, and to child in-kind support.

4.1   The amount and distribution of child-contingent cash support

Figure 1 shows the average and standard deviation child-contingent cash support per child for the EU-27 in 2022. The total payment is disaggregated into the three components explained in the previous section: child benefits, other benefits, and tax reliefs. Values shown are usually positive, but negative values may arise when child benefits are taxable and/or are included in means-tests for other benefits. In these cases, the tax relief component and/or the other benefits component may become negative.

Countries are sorted by the extent of child-contingent cash support. For comparability purposes, we use share of GDP per capita as a main unit of measurement. Use of alternative measurement units introduces some changes to the ranking of countries, as documented in Table 1 of Annex 1. Countries with higher GDP per capita rank better if absolute measures like EUR or (Purchasing Power Parities) PPP are selected. Ireland (IE) does better when a relative measure of the share of median income is used.

Figure 1. Child-contingent cash support, per child, relative to GDP per capita, EU-27, 2022
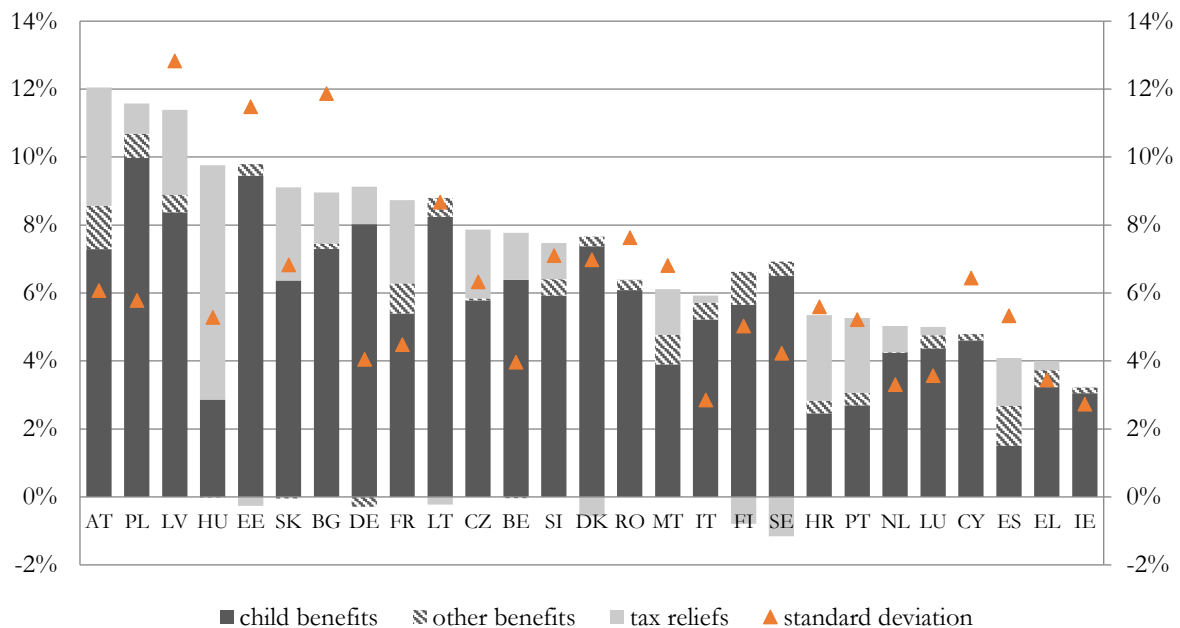
Source: Own elaboration using EUROMOD

Note: Here and throughout the document the years refer to the income reference year and corresponding policy year; hence 2019 uses 2019 policies applied to EU-SILC 2020 with 2019 income reference year, while 2022 refers to 2022 policies applied to the latest available income reference year uprated to 2022.

Figure 1 displays high heterogeneity in the extent of child-contingent cash support across EU countries, with significant variation in averages from 3.2% to 12% of GDP per capita. For instance, the average support per child is around 4% of GDP per capita in Spain (ES), Greece (EL) and Ireland (IE), and reaches over 10% of GDP per capita in Austria (AT), Poland (PL) and Latvia (LV).
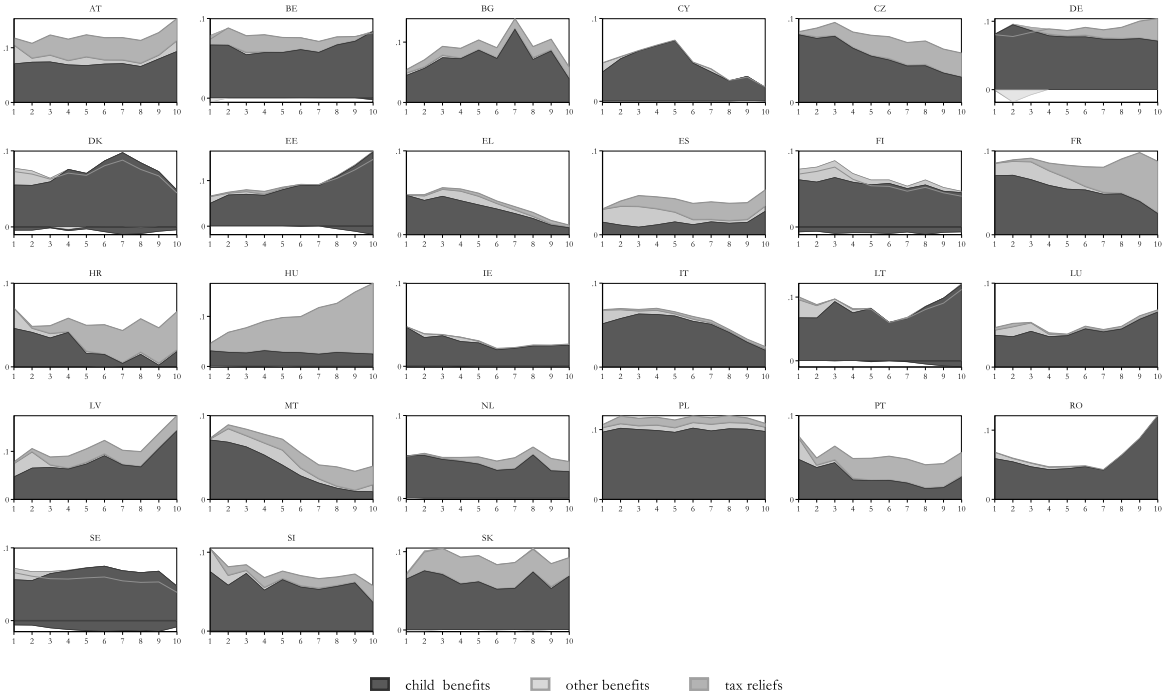
The higher share of child-contingent cash support comes from child benefits, but there are a few exceptions. For example, Hungary (HU) provides support mainly through tax reliefs, while Spain (ES) offers significant shares of assistance through other benefits. Typically, other benefits refer to minimum income schemes that either adjust the support depending on the number of household members (so adding a child to the household increases the eligible amount), or have special clauses for children, as is a case in Spain.

4.1.1 Child-contingent cash support across the income distribution

Figure 2 presents the distribution of child-contingent cash support per child by deciles of equivalised disposable income, including child-contingent cash support, with the 1st decile corresponding to the 10% of individuals with lowest incomes, and the 10th decile to the 10% with the highest incomes.

Again, as with the extent of child-contingent cash support, we observe significant heterogeneity in the distribution of this support across EU-27. Some countries provide higher support to lower income deciles, while others, on the opposite, provide higher amounts to higher income deciles. Notice that Figure 2 depicts amounts of cash support relative to GDP per capita, not relative to the household income. Hence this figure only informs us on absolute progressivity or regressivity of child cash support, but not on relative, as relative concepts are defined relative to income. As we will see in Subsection 4.2, overall child-contingent cash support is inequality-reducing, hence progressive in relative terms.

Figure 2. Child-contingent cash support, average per child, by income deciles, share of GDP per capita, EU-27, 2022

Source: Own elaboration using EUROMOD

Note: the vertical axes are in shares of GDP per capita, hence 0.1 refers to 10% of GDP per capita.

Child-contingent cash support is higher for lower deciles in Greece (EL), Italy (IT), Ireland (IE), Malta (MT) and, to a lesser extent, Portugal (PT), Czechia (CZ) and Slovenia (SI). All these countries except for Czechia and Slovenia have low levels of average child-contingent support compared to other EU countries. In other countries, child-contingent support is higher for top income deciles. This is the case for Estonia (EE), Hungary (HU), Latvia (LV) and Romania (RO).

The three components of the child-contingent cash support have different distributional properties. Child benefits tend to be equally distributed across income deciles, highlighting their quasi-universal character. However, in some countries like Malta (MT) or Portugal (PT) child benefits are skewed to the left, reflecting the presence of means-testing. In other countries, child benefits are dominated by contributory parental leave support which is in turn income dependent. As a result, child benefits are higher for higher deciles in countries like Latvia (LV), Bulgaria (BG), Lithuania (LT) and Romania (RO). The other benefits concentrate in lower income deciles as they are often means-tested. Tax reliefs are higher for top deciles in some cases like Hungary (HU), Croatia (HR), Portugal (PT) and Spain (ES). For the sufficiently high tax reliefs, like the child tax credit in Hungary, the lower deciles cannot enjoy it fully as their tax liabilities before applying credit are lower than the maximum possible credit. As income and tax liabilities go up at higher deciles, higher tax credit becomes accessible, and leading to higher tax reliefs.

4.1.2 Child-contingent cash support across child age groups

The analysis of average child-contingent cash support by age groups also highlights salient differences. Figure 3 displays average child-contingent cash support for four child age groups: 0-2, 3-5, 6-11 and 12-17 years old. The countries are sorted by the size of the difference between the average support to 0-2 and 12-17 age groups. In most EU countries, the group of 0-2 years old is the major target of child-contingent support. As children grow older, cash support generally decreases, resulting in households with adolescents receiving less financial assistance.

Figure 3. Child-contingent cash support, per child, relative to GDP per capita, by child age groups, EU-27, 2022
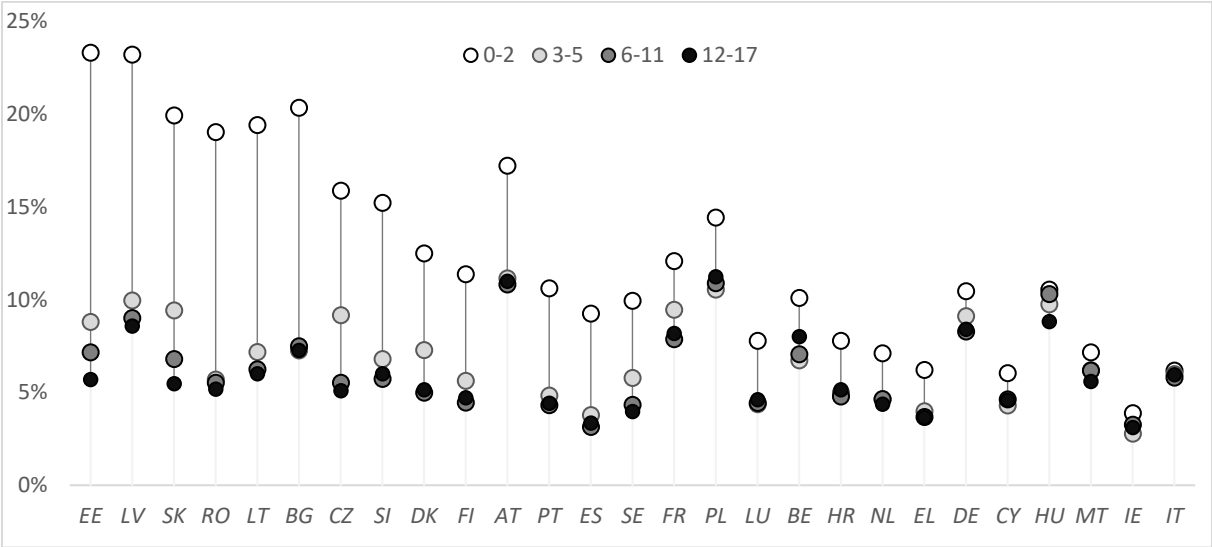
Birth grants, parental leave benefits and age-specific benefits explain this discrepancy. The difference between 0-2 and the rest of the age groups greatly varies across countries. In many of the countries in Central and Eastern Europe, this difference is three- or four-fold. At the same time, there is a group of countries with insignificant differences between age groups. These are mostly countries with low child-contingent cash support, like Cyprus (CY), Malta (MT), Ireland (IE) or Italy (IT). Germany (DE) which mainly relies on a universal child benefit also does not display large age differences. Hungary

(HU) is another exception in this group with relatively high child-contingent cash support primarily driven by child tax credits, which are not age-differentiated.

4.1.3 Changes in child-contingent cash support over the period 2019-2022

Figure 4 summarizes the recent changes in child-contingent cash support in EU-27, with countries ranked by the average change. Notably, our analysis accounts for changes both in policies and the socioeconomic conditions of the population over the period 2019-2022. Again, we observe high heterogeneity both in the average changes as well as in the distributional impact as reflected in changes for the bottom and top deciles. For instance, the average increases in Hungary (HU) and Poland (PL) benefit the top decile more than the bottom decile. Despite similar dynamic, different underlying reforms drive these changes. In Poland, the child benefit, which used to be means-tested, became universal, with positive effect on upper deciles while leaving the bottom of the income distribution unchanged. Hungary introduced a significant increase to the child tax credit. The maximum amount of this tax credit is sufficiently high, and yet not cashable. As a result, the lower decile households only enjoy it up to the level of their low tax liability. Hence, this tax credit works to the benefit of upper deciles, while bottom deciles have low taxable incomes and only enjoy the potential of the child tax credit partially.

Figure 4. Change in child-contingent cash support, per child, relative to GDP per capita, EU-27, 2019-2022
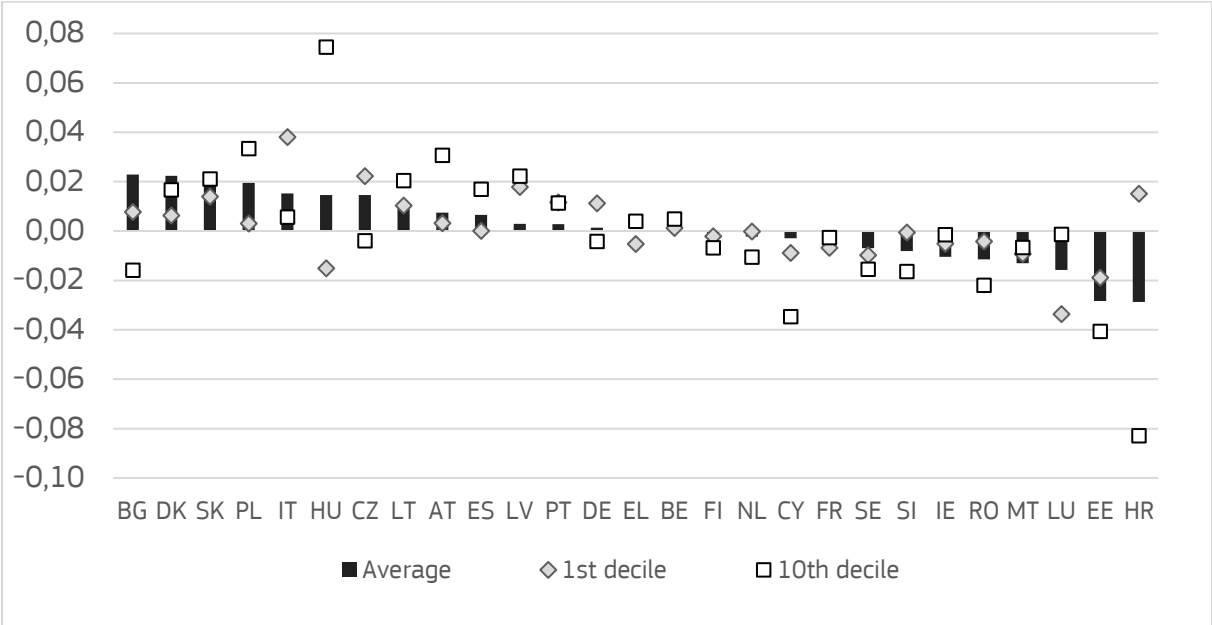
Source: Own elaboration using EUROMOD

In contrast, countries like Bulgaria (BG) and Italy (IT) have increased the average child-contingent cash support by offering more to the bottom deciles. Italy has introduced a universal child allowance and is gradually phasing out child tax reliefs. Bulgaria has been increasing the child tax credit, benefitting upper parts of the income distribution, but it has also introduced new lump-sum child benefits. Croatia (HR) increased the support to bottom deciles despite significant average declines. It has changed the means of subsistence norms to benefit families with children, which resulted in higher non-child-contingent support to low-income households.

Several countries experienced modest declines in children support without large distributional changes. This observation applies to Finland (FI), France (FR), Ireland (IE), Malta (MT), Romania (RO), Sweden (SE) and Slovakia (SI). In these countries, no significant changes happened over 2019-2022 in policies simulated by EUROMOD, and the inflation combined with the lack of proper indexation of relevant nominal values might be causing the declines.

4.2 The poverty and inequality alleviation effects of child-contingent cash support

Child-contingent cash support has direct effect on AROP rates among children. This effect can be expressed as the difference in the child AROP rate at incomes with and without corresponding cash support. Figure 5 presents the child AROP rate alleviation effects of child-contingent cash support. The upper part of the figure depicts child AROP rates before and after child-contingent cash support. The lower part shows the decomposition of the poverty alleviation decline by component. The countries are arranged by the extent of child AROP rate alleviation due to of child-contingent cash support.

Child-contingent cash support has varying impacts on reducing child AROP rates across EU countries. Some countries like Slovakia (SK), Hungary (HU) and Czechia (CZ) achieve significant reductions in the percentage of children at risk of poverty. Others like Denmark (DK), Netherlands (NL), Spain (ES) and Portugal (PT) only manage to bring about smaller improvements. The child AROP rate reductions range from 16 p.p. for Slovakia to 4 p.p. in Portugal (more details can be found in Table 2 of Annex 1).

Figure 5. Child AROP rate reduction due to child-contingent cash support, EU-27, 2022
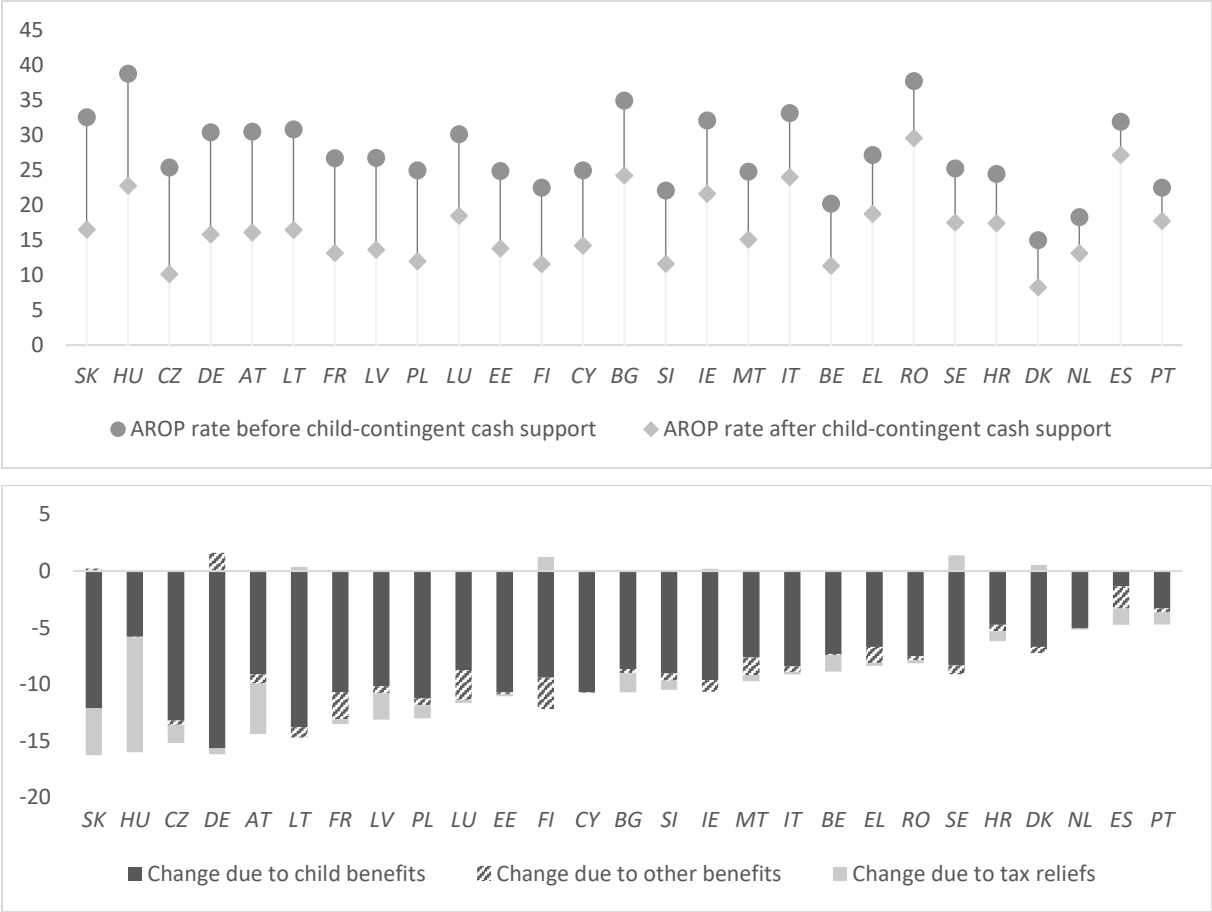
Source: Own elaboration using EUROMOD

On average countries with higher initial child AROP rates achieve higher poverty reductions due to child-contingent cash support. For countries like Denmark (DK) or Netherlands (NL), the initially low child AROP rates explain the low reductions. However, there are exceptions like Spain (ES), Bulgaria (BG) or Romania (RO), which do not manage to bring substantial reductions to the initially high child AROP rates.

Overall, child benefits play a crucial role in achieving substantial reductions in child AROP rate incidence vis-à-vis other benefits or child-related tax reliefs. However, countries such as Hungary (HU) and to a lesser extent, Slovakia (SK) and Austria (AT), also stand out for their use of tax reliefs, which in turn contribute to reducing child AROP rates. The effects of other benefits are noticeable in France (FR), Luxemburg (LU), Finland (FI), Malta (MT), Greece (EL) and Spain (ES).

Figure 6. Child AROP gap reduction due to child-contingent cash support, EU-27, 2022
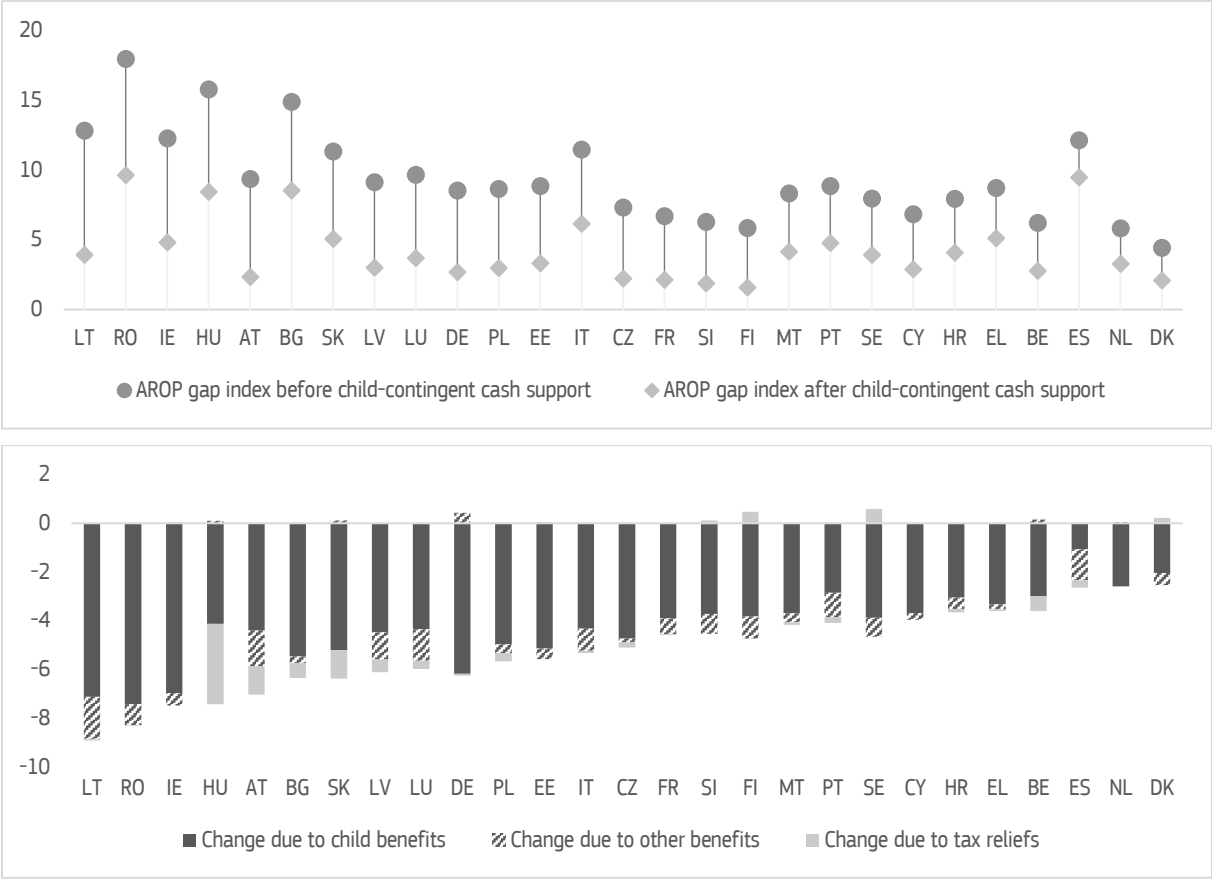
Source: Own elaboration using EUROMOD

Figure 6 presents a similar analysis for the child AROP gap reduction. While AROP rate remains unchanged if the size of the child-contingent payment is not adequate to increase the income of a family with children above the poverty line, AROP gap would narrow in response, reflecting the improvements in the disposable income of the family. In Figure 6, countries are sorted by the AROP gap reduction. While the initial rates (before child-contingent cash support) of child AROP rate and child AROP gap are highly correlated, this correlation is weaker for the resulting rates after child support. This implies changes in the ordering of countries in Figure 6 as compared to Figure 5. Countries like Romania (RO), Ireland (IE) and Lithuania (LT) manage to reduce the child AROP gap more effectively than the poverty rate. On the other hand, Spain (ES) achieves relatively low reductions both in child AROP rate and child AROP gap.

Another distinct feature of the child AROP gap is the lower role of the tax component in reducing it. Even in Hungary (HU) where the tax reliefs constitute over two thirds of the average child-contingent cash support, their role in reducing the child poverty gap is modest. The role of other benefits, to the contrary, is more salient in poverty gap reduction, although it remains secondary in comparison to the impact of child benefits.

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Figure 7. Redistribution impact of child-contingent cash support, EU-27, 2022

Gini before child-contingent cash support ● Gini after child-contingent cash support ◆

child benefits ■ other benefits ▨ tax reliefs ▨ re-ranking ▨ total ●
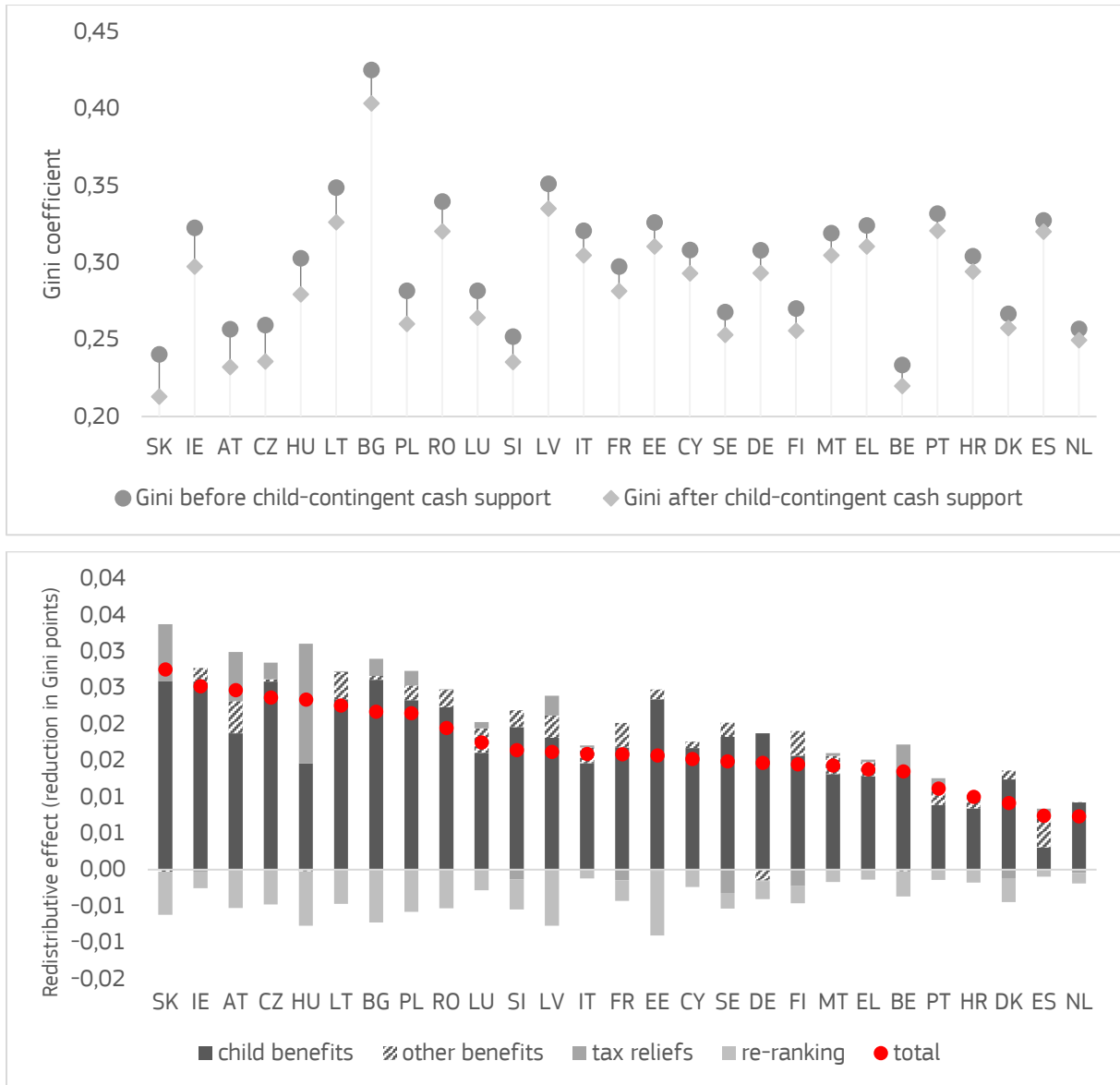
Source: Own elaboration using EUROMOD

Figure 7 presents the redistribution impact of child-contingent cash support. The upper part of the Figure shows the Gini coefficient[12] before and after child-contingent cash support. The lower part of the figure decomposes the redistributive impact of child-contingent cash support, measured as the reduction in Gini index points, into changes due to the three components of child-contingent cash support and the effect of re-ranking (effect due to changes in the relative positions of individuals in the income distribution).

Again, we observe major differences in inequality reduction, with Slovakia (SK), Ireland (IE), Austria (AT), Czechia (CZ) and Hungary (HU) being among the leaders with over 0.02 Gini points reduction, while Portugal (PT), Croatia (HR), Denmark (DK), Spain (ES), and Netherlands (NL) achieve reductions of less than 0.01 Gini points. The size of the redistributive effect is not directly connected to the initial inequality level. We have both the initially low inequality countries like Slovakia (SK), Austria (AT) and

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[12] The Gini coefficient is a statistical measure of inequality within a population, ranging from 0 (perfect equality) to 1 (perfect inequality).

Czechia (CZ) leading in terms of the redistributive effect, and on the other extreme, countries with initially high inequality levels like Greece (EL), Portugal (PT) and Spain (ES), which at the same time achieve low redistribution.

As in the case with child AROP rate reduction, child benefits have the most prominent role in inequality reduction. Even though tax reliefs are often assigning higher cash support to higher income deciles, for most countries these instruments play an equalizing role. The exceptions are Slovenia (SI), France (FR), Sweden (SE), Finland (FI) and Denmark (DK). The inequality-increasing effect of tax reliefs in these countries remains nevertheless small.

The child AROP rate alleviation and the inequality reduction effects of the child-contingent cash support are strongly correlated. Typically, countries that achieve high reductions in child AROP rates, also achieve high redistribution. There are several exceptions. Ireland (IE) is more successful in redistribution and in the reduction of the poverty gap, while being average in child AROP rate alleviation. Germany (DE) is among the leaders in child AROP rate alleviation, but the redistribution effect is characterized as average in this country. The reliance of Germany on universal child benefits as a major tool of delivering child cash support might explain this pattern.
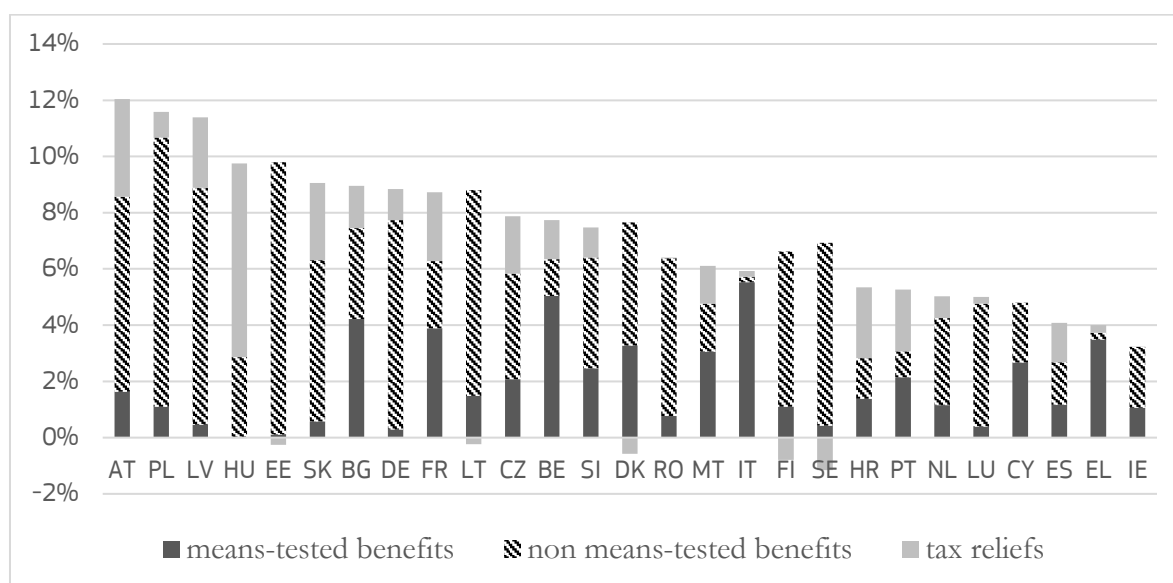

4.3   Child-contingent cash support means-testing and targeting

The distributional properties and welfare effects of child-contingent cash support depend on its intended design. Even when not means-tested, child-contingent cash support may be progressive as it is addressed to families with children where the per-capita incomes are typically lower than average. Yet, many of the child benefits are also explicitly means-tested.

To analyse to what extent child-contingent cash support is means-tested, we disaggregate the benefits into means-tested and non-means-tested. A benefit is classified as means-tested if eligibility criteria include income or wealth conditions. Means-tested benefits can be child benefits or a child-contingent part of other benefits. If a benefit is means-tested, it is not necessarily targeted to the children at risk of poverty, as income tests could be different from the poverty line. Child-related tax reliefs are not classified as means-tested in EUROMOD. Typically, child tax credits have a fixed upper limit. When this upper limit is sufficiently high, it might result into higher credits to upper deciles, as the credits to lower deciles are limited by their low tax liabilities. If child tax credits are cashable (a cash pay-out is possible if the tax liability is lower than the amount of tax credit), the cash-out amount might be classified as a benefit in EUROMOD and can be identified as means-tested.

We can see in Figure 8 that means-tested benefits are on average a small share of total child-contingent cash support. Countries are sorted by the generosity of child-contingent cash support, as in Figure 1. Means-tested benefits constitute over half of average cash support only in four countries: Belgium (BE), Italy (IT), Cyprus (CY) and Greece (EL).

Figure 8. Means-testing of child-contingent cash support, average per child, in % of GDP per capita, 2022

Figure 9 depicts the disaggregated impact of child-contingent cash support on child AROP rate (upper part of Figure) and on child poverty gap (lower part). The countries are sorted by child AROP rate alleviation and poverty gap alleviation, correspondingly.

Non-means-tested benefits, while not explicitly aimed at families at risk of poverty, play the highest role in poverty alleviation. Only in 6 out of the 27 countries, means-tested benefits are responsible for over half of the child AROP rate reducing effect. This result is expected, given the natural targeting of the child-contingent cash support to more vulnerable families, and the relative generosity of non-means-tested benefits compared to other types of payments in most EU countries. The effect of means-tested benefits is more salient in case of the poverty gap; however, it remains lower than that of the non-means-tested benefits.

A higher share of means-tested benefits does not translate into higher child AROP rate alleviation. Many of the countries that use means-tested benefits extensively are in the middle of the sorting by child AROP rate reduction, with France (FR) being the only country with above-average AROP reduction. The opposite is also true as the AROP reduction leaders also do not rely on means-tested policies.

There might be two alternative explanations for the fact that more means-testing does not lead to more poverty alleviation. The first possibility is that the use of means-tested benefits is more common in countries with low overall child-contingent cash support, which, despite being well targeted, is not enough to reach all children at risk of poverty. The second might have to do with the adequacy of the support, with means-tested benefits reaching the majority of children at risk of poverty, but not providing them with enough support to lift them out of poverty. The second explanation relates to the lack of adequacy of minimum income schemes in Europe, as highlighted by Almeida et al. (2022).

Figure 9. Impact of means-tested benefits on child AROP rate and AROP gap, EU-27, 2022
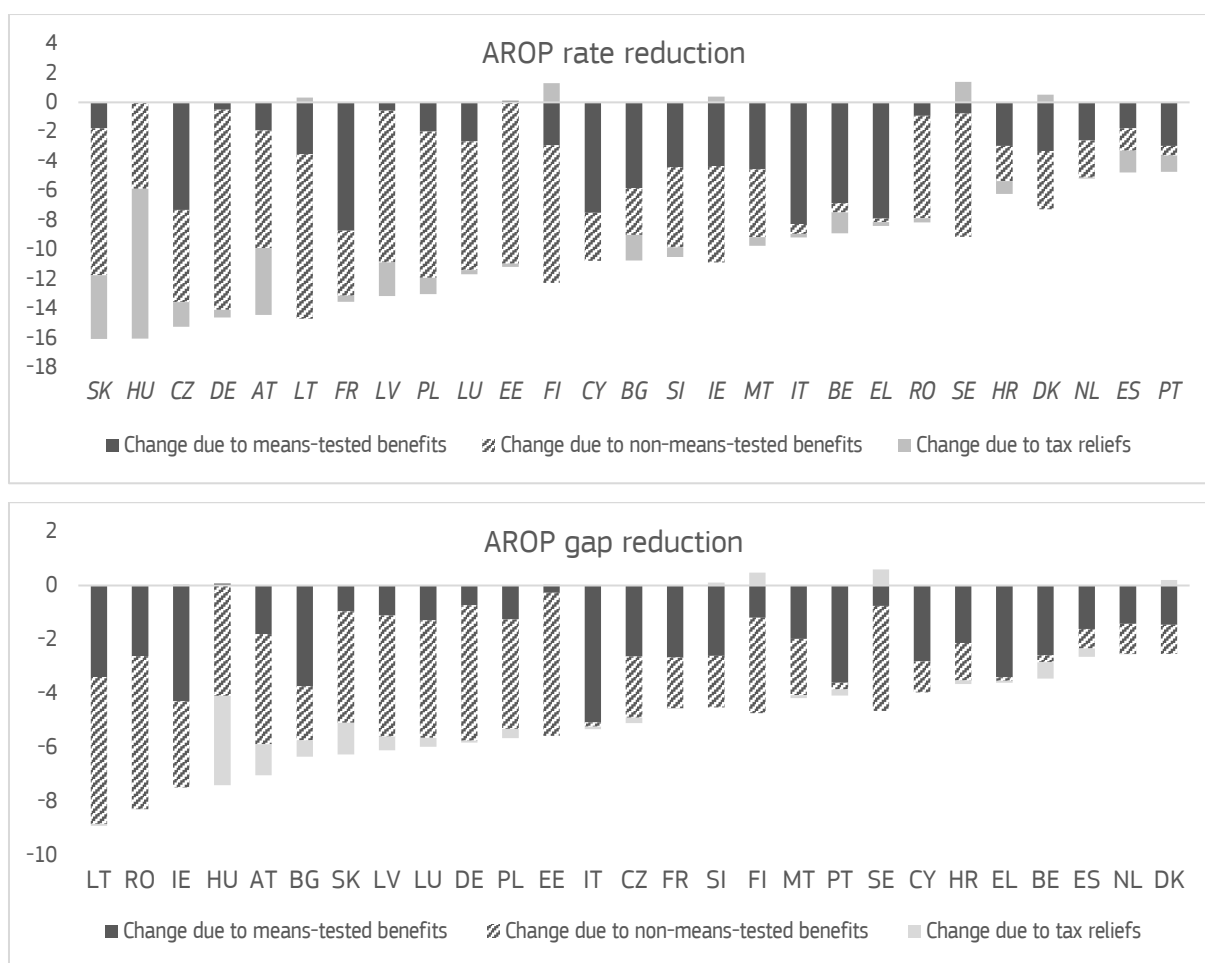
For further analysis, child-contingent cash support can be classified as targeted if its recipient is a child that before the receipt was at risk of poverty. If the support is targeted, it can be either adequate, meaning it is enough to lift the child above the poverty line, thus eliminating the risk of poverty, or non-adequate in the opposite case. Hence, we can identify three types of child-continent cash support depending on the recipient and on the amount of support:

— Non-targeted: child-contingent cash support to families which were not at risk of poverty before receiving child-contingent cash support;

— Targeted to the poor, but non-adequate: child-contingent cash support to families that were at risk of poverty before receiving cash support and that remained at risk of poverty after receiving cash support;

— Targeted to the poor and adequate: child-contingent cash support to families that were at risk of poverty before receiving cash support and that were elevated above the poverty line after receiving cash support.

The results of this disaggregation are presented in Figure 10. Each category is expressed as share of the aggregate child-contingent cash support, with all the components adding up to 100%. The upper part presents all child-contingent cash support, while the lower part focuses on means-tested benefits only. The countries are sorted, in descending order, by the total share of targeted child-contingent cash support, adequate plus non-adequate. Negative values for means-tested benefits arise from benefit entitlement losses after factoring in child benefits. If a child benefit is factored into the income

considered for a means-tested benefit, the household without children might be eligible for the benefit, but if the household with children (and with the corresponding child benefit) is no longer eligible, we will see a negative value.

Figure 10. Targeting and adequacy of child-contingent cash support, shares, 2022
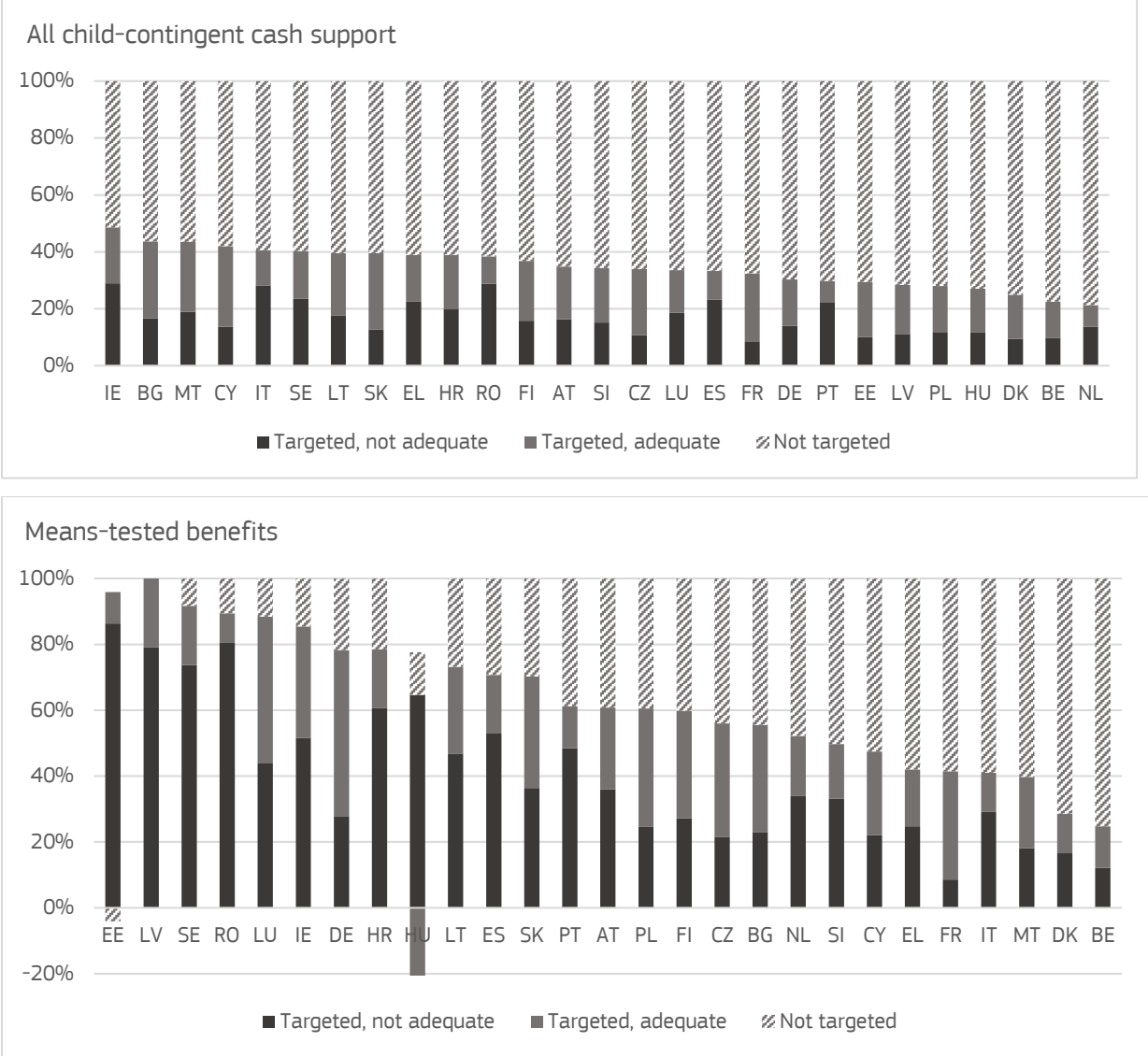
Source: Own elaboration using EUROMOD

In most EU countries, child-contingent cash support is not exclusively targeted to impoverished households. In fact, non-poor households receive more than 50% of the total child-contingent cash support for all EU countries. At the same time, in all EU-27 countries the share of child-contingent cash support that goes to children at risk of poverty is higher than the share of children at risk of poverty, so this at-risk group receives proportionally higher cash support. A relatively high share of targeted payments in Ireland (IE) explains why this country is among the leaders in reducing inequality and the poverty gap despite having low average child-contingent cash support.

Furthermore, even among the support targeted at impoverished families, many of them are unable to surpass the poverty line after factoring in the child-contingent cash support. This situation of non-adequacy of child-contingent cash support is perhaps more marked in cases such as Italy (IT), Spain (ES), Romania (RO) and Portugal (PT). However, even when the support to those at risk of poverty is not enough to surpass the poverty line, it contributes to closing the poverty gap.

The same applies if we only focus on means-tested benefits. They are better targeted to the impoverished but often do not provide enough support to lift them above the poverty line. In Germany (DE), adequate child-contingent cash support makes up half of the total means-tested benefits, but in other countries, this share is below 50%. The case of Hungary highlights the importance of the means-tested benefits to address the presence of children in a family properly. The negative value for the adequate cash support means that with the addition of a child, some families received child-contingent cash support, which was still insufficient to lift the family above the poverty line. At the same time, the family lost eligibility for non-child-contingent means-tested and adequate support due to the receipt of child-contingent support. Situations like this can occur when means testing considers total household income or income per adult instead of equivalised disposable income.

4.4 A glimpse into other types of child support: non-child-contingent benefits and in-kind support

Child-contingent cash support is not the only type of public spending that could affect child monetary poverty or well-being in a broader context. Public spending on non-child-contingent benefits, as well as in-kind spending on healthcare and education, also contribute to child well-being and development. This section of the paper looks at them in more detail to put child-contingent cash support in context, and to look for possible links across these types of social policies.
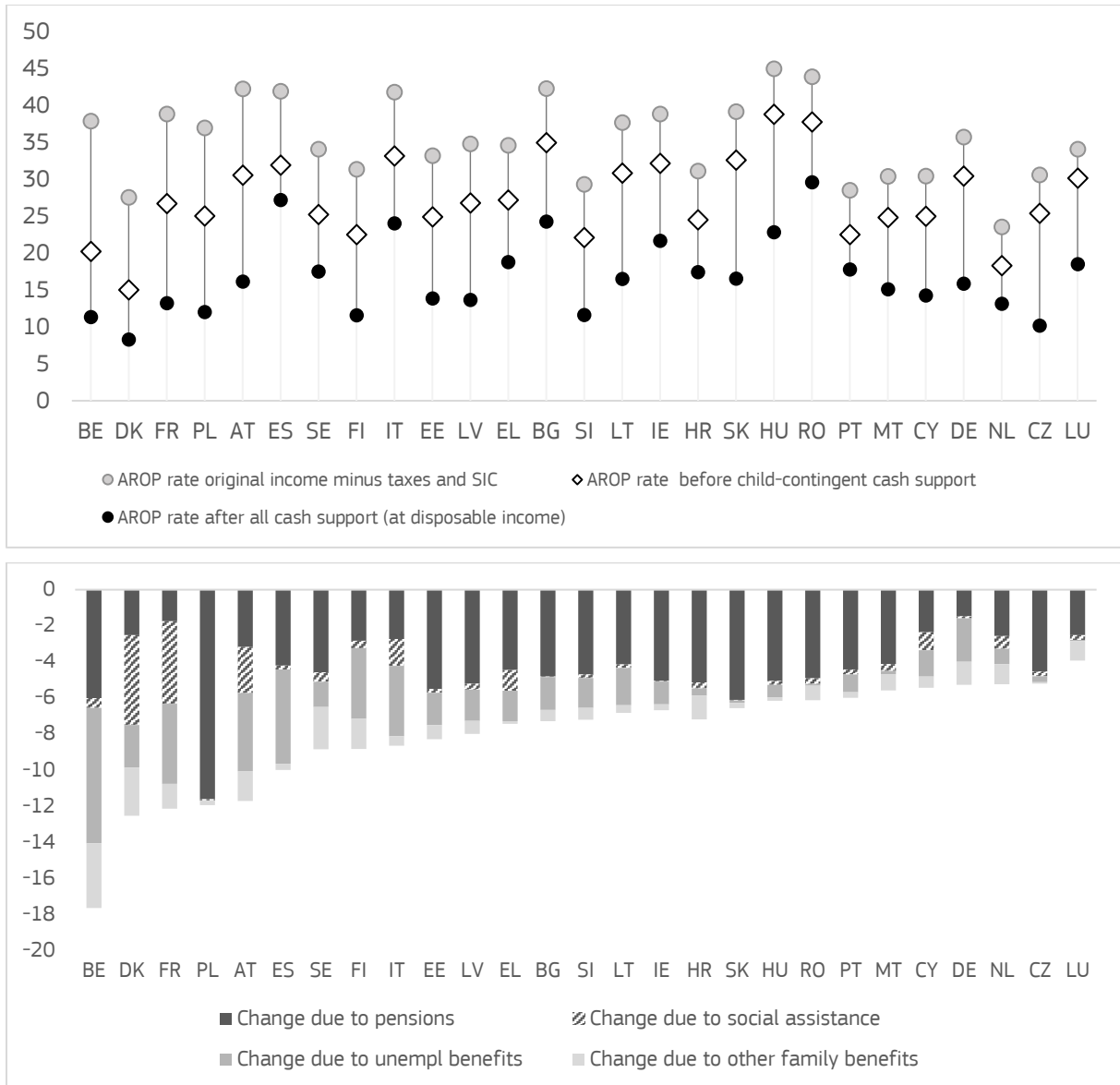
Figure 11 compares the impacts of child-contingent cash support and non-child-contingent benefits on child AROP rate. The upper part of the figure presents the child AROP rates at different income definitions but applying the same country-specific poverty line defined as 60% of the median equivalised income. The highest poverty rate is measured at original market income minus taxes and social insurance contributions (SIC). Poverty rates measured at disposable income minus child-contingent cash support and disposable income follow, reflecting poverty before and after child cash support.

Countries are sorted by the extent of child AROP rate alleviation achieved through non-child-contingent cash support, which is the difference in the AROP rate at original income minus taxes and SIC, and AROP rate at disposable income minus child-contingent cash support. The lower part of the figure presents the disaggregation of child AROP rates reduction due to non-child-contingent benefits composed of pensions, unemployment benefits, social assistance and family benefits that are not contingent on the presence of a child below 18 years old in the household.

Non-child contingent benefits are an important factor for child AROP rate reduction, although on average they contribute less than child-contingent cash support. High child AROP rates at original income minus taxes and SIC are not necessarily accompanied with the high poverty alleviation due to non-child-contingent cash support. In countries like Bulgaria (BG), Hungary (HU) and Romania (RO) the impact of the non-child-contingent support is low despite the original income AROP level being high.

There is high cross-country heterogeneity in the contribution of different types of non-child benefits to child AROP rate reduction. In many countries like Poland (PL), Czechia (CZ), and Slovakia (SK) pensions play the leading role in child AROP rate alleviation. Partially, the impact of pensions may be driven by demographic composition. In countries where multigenerational families are more prevalent, the contribution of pensions will be more pronounced. Unemployment benefits are more important in Spain (ES) and Italy (IT). The role of social assistance is relatively high in Denmark (DK), while high-support countries like Belgium (BE), France (FR) and Austria (AT) mostly rely on a mix of instruments.

**Figure 11.** Impact of non-child-contingent benefits on child AROP rates, 2022

AROP rate original income minus taxes and SIC ◇ AROP rate before child-contingent cash support
● AROP rate after all cash support (at disposable income)

■ Change due to pensions ▨ Change due to social assistance
■ Change due to unempl benefits ▨ Change due to other family benefits

Source: Own elaboration using EUROMOD

While both child-contingent cash support and non-child-contingent benefits contribute to reduce child AROP incidence, we do not observe negative correlation between the use of these two classes of instruments (see Table 3 of Annex 1 for detailed numbers). Spain (ES) is an outlier case where the relatively high poverty-alleviating impact of non-child-contingent benefits substitutes the low impact of child-contingent ones. In this case, however, child AROP rate remains high after all interventions. Otherwise, there is a positive correlation between the two classes of cash support. In some countries like Austria (AT) and Slovakia (SK), the role of both child- and non-child-contingent cash support in child AROP rate reduction is high; these countries also achieve record levels of child AROP rate alleviation as a result.

Furthermore, child-contingent support does not come only in cash format. Another important determinant of the well-being of children is the provision of in-kind benefits, or public spending on services such as education and healthcare. Using the latest available government spending data, we compare child-contingent cash support and in-kind support per child in 2019 in Figure 12. The countries are sorted by child-contingent support coming both in cash and in in-kind form. The Figure also displays the share of child-contingent cash support in total support to children (both cash and in-kind).

Figure 12. Child-contingent cash support and in-kind support, average per child, % of GDP per capita, 2019
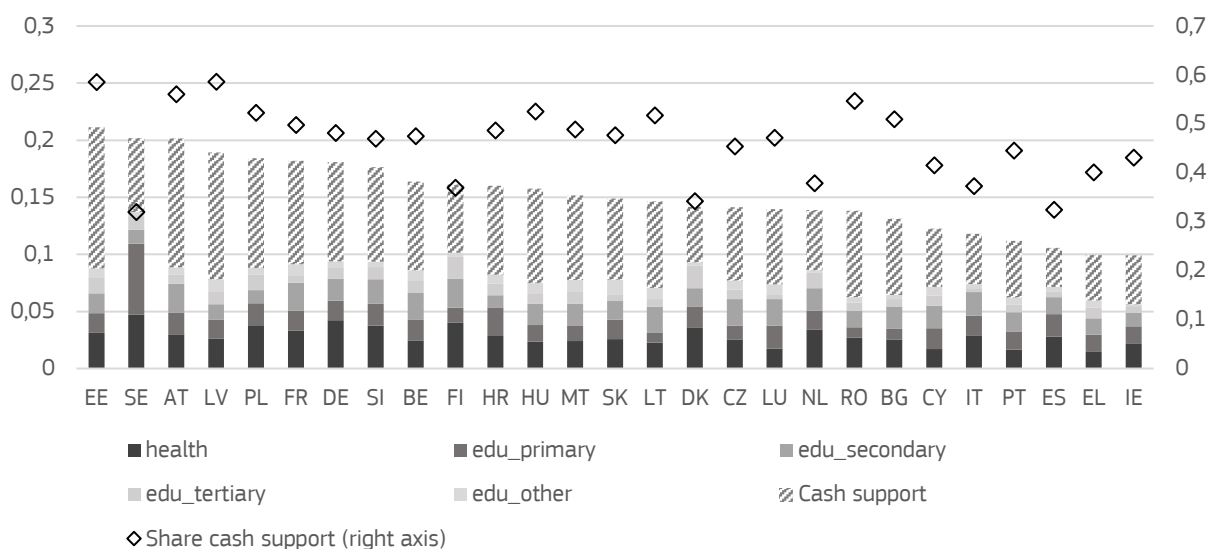
Again, we do not observe negative correlation between cash and in-kind child support. Some countries like Austria (AT), Estonia (EE) and Latvia (LV) spend a lot both on in-kind and on cash support. Others like Greece (EL), Portugal (PT), Spain (ES), and Ireland (IE) spend little on both. More details on spending figures can be found in Table 4 of Annex 1. The share of cash child-contingent cash support in total child-contingent support ranges from 24.5% (ES) to 53.9% (LV). It is on average higher in the newer EU Member States. At the same time, it is lower in high-income countries like Sweden (SE), Finland (FI), Denmark (DK) and Netherlands (NL).

5 Conclusions

This paper documents the extent of child-contingent cash support in EU-27 in 2019-2022 and its distributional impact. The analysis of child-contingent cash support in the EU-27 reveals a significant level of heterogeneity in the amount and distribution across countries. This heterogeneity is evident in the average size of support per child, ranging from 3.2% to 12% of GDP per capita across the EU. Most of the support comes in the form of child benefits, as opposed to tax-based support, and it is often predominantly targeted towards the 0-2 age group.

The impact of child-contingent cash support on reducing child AROP rate is also varying across EU countries, with reductions ranging from 4 to 16 percentage points. On average countries with higher initial child AROP rates achieve higher poverty reductions due to child-contingent cash support. However, there are countries with initially high child AROP incidence and low child-contingent cash support. In these countries, the impact on child AROP rate is low. The redistributive impact of child-contingent cash support is also highly heterogeneous, and strongly correlated with poverty reduction.

Countries that achieve significant results in decreasing child AROP rates and inequality through child-contingent cash support typically rely on a mix of different policies. In these countries, child benefits of a universal type and contributory parental leave payments are often complemented by means-tested policies. One exception is Hungary which relies primarily on a very generous child tax relief to reduce child AROP rates. This tax relief, however, benefits higher-income households to a larger extent.

Non-impoverished households receive a significant portion of total child-contingent cash support in most EU countries. Despite that, non-means-tested benefits play a significant role in poverty alleviation for children. Means-tested benefits are better targeted to impoverished households, but they often do not provide enough support to lift them above the poverty line.

Putting child-contingent cash support in a broader context, the analysis reveals that there is, on average, positive correlation between child-contingent cash support and other types of spending, namely non-child-contingent benefits, and in-kind child support. Both child-contingent and non-child-contingent cash support contribute to reducing child AROP rates, highlighting the need for a multi-faceted approach to support children in need. In-kind benefits, such as public spending on education and healthcare, also play a crucial role in the well-being of children.

Overall, our findings provide valuable insights for policymakers and stakeholders, highlighting the need for a comprehensive and targeted approach to child-contingent cash support to effectively address child poverty in the EU-27 in order to reach by 2030 the reduction by 5 million of children living at risk of poverty and social exclusion set in the European Pillar of Social Rights Action Plan.

Future work could focus on broader effects of child-contingent cash support building on the estimates presented in this work. One of the possibilities is to investigate the links between child-contingent cash and in-kind support on child-specific deprivations. Another focus could be on the labour supply effects of different child-contingent cash support, in particular comparing benefits to tax credits in the spirit of Agundez and Christl (2023). Finally, simulations of possible policy reforms to achieve higher EU convergence in child AROP rate reduction is another promising line of research.

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List of abbreviations and definitions

AROP   At-risk-of-poverty

COFOG   Classification of the functions of government

EU   European Union

EU-SILC   EU Statistics on Income and Living Conditions

FGT   Foster–Greer–Thorbecke

OECD   Organisation for Economic Co-operation and Development

PPP   Purchasing Power Parities

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Annexes

Annex 1. Additional results

Table 1. Child-contingent cash support in 2022, average per child, different measurements, EU-27

	Current EUR				PPP-adjusted EUR			
	Child benefits	Other benefits	Tax reliefs	Total	Child benefits	Other benefits	Tax reliefs	Total
AT	3599	628	1718	5945	3059	534	1461	5054
BE	3001	-17	649	3633	2611	-15	565	3162
BG	906	19	186	1111	1749	37	360	2146
CY	1364	55	0	1419	1457	59	0	1516
CZ	1496	14	525	2036	1994	19	700	2713
DE	3708	-133	507	4081	3416	-123	467	3760
DK	4699	175	-365	4510	3267	122	-254	3136
EE	2568	95	-71	2592	3072	113	-85	3100
EL	635	99	53	787	755	117	63	935
ES	417	330	392	1139	422	335	398	1155
FI	2732	471	-383	2820	2113	364	-296	2181
FR	2081	341	943	3365	1925	315	873	3113
HR	421	63	432	916	631	95	646	1371
HU	504	-4	1211	1712	877	-6	2107	2978
IE	2999	168	1	3169	2048	115	1	2164
IT	1692	161	66	1919	1665	159	65	1889
LT	1943	133	-54	2021	2864	196	-80	2980
LU	5214	462	282	5959	3406	302	184	3893
LV	1735	105	518	2358	2275	137	680	3092
MT	1244	275	431	1949	1393	308	482	2183
NL	2254	8	412	2673	1869	7	341	2217
PL	1733	122	157	2012	3136	221	284	3640
PT	628	85	513	1226	716	97	584	1397
RO	914	44	3	961	1862	90	6	1958
SE	3475	228	-618	3085	2630	173	-467	2336
SI	1658	134	298	2090	1883	152	339	2374
SK	1268	-10	547	1805	1549	-12	668	2205

Table 1. Child-contingent cash support in 2022, average per child, different measurements, EU-27 (contd.)

	% of GDP per capita				% of median income			
	Child benefits	Other benefits	Tax reliefs	Total	Child benefits	Other benefits	Tax reliefs	Total
AT	7.3%	1.3%	3.5%	12.0%	17.6%	3.1%	8.4%	29.2%
BE	6.4%	0.0%	1.4%	7.7%	16.8%	-0.1%	3.6%	20.3%
BG	7.3%	0.2%	1.5%	9.0%	21.3%	0.5%	4.4%	26.1%
CY	4.6%	0.2%	0.0%	4.8%	12.1%	0.5%	0.0%	12.5%
CZ	5.8%	0.1%	2.0%	7.9%	16.5%	0.2%	5.8%	22.4%
DE	8.0%	-0.3%	1.1%	8.8%	19.7%	-0.7%	2.7%	21.7%
DK	7.4%	0.3%	-0.6%	7.1%	18.8%	0.7%	-1.5%	18.0%
EE	9.5%	0.3%	-0.3%	9.5%	27.5%	1.0%	-0.8%	27.7%
EL	3.2%	0.5%	0.3%	4.0%	10.0%	1.5%	0.8%	12.3%
ES	1.5%	1.2%	1.4%	4.1%	3.8%	3.0%	3.6%	10.4%
FI	5.7%	1.0%	-0.8%	5.8%	14.9%	2.6%	-2.1%	15.3%
FR	5.4%	0.9%	2.4%	8.7%	12.5%	2.1%	5.7%	20.3%
HR	2.5%	0.4%	2.5%	5.3%	7.0%	1.0%	7.2%	15.2%
HU	2.9%	0.0%	6.9%	9.7%	11.2%	-0.1%	26.9%	38.0%
IE	3.1%	0.2%	0.0%	3.2%	16.6%	0.9%	0.0%	17.5%
IT	5.2%	0.5%	0.2%	5.9%	13.9%	1.3%	0.5%	15.8%
LT	8.2%	0.6%	-0.2%	8.6%	25.8%	1.8%	-0.7%	26.8%
LU	4.4%	0.4%	0.2%	5.0%	16.7%	1.5%	0.9%	19.1%
LV	8.4%	0.5%	2.5%	11.4%	24.2%	1.5%	7.2%	32.9%
MT	3.9%	0.9%	1.4%	6.1%	10.3%	2.3%	3.6%	16.1%
NL	4.2%	0.0%	0.8%	5.0%	11.1%	0.0%	2.0%	13.2%
PL	10.0%	0.7%	0.9%	11.6%	29.1%	2.0%	2.6%	33.8%
PT	2.7%	0.4%	2.2%	5.3%	7.8%	1.1%	6.4%	15.3%
RO	6.1%	0.3%	0.0%	6.4%	22.1%	1.1%	0.1%	23.2%
SE	6.5%	0.4%	-1.2%	5.8%	18.9%	1.2%	-3.4%	16.8%
SI	5.9%	0.5%	1.1%	7.5%	15.7%	1.3%	2.8%	19.8%
SK	6.4%	0.0%	2.7%	9.1%	19.7%	-0.2%	8.5%	28.1%

Source: Own elaboration using EUROMOD

Table 2. Child AROP rate reduction due to child-contingent cash support, EU-27, 2022

	Total child AROP rate reduction due to child-contingent cash support	Child AROP rate before child-contingent cash support	Child AROP rate after child-contingent cash support	Decomposition of child AROP rate reduction effect by type:			Decomposition of child AROP rate reduction effect by means-testing:		
				Child benefits	Other benefits	Tax reliefs	Mean-tested benefits	Non-mean-tested benefits	Tax reliefs
AT	14.42	30.56	16.14	-9.14	-0.8	-4.48	-1.92	-7.97	-4.54
BE	8.88	20.23	11.36	-7.33	-0.1	-1.45	-6.84	-0.63	-1.41
BG	10.72	34.99	24.26	-8.67	-0.35	-1.7	-5.82	-3.16	-1.74
CY	10.76	25	14.24	-10.7	-0.06	0	-7.5	-3.26	0
CZ	15.22	25.39	10.18	-13.21	-0.37	-1.64	-7.3	-6.25	-1.66
DE	14.6	30.46	15.86	-15.68	1.6	-0.52	-0.5	-13.56	-0.53
DK	6.73	15.01	8.28	-6.7	-0.56	0.53	-3.31	-3.94	0.52
EE	11.06	24.91	13.85	-10.72	-0.16	-0.18	0.11	-10.94	-0.22
EL	8.39	27.18	18.79	-6.7	-1.41	-0.28	-7.88	-0.24	-0.26
ES	4.76	31.94	27.18	-1.34	-1.96	-1.46	-1.77	-1.52	-1.48
FI	10.94	22.52	11.58	-9.44	-2.75	1.25	-2.91	-9.33	1.3
FR	13.52	26.72	13.2	-10.7	-2.39	-0.43	-8.7	-4.41	-0.41
HR	7.09	24.51	17.43	-4.77	-0.57	-0.87	-2.95	-2.39	-0.86
HU	16.02	38.83	22.81	-5.81	-0.04	-10.16	-0.04	-5.81	-10.16
IE	10.48	32.16	21.67	-9.67	-1.02	0.2	-4.33	-6.54	0.38
IT	9.16	33.18	24.03	-8.45	-0.47	-0.24	-8.24	-0.67	-0.24
LT	14.35	30.84	16.49	-13.83	-0.89	0.37	-3.52	-11.17	0.33
LU	11.66	30.16	18.5	-8.73	-2.65	-0.28	-2.65	-8.73	-0.28
LV	13.14	26.79	13.66	-10.21	-0.6	-2.33	-0.56	-10.29	-2.28
MT	9.73	24.83	15.11	-7.63	-1.58	-0.51	-4.53	-4.61	-0.58
NL	5.17	18.3	13.13	-5.06	-0.04	-0.08	-2.59	-2.52	-0.06
PL	13.02	25.02	12	-11.28	-0.57	-1.16	-1.99	-9.92	-1.11
PT	4.72	22.51	17.79	-3.32	-0.34	-1.06	-2.95	-0.65	-1.12
RO	8.15	37.76	29.61	-7.53	-0.33	-0.28	-0.9	-6.96	-0.28
SE	7.74	25.25	17.52	-8.35	-0.76	1.38	-0.76	-8.35	1.38
SI	10.49	22.12	11.63	-9.07	-0.61	-0.81	-4.39	-5.44	-0.66
SK	16.05	32.6	16.56	-12.14	0.23	-4.14	-1.77	-9.97	-4.31

Source: Own elaboration using EUROMOD

Table 3. Child AROP rate reduction due to non-child-contingent benefits, EU-27, 2022

| | Total poverty reduction due to non-child-contingent benefits | Child AROP rate at original income minus taxes and social insurance contributions | Decomposition of child AROP rate reduction effect by type of payment: | | | | Child AROP rate before child-contingent cash support and after non-child-contingent benefits | Child AROP rate after child-contingent cash support | Total poverty reduction due to child-contingent support |
			Pensions	Social and housing assistance	Unemployment benefits	Other family benefits			
AT	11.72	42.28	-3.17	-2.56	-4.34	-1.64	30.56	16.14	14.42
BE	17.66	37.9	-6.01	-0.54	-7.52	-3.6	20.23	11.36	8.88
BG	7.3	42.28	-4.82	-0.02	-1.83	-0.62	34.99	24.26	10.72
CY	5.44	30.44	-2.36	-0.99	-1.47	-0.62	25	14.24	10.76
CZ	5.22	30.61	-4.53	-0.27	-0.33	-0.08	25.39	10.18	15.22
DE	5.28	35.73	-1.46	-0.12	-2.4	-1.29	30.46	15.86	14.6
DK	12.53	27.54	-2.52	-4.99	-2.35	-2.67	15.01	8.28	6.73
EE	8.3	33.21	-5.5	-0.22	-1.79	-0.79	24.91	13.85	11.06
EL	7.44	34.62	-4.45	-1.16	-1.68	-0.14	27.18	18.79	8.39
ES	10.01	41.95	-4.21	-0.21	-5.23	-0.35	31.94	27.18	4.76
FI	8.83	31.35	-2.83	-0.4	-3.93	-1.66	22.52	11.58	10.94
FR	12.15	38.87	-1.75	-4.57	-4.45	-1.38	26.72	13.2	13.52
HR	6.62	31.14	-5.14	-0.33	-0.38	-1.34	24.51	17.43	7.09
HU	6.17	45	-5.06	-0.22	-0.69	-0.2	38.83	22.81	16.02
IE	6.68	38.84	-5.06	-0.03	-1.26	-0.33	32.16	21.67	10.48
IT	8.65	41.83	-2.74	-1.49	-3.9	-0.52	33.18	24.03	9.16
LT	6.84	37.68	-4.14	-0.2	-2.07	-0.44	30.84	16.49	14.35
LU	3.92	34.08	-2.52	-0.26	-0.07	-1.07	30.16	18.5	11.66
LV	8	34.79	-5.2	-0.33	-1.75	-0.72	26.79	13.66	13.14
MT	5.59	30.42	-4.13	-0.38	-0.18	-0.91	24.83	15.11	9.73
NL	5.25	23.55	-2.58	-0.7	-0.85	-1.12	18.3	13.13	5.17
PL	11.95	36.97	-11.62	-0.07	-0.03	-0.23	25.02	12	13.02
PT	6	28.51	-4.43	-0.27	-0.99	-0.31	22.51	17.79	4.72
RO	6.13	43.88	-4.92	-0.31	-0.1	-0.8	37.76	29.61	8.15
SE	8.85	34.11	-4.58	-0.53	-1.4	-2.35	25.25	17.52	7.74
SI	7.22	29.34	-4.7	-0.2	-1.65	-0.66	22.12	11.63	10.49
SK	6.57	39.17	-6.11	-0.03	-0.13	-0.3	32.6	16.56	16.05

Source: Own elaboration using EUROMOD

Table 4. Child in-kind support and child-contingent cash support in 2022, average per child, EU-27, 2019

	Healthcare	Education				Child-contingent cash support	Share of child-contingent cash support
		Primary	Secondary	Tertiary	Other		
AT	2.99%	1.88%	2.55%	0.77%	0.67%	11.30%	0.560
BE	2.47%	1.78%	2.36%	1.13%	0.86%	7.77%	0.475
BG	2.55%	0.92%	1.95%	0.66%	0.35%	6.68%	0.509
CY	1.69%	1.83%	1.97%	0.88%	0.77%	5.09%	0.416
CZ	2.54%	1.22%	2.34%	0.83%	0.79%	6.42%	0.454
DE	4.24%	1.70%	1.94%	0.92%	0.59%	8.70%	0.481
DK	3.55%	1.90%	1.58%	2.00%	0.29%	4.85%	0.342
EE	3.17%	1.69%	1.72%	1.36%	0.83%	12.37%	0.585
EL	1.45%	1.52%	1.42%	0.92%	0.65%	3.99%	0.401
ES	2.81%	1.96%	1.47%	0.52%	0.38%	3.43%	0.324
FI	4.00%	1.33%	2.53%	1.96%	0.34%	5.96%	0.370
FR	3.33%	1.73%	2.44%	0.61%	1.02%	9.06%	0.498
HR	2.91%	2.44%	1.07%	1.01%	0.79%	7.80%	0.487
HU	2.35%	1.45%	1.87%	0.86%	0.93%	8.27%	0.525
IE	2.16%	1.55%	1.18%	0.57%	0.18%	4.27%	0.431
IT	2.84%	1.77%	2.09%	0.32%	0.38%	4.40%	0.373
LT	2.27%	0.88%	2.27%	0.67%	0.98%	7.57%	0.517
LU	1.73%	2.03%	2.31%	0.39%	0.92%	6.58%	0.471
LV	2.64%	1.63%	1.36%	1.05%	1.14%	11.10%	0.586
MT	2.41%	1.31%	1.97%	0.99%	1.08%	7.42%	0.489
NL	3.40%	1.67%	1.98%	1.32%	0.25%	5.26%	0.379
PL	3.72%	2.01%	1.13%	1.36%	0.57%	9.63%	0.523
PT	1.65%	1.61%	1.67%	0.69%	0.59%	4.99%	0.445
RO	2.71%	0.88%	1.43%	0.75%	0.48%	7.55%	0.547
SE	4.73%	6.20%	1.24%	1.16%	0.39%	6.46%	0.320
SI	3.76%	1.93%	2.12%	1.08%	0.46%	8.28%	0.470
SK	2.58%	1.72%	1.62%	0.60%	1.27%	7.09%	0.477

Source: Own elaboration using EUROMOD, Eurostat (2019) and European Commission (2021)

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