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# Living Arrangements, Intra-Household Inequality and Children's Deprivation: Evidence from EU-SILC

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## Abstract

A non-negligible proportion of children in Europe live in multifamily households that include other adults beyond their parents: around 4% live with their grandparents and a further 7% with their adult siblings. In this paper, we investigate the extent to which living in these two household types protects children against deprivation and we provide tests of the relationship between the intrahousehold sharing of resources and children's deprivation. We find that although most children in multifamily households face significantly higher deprivation risks than children in nuclear households this largely reflects the selection into co-residence of families facing financial difficulties rather than arising from an incomplete sharing of resources. We further show that co-residence with grandparents protects a large share of children against deprivation (i.e. they would face higher deprivation risk if they lived only with their parents) while co-residence with adult siblings has more mixed effects across countries.

**Keywords** Children · Material deprivation · Poverty · Intra-household inequality · Europe

**JEL Classification** D13 · D31 · I31 · I32

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## 1 Introduction

Co-residence between generations of the same family is a key form of intergenerational solidarity and a strategy employed by families in the face of hardship to capitalise on the economic and non-economic resources of the extended family providing both functional and financial support. In Europe as in most western industrialised countries, improvements in the health and economic well-being of the elderly as well as rising incomes of the non-elderly over the course of the twentieth century, have led to decreases in intergenerational co-residence as a form of support from adult children to their elderly parents (Palloni, 2001; Ruggles, 2007; Tomassini et al., 2004). As a result, today in most European countries intergenerational co-residence as a form of support from the adult children to their elderly parents is rather low, compared to the levels found in other parts of the world especially in Asia (Esteve & Liu, 2018). Although generally lower than in non-western countries it varies substantially across European countries with higher rates in Southern and Eastern European countries and much lower in Western and Northern European countries. Cross-country differences in the prevalence of intergenerational co-residence have been attributed to several factors including cultural values and beliefs (Giuliano, 2007) and the interplay between public and private forms of provision for care and financial support (Glaser et al., 2004; Saraceno & Keck, 2010).

Despite the declining trend in intergenerational co-residence as a form of support from adult children to their elderly parents in Europe, in the few last years, a trend towards an increased age at which young adults leave their parental home – due to a combination of factors including delays in the age of marriage, increased labour market insecurity, youth unemployment, rising house prices, and limited access to welfare benefits on their own right – produced a rise in another type of intergenerational co-residence: i.e., that between young adults and their parents many of whom may also still have dependent children (Esteve & Reher, 2021). This trend has been linked to the differential degree of defamiliarization of different welfare states and welfare regimes (Lohmann & Marx, 2008) and has been stronger in Southern European countries (Eurofound, 2014; Sompolska-Rzechuła & Kurdyś-Kujawska, 2022) traditionally characterised by high intergenerational dependence and where younger people were hit hardest by the effect of the financial crisis, though increases have also been recorded in Northern and Western European countries.<sup>1</sup>

Although intergenerational co-residence may have important implications on the economic and non-economic well-being of all co-resident household members, only few studies focus on its implications for the economic well-being of dependent children in Europe.<sup>2</sup> To our knowledge, the more detailed study that examines this issue explicitly is that by Verbist et al. (2020). In their study Verbist et al. (2020) analyse child poverty outcomes within three-generation households and arrive to the

<sup>1</sup>The concept of defamilisation refers to ‘the degree to which individual adults can uphold a socially acceptable standard of living independently of family relationships, either through paid work or through social security provisions’ (Lister, 1997, p.173 cited in Bamba, 2007).

<sup>2</sup>A larger body of literature examines the impact of intergenerational co-residence on other aspects of children’s well-being including on children’s academic, cognitive, and behavioural outcomes. Reviewing this literature is beyond the scope of the current study.

conclusion that the formation of multigenerational households operates mainly as a form of solidarity from older to younger generations. Diris et al. (2017) assessing the impact of redistributive policies on child poverty in Europe also pointed out the role of multi-generational households in reducing the child poverty risk. Similarly, Bárcena-Martín et al., (2018) examining the relationship between child poverty risk and social transfer targeting found that the prevalence of multi-generational households mitigates the effects of lower levels of pro-child targeting.

In this paper, we use data from the 2014 EU-SILC to extend the evidence base by considering the effects on children's living standards not only of co-residence with grandparents but also co-residence with young adult siblings. The reason why it is important to examine the differential effects of these two types of intergenerational co-residence, is that the formation of multigenerational households may be a response to the needs of different household members. If this is the case the implications of intergenerational co-residence for children's living standards may vary considerably between these two household types. Moreover, unlike Verbist et al. (2020) who measure the degree and the direction of intergenerational solidarity in terms of income poverty, our assessment is based on child-specific material deprivation outcomes. The advantage of using child deprivation data is that it allows us to directly examine children's living standards (Cantillon & Nolan, 1998; Nolan et al., 2011), and provides a unique opportunity to test directly whether the assumption of equal sharing of resources holds within multifamily households. In our analysis, we use a definition of 'nuclear family' that includes an adult, his/her partner (if any), and dependant children (if any), and we define a 'multifamily household' as a household consisting of two or more nuclear families, which therefore might comprise, for example, a couple and a dependant child, plus an older sibling who has not yet left home, or a single mother and child who live with the child's grandparents.

Based on the adopted definitions, we address the following questions: i) how do the rates of children's deprivation vary by children's family type (i.e. whether in a two-parent or lone-parent family) and by whether they live in a nuclear or multifamily household of different types? ii) does living in a multifamily household protect children against deprivation and how does this vary by multifamily household type? iii) to what extent are differences in the deprivation risk children face in different household types explained by differences in household income, household work intensity, homeownership, number of dependant children, number of disabled adults, and by the relative bargaining different members in the household (proxied by the relative contribution of different families in total household income)?

The first, purely descriptive, question is important to identify in what kinds of households deprived children are concentrated, which can be useful to inform the targeting of social protection and other interventions. The second question takes account of the fact that in order to economise families and individuals in financial difficulties are more likely to form multifamily households and recognises that there may be winners and losers, in terms of living standards, from this strategy. For example, adult siblings may gain from co-residence compared to living independently, but unless they are net contributors to the household finances, other household members' living standards may suffer to some extent. This is crucial for understanding the implications of different kinds of living arrangements for children and for designing

policies to support families appropriately. Question three turns to the determinants of children's deprivation risks. In addition to the standard demographic and socio-economic determinants employed in the literature, we examine the role of a set of determinants which are intended to capture whether children's deprivation is associated with the distribution of bargaining power within the household, considering both the distribution of bargaining power between children's parents (as proxied by their mothers' income as a share of total parental income) and in the case of children who live in multifamily households, between their parents and other household members (as proxied by parents' income as a share of total household income). This question is important because it problematises the common assumption that income is shared to the equal benefit (or to maximise utility) of all adults and children living in the household and that a child (or any adult for this matter) cannot be poor or materially deprived if total household resources are over a certain threshold and therefore the living standards of individuals can be measured through household-level indicators. This issue is important because there is compelling evidence that suggests that there may be significant inequalities within a household (as reviewed for example by Bennett, 2013) and that these inequalities may affect not only adults but also children's living standards.

Although EU-SILC is a valuable source for addressing these very important questions, it has two important limitations that need to be acknowledged. The first is that EU-SILC prohibits analysis of differences in deprivation between children in the same household and the second is that it does not allow analysis of differences in deprivation risk between children living in intact two-parent families and those living in recomposed couple families (i.e. which consist of a married, cohabiting or registered couple and at least one non-common child). As we discuss in the conclusion these important questions cannot be addressed with the data at hand. Further data collection and research is needed to examine these issues and should be prioritised.

## 2 Relevant Literature

The paper relates to two strands of existing literature. The first considers the impact of intra-household sharing of resources on children's welfare. With few exceptions the issue of intra-household sharing of resources and their implications for living standards is studied in the context of couples (Bennett et al., 2024; Guio & Van den Bosch, 2020; Ponthieux & Meurs, 2015; Fritzell, 1999; Findlay & Wright, 1996; Phipps & Burton, 1995; Borooah & McKee, 1993; Davies & Joshi, 1994); and many studies focus on the allocation of resources between adults without considering how the living standards of children may be affected. The few studies that examine the implications for children's well-being have shown that children benefit when the bargaining position of mothers is improved, indicating a lesser degree of income pooling (e.g., Haddad & Hoddinott, 1994; Duflo & Udry, 2004; Attanasio & Lechene, 2010 for Mexico; Thomas et al., 1990 for Brazil). For the UK, Lundberg et al. (1997) used the 1970 reform of the UK tax and benefit system, which redirected child benefit income from men to women, as a quasi-experiment to examine the impact on household spending patterns. Using aggregate data, they found evidence that households

shifted expenditures away from male clothing and towards female and children's clothing, in line with the conjecture that women attach more weight to their children's and their own welfare. Ward-Batts (2008) and Hotchkiss (2005) exploited the same reform, this time using microdata and focusing on families without children as a control group, to reject the income-pooling hypothesis implied by unitary household models, reaching similar conclusions to Lundberg et al. (1997). Fischer (2015), using another reform to the UK tax-credit system in 2003 which made the carer of the children the default benefit recipient as a quasi-experiment, found that whilst the reform caused low-income households to reallocate spending towards children's goods, the effect also extended to goods that are collectively consumed by all household members, thus providing evidence supporting some aspects of the income-pooling hypothesis. Similarly, Braido et al. (2012) find no evidence from a natural experiment in Brazil that women being benefit recipients had an independent association with household food expenditure, which also suggests a greater degree of income pooling. However, as the authors stress, the results of their study cannot be generalised to the whole population because the households in their sample are very poor and spend more of their income on basic goods.

Exploring intrahousehold differences in material outcomes using data from Ireland, Cantillon (2013) found that the gap between partners is wider where the woman's independent income is a lower share of total household income, especially if there are children in the household. Main and Bradshaw (2016), analysing the UK Poverty and Social Exclusion survey, showed that parents who are themselves in poverty are engaging in a range of behaviours suggesting that they sacrifice personal necessities in favour of spending on their children. Cantillon et al. (2004) examining child and household deprivation jointly, found that children and parents experience parallel deprivation. By contrast, Middleton et al. (1997) have shown that parents and children may not experience the same level of deprivation. Guio and Van den Bosch (2020) analysing intra-couple differences in deprivation found that the presence and number of children had a stronger effect on individual deprivation for women than for men, arguing that a potential explanation of this finding is that mothers try to protect their children from deprivation by spending less on themselves.

The evidence is scarce for more complex households consisting of more than one nuclear family unit, but the studies that do exist reject the equal sharing assumption (Dufflo, 2000; Hayashi, 1995; Gosling & Karagiannaki, 2004; Karagiannaki & Burchardt, 2020). Verbist et al. (2020), using self-reported data from EU-SILC on the degree of sharing in households, found that the full sharing of incomes occurs less in three-generation than in two-generation households and that the elderly household members share a substantial part of their income in the common household budget (with the average sharing at around 70%). Iacovou and Davia (2019), using the same data, show that substantial numbers of young people who live with their parents do share a significant proportion of their incomes with their households; that the degree of sharing is driven primarily by the needs of the wider household, and barely at all by the resources of the young adults and is the largest in poorest households; and that in these households, the income shared by young adults is likely to make a considerable difference to the household's standard of living.

A second strand of literature, to which our study relates, considers the prevalence, determinants, and implications of intergenerational co-residence across different dimensions of the well-being of younger and older generations. To date, most studies in this area have largely focused on the adult population.<sup>3</sup> One of the few studies that examine the link between multigenerational co-residence and the economic well-being of dependent children is that by Glaser et al. (2018), who found a decrease in multigenerational co-residence in Austria, France, Greece, and Portugal between the 1970s and the early 2000s but an increase in the US and Romania and a strong link between living in a multigenerational household and socioeconomic disadvantage. Another exception is the study by Verbist et al. (2020), who assess how the formation of multigenerational households is related to the poverty risk of both the elderly and dependent children across European countries. The findings of this study indicate that the formation of multigenerational households operates mainly as solidarity from older to younger generations, and it is particularly strong in countries with a high prevalence of multigenerational households and with welfare states characterized by relatively generous pensions and relatively meagre child benefits, as well as larger inequalities in income from work. Through a series of simulations, Verbist et al. further investigate the implications of relaxing the standard assumption in distribution analyses that resources are fully shared within the household and find that under the partial resource-sharing assumption, child poverty in multigenerational households would be on average almost 10 percentage points higher than under the standard full sharing assumption (but with considerable cross-country differences). Guio et al. (2022), examining child deprivation determinants across Europe, find an association with multifamily households controlling for other factors, indicating that costs and needs are higher in these types of households. Analysing the association between social transfers targeting and child poverty risk in Europe, Bárcena-Martín et al. (2018) find that *ceteris paribus* children living in multifamily (or multiunit) households are 41 percent less likely to be income-poor than those living in single-unit households. Moreover, they find that the higher the proportion of multifamily households in a country the lower the chances of a child being poor. Their results further indicate that the prevalence of multi-generational households mitigate the negative effects of lower levels of pro-child targeting, stressing the importance of considering the effect of country differences in household structures when evaluating the effects of targeted policies, somethings that was also stressed by Diris et al. (2017).

The above studies do not consider differences in the composition of multifamily households. Our paper contributes to and extends this literature by examining the effects of a wider range of living arrangements on children's living standards including living in multifamily households which beyond their nuclear family include co-resident grandparents versus co-resident adult siblings; and by undertaking direct tests of the association between children's deprivation and proxies of the intrahousehold distribution of bargaining power to unravel the existence of a potential link between intrahousehold inequality in the sharing of household resources and children's deprivation.

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<sup>3</sup>See for example Rendall and Speare (1995), Grundy (2000), Karagiannaki (2011), Manacorda and Moretti (2006), Silverstein and Bengtson (1997), Iacovou and Davia (2019).

### 3 Data

Data for our analysis come from the 2014 European Union Statistics on Income and Living Conditions (EU-SILC).<sup>4</sup> In this particular year, EU-SILC included an ad-hoc module on material deprivation, which in addition to the standard deprivation questions asked in every EU-SILC wave, it collected additional data for various adult deprivation items which were collected at the individual level as well as child-specific deprivation data.

The child deprivation questions in this module refer to children aged 1–15. According to the survey protocol, the household respondent had to indicate whether the children in their household (as a group) have each particular good or service from a list of the following 13 items:

- 1) some new (not second-hand) clothes;
- 2) two pairs of properly fitting shoes (including a pair of all-weather shoes);
- 3) fruits and vegetables once a day;
- 4) one meal with meat, chicken, or fish (or vegetarian equivalent) at least once a day;
- 5) books at home suitable for their age;
- 6) outdoor leisure equipment;
- 7) indoor games;
- 8) regular leisure activity;
- 9) celebrations on special occasions;
- 10) invite friends round to play;
- 11) participate in school trips and school events that cost money;
- 12) suitable place to study or do homework;
- 13) go on holiday away from home at least one week per year.

Items (1)–(10) and (13) apply to households with children aged 1–15 while items (11)–(12) apply only to households with school-age children. If the household respondent reported lack of a particular item, they had to indicate whether this was because the household cannot afford it or for other reasons.

Following recommendations by Guio et al. (2018), in 2018, the EU adopted a new official child deprivation index which includes 12 of the 13 child-specific deprivation items listed above plus five deprivation items measured at the household level. This indicator has been deemed as more appropriate to capture child well-being and a decision was reached to collect the underlying child-specific data in the future every three years via an EU-SILC ad-hoc module (REF).

<sup>4</sup>EU-SILC is an annual micro-survey, which has run continuously since 2007, providing detailed micro data on a wide range of social indicators for all the 27 EU Member States (as well as the UK, Serbia, Switzerland, Norway, and Iceland).



### 3.1 Child Deprivation Index

For constructing the child deprivation indicator used in this paper, we use all deprivation items that apply to all children aged 1–15. This leaves out items applicable only to school-age children (i.e., items 11 and 12 from the list above) because we wish to avoid having different lists of items for different families. Item 12 is also not included in the EU child-specific deprivation index (as it failed to pass some of the underlying tests) but unlike our indicator, the EU child deprivation index includes item 11. Moreover, unlike the new EU child-specific deprivation index, our index does not include household-level deprivation items. Though we recognise their importance for measuring child deprivation (as stressed e.g., by Bárcena-Martín et al., 2017a, b; Guio et al., 2020), our choice was driven by the fact that for addressing the questions relating to the relationship between children’s deprivation and the distribution of bargaining power within the household it was more appropriate to focus on purely child-specific deprivation items.

To define whether a child is deprived or not of each specific item, we follow the ‘enforced lack’ (lack because cannot afford it) rather than the ‘simple lack’ concept. Thus, for each item, we define a dichotomous indicator  $I$ :

$$I_{ij} = \begin{cases} 0 & \text{if child does not lack the item or does not want or need it} \\ 1 & \text{if child lacks the item because cannot afford it} \end{cases} \quad \text{for } i = 1, \dots, N \text{ and } j = 1, I, 11$$

where  $i$  refers to each child; and  $j$  corresponds to the items considered. We then aggregate these indicators using an equal weighting scheme whereby each item is assigned an equal weight (equal to 1). The unweighted sum of all 11 deprivation items produces the deprivation scale  $D_i$ :

$$D_i = \sum_{j=1}^J I_{ij}$$

for each child  $i$  in the sample, with a range from 0 (corresponding to the situation of no deprivation) to 11 (indicating enforced lack of all deprivation items). As shown in the online appendix Table A1, across all countries, the items most commonly lacked due to affordability are “ability to go on holiday” and “regular leisure activity” (lacked by 26% and 12% of children respectively). In contrast, the items least commonly lacked due to affordability are “two pairs of properly fitting shoes”, “fruit and vegetables once a day”, “books at home”, and “indoor games”, each lacked by about 4% of children in most countries. Overall, across all countries, 32% of the children lacked any of the eleven items (online appendix Table A2). In general, the Nordic countries, Switzerland and Luxembourg, have the lowest levels of child deprivation, with less than 12% of children lacking any of the items, followed by the Czech Republic, Slovenia, Estonia, Netherlands, Germany, France, Austria and Belgium where around 16–23% of children suffer from at least one deprivation. Much higher levels of child deprivation are observed in Slovakia, Lithuania, Poland, Croatia, Italy, Spain and Malta, with approximately a third of children suffering from at

least one deprivation and even higher rates in the United Kingdom, Latvia, Portugal, Serbia, Greece and Cyprus (approximately 40%) and the highest in Hungary and Ireland (more than 55%).<sup>5</sup> As one would expect, the deprivation rates in all countries decrease substantially with higher deprivation thresholds, especially when the threshold increases from 1+ to 2+. Here, we choose a threshold of 3+ items to define whether a child is deprived or not. Although there is some degree of arbitrariness, the chosen threshold provides the best balance between minimising the bias (which is deemed higher if we set the threshold at a lower level) and maximising the sample size (which falls substantially especially in richer countries when a threshold is set at a higher level). The inclusion of child-specific deprivation items in EU-SILC is an important step forward in the measurement of child living standards and is especially useful for studying how intrahousehold sharing of resources affects children's deprivation outcomes. However, several features and limitations should be noted. Firstly, although the enforced lack definition attempts to capture the impact of financial constraints rather than preferences, responses may be influenced by subjective adaptation to economic circumstances (McKay, 2004; Dominy & Kempson, 2006; Halleröd, 2006), and/or a person spending a high share of his or her income on 'unnecessary' types of goods and services can still report an enforced lack of items on the list. Despite these concerns, we persist with the enforced lack definition in order to maintain comparability with prior research on this topic (including the definitions adopted by the EU for the new official child deprivation index) and to circumvent potentially large differences in preferences for child-related items in different countries affecting the cross-country comparisons. Secondly, the EU-SILC questions are addressed to a respondent who answers on behalf of children in the household as a group, obscuring any differences there may be between different children within the household. And thirdly, qualitative research suggests that there are important differences in the perceptions and experiences of deprivation between parents and children (Main, 2018, 2024; Ridge, 2009). The EU-SILC child deprivation data reflects the perspective of adult respondents. However, despite these limitations, the ability to examine children's deprivation separately from either adult- or household-level deprivation is an important and valuable extension in the repertoire of material deprivation analysis and is particularly useful for the analysis of children's living standards in complex households.

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<sup>5</sup> The reliability of the 11-item child deprivation index for the pooled sample of all countries as indicated by the Cronbach statistic is pretty high, almost 0.88 (see appendix Table A3). Though there is some variation across countries, for the majority of countries the Cronbach's alpha is over the 0.70 acceptable threshold (Nunnally, 1978). The suitability of the different deprivation items (as indicated by the proportion of children in households that either have the item or do not have the item due to financial constraints) is also very high. In the pooled sample of all countries: 9 out of the 11 items were either possessed or wanted by more than 95% of the children (see Table A4). A slightly lower but still fairly high proportion of children (more than 85%) lived in a household that either possessed or wanted but could not afford the remaining two items (i.e. the "regular leisure activity" and "invite friends round to play" items).

### 3.2 Family and Household Type Classification

Identifying the different family units within each household plays a central role in the analysis of this paper. To construct our combined family and household type classification we define a family unit – as briefly mentioned above – as an adult, plus his/her partner (if any), plus any dependent children. Though the principles for defining dependent children may vary across countries (influenced e.g., by variations in education and benefit systems), for consistency and comparability, we adopt a common definition for all countries, and we classify as a dependent any child living with either of his/her parents, who is aged 19 years and under, or aged 20 to 25 and in full-time education.

Based on these definitions, we classify family units into six categories: singles with no dependent children; lone-parent (i.e. single people with dependent children); couples with no dependent children; couples with dependent children; elderly singles (aged 65 or over); or elderly couples (at least one aged 65 or over). We further distinguish between family units living in one-family (nuclear) households (i.e., a household consisting exclusively of one family unit), and family units living with others in what we term a ‘complex’ or ‘multifamily household’. Examples include a couple plus a grown-up son or daughter; a couple or a single person (with or without dependent children) plus an elderly parent. According to the adopted definitions, we categorise children into six broad household types: i) children in a two-parent family who live in a nuclear household; ii) children in a lone-parent family who live in a nuclear household; iii) children in a two-parent family who live in a multifamily household with grown-up siblings; iv) children in a two-parent family who live in a multifamily household with grandparents; v) children in a lone-parent family who live in a multifamily household with grandparents; vi) and children in a lone-parent family who live in a multifamily household with adult siblings.<sup>6</sup> Two points need to be flagged regarding this classification. First, due to data constraints the classification does not distinguish between natural and step-parents, so two-parent families include both intact two-parent families and recomposed couple families.<sup>7</sup> Similarly, “siblings” include co-resident step- or half-siblings. Not distinguishing between children in intact two-parent and step-parent couple families is an important limitation given that different children within the same household may have variable access to resources, depending on their non-resident parents’ contributions to total household income (Cantillon & Guio, 2024). Second, to account for cross-country differences in grandparenthood age our definition of multigenerational households does not restrict

<sup>6</sup> Children may fall into four additional household types. i) children in a two-parent family who live in a multifamily household with both adult siblings and grandparents; ii) children in a two-parent family who live in a multifamily household with other adults; iii) children in a lone-parent family who live in a multifamily household with both adult siblings and grandparents; iv) children in a lone-parent family who live in a multifamily household with others. Given the complexity of presenting results for all types the main body of the paper does not report results for these household types (though relevant statistics are presented in Appendix Table A6).

<sup>7</sup> The reason why is not possible to distinguish between intact and recomposed families is that the father and mother identification variables in EU-SILC includes both natural as well as step/adoptive/foster father/mother respectively.

on grandparent's age. Therefore, a grandparent family unit may be either elderly or non-elderly family unit. This is important since as shown in Table A5 in the online appendix in most countries the majority of grandparents who live in multifamily households with their grandchildren are younger than 65 years old (except Greece, Italy, Germany, Denmark and Finland).<sup>8</sup> Partly as a result of country differences in the grandparents' families age, large cross-country differences are also observed with respect to the distribution of grandparents' self-reported economic status. As shown in Table A5 the proportion of grandparents in work range between 10% (Greece) and 47% (Cyprus), while those reporting to be retired range between 22% (Cyprus and Malta) and 62% (Slovenia and Austria). These differences are important because economic status is associated with the likelihood that the grandparent will be a net contributor to household resources. Large differences also exist in the proportion of grandparents classifying themselves as "permanently ill or disabled" (ranging from less than 1% in Cyprus to more than 13% in the UK). In many countries a high number of grandparents classify themselves as "unemployed" (most pronounced being the case of Bulgaria, Cyprus, Spain, Belgium and Ireland). Finally, there is a very large variation in the proportion of grandparents who report "fulfilling domestic tasks" as being their main economic status. This proportion is particularly small in Slovakia, Czech Republic, Lithuania and Hungary (less than 2%), very large in Malta (over 40%) and the other Mediterranean countries, but also considerable in Luxembourg (around 33%). The grandparents in these households can be seen as providing a substitute for publicly provided childcare. In relation to grandparents' health status, we note that around 45% of grandparents who live in multifamily households, report limitations in their daily activities due to ill health (with a range from around 57% in Slovakia to around 18% in Malta). Differences with similarly aged people not living in multifamily households are relatively small however, so it is difficult to determine the extent to which these limitations drive the formation of multifamily households.

Several interesting observations can also be made about the characteristics of young adult siblings who live in multifamily households (as shown in Table A5). First, as one would expect, in all countries most young adult siblings who live with their parents and dependent siblings are aged between 19–24 (78% overall with a range between 55% in Slovenia to 96% in Denmark) although a substantial proportion of adult siblings who live with their parents and dependent siblings are aged over 25, especially in the Southern and several Eastern European countries. In the Nordic and Continental countries, the majority of co-resident young adults are employed whereas this is not the case in Southern Europe (except for Malta) and several Eastern European countries where the dominant economic status among co-resident adult siblings is unemployment. This is especially the case in Greece, Spain and Portugal, countries which are generally characterised by weaker social protection systems for younger people and increased intergenerational dependency operating by shifting the poverty risk from young adults to their families (Lohmann & Marx, 2008).

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<sup>8</sup>By contrast, Verbist et al. (2020) define a multigenerational household as a household which includes at least one child, one old-age and one working-age individual.

### 3.3 Sample Selection

For the analysis of this paper, we use data for all European countries included in the cross-sectional 2014 EU-SILC user database (UDB) i.e. all the 27 European Union member states plus UK, Serbia and Switzerland.<sup>9</sup> Though we implement most of our analysis at country-level we present many of the results for each country using the following country grouping typology:

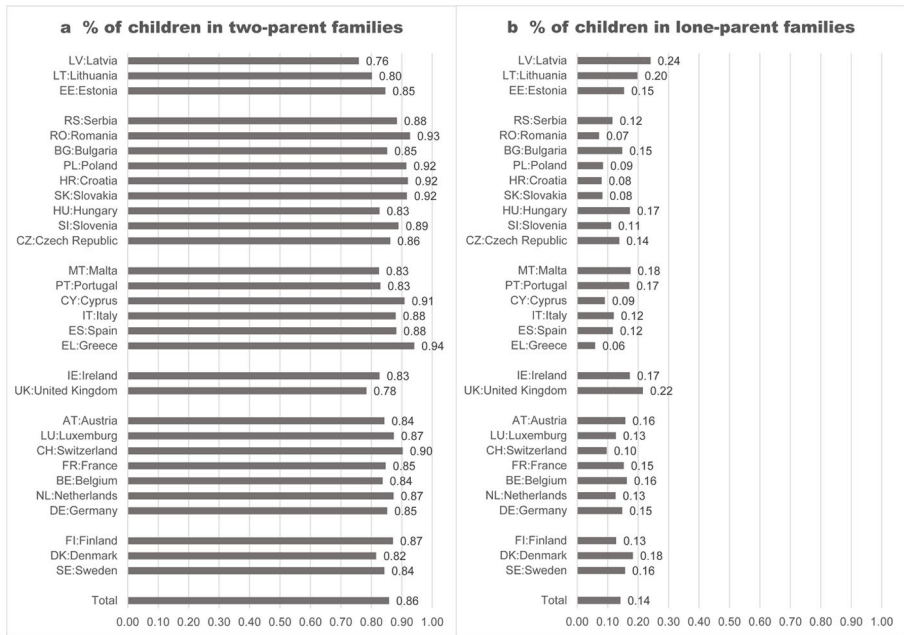
- Nordic: Sweden, Denmark, Finland
- Continental: Germany, France, Belgium, Luxembourg, Switzerland, Austria, and the Netherlands
- Anglo-Saxon: United Kingdom and Ireland
- Southern: Greece, Italy, Spain, Portugal, Cyprus, Malta
- Eastern: Slovenia, Slovakia, Poland, Croatia, Bulgaria, Romania, Serbia, Czech Republic and Hungary
- Baltic: Estonia, Lithuania and Latvia

For all included countries, the analysis sample is restricted to children aged 1–15 years old with non-missing data on each of the items included in the deprivation index as well as with non-missing household income and parental income information. To avoid adding further complexities in the definition of children's family and household types and to be able to disentangle the impact of the relative bargaining power of different household members on children's deprivation risk, we drop children who live in households that include two or more families with children (1,260 out of 86,235 children) as well as children who live in households with zero or negative income (209 observations) and children who do not live with any of their parents (577 observations).

## 4 Cross-Country Differences in Children's Living Arrangements

This section investigates variations in the living arrangements and household composition of children across Europe. We first consider differences across countries in the proportion of children who live in a two-parent family or in a lone-parent family (i.e., leaving aside for the moment whether the household they live in includes other adults beyond their parents). As can be seen in Fig. 1, a majority of children (around 86%) across Europe live in a two-parent family setting. This proportion ranges from around 76% in Latvia up to 94% in Greece and is generally higher in Southern European countries (except for Malta and Portugal) and several Eastern European countries (except for Bulgaria and Hungary), rather lower in the Continental countries, and lowest in the Baltic counties and the United Kingdom. As noted in the previous section, we need to keep in mind that under the adopted definition, two-parent families

<sup>9</sup>The cross-sectional EU-SILC UDB also includes data for Norway and Iceland. Norway is excluded from our analysis due to a high prevalence of missing values for several child-specific deprivation items while Iceland is out of scope of this paper.

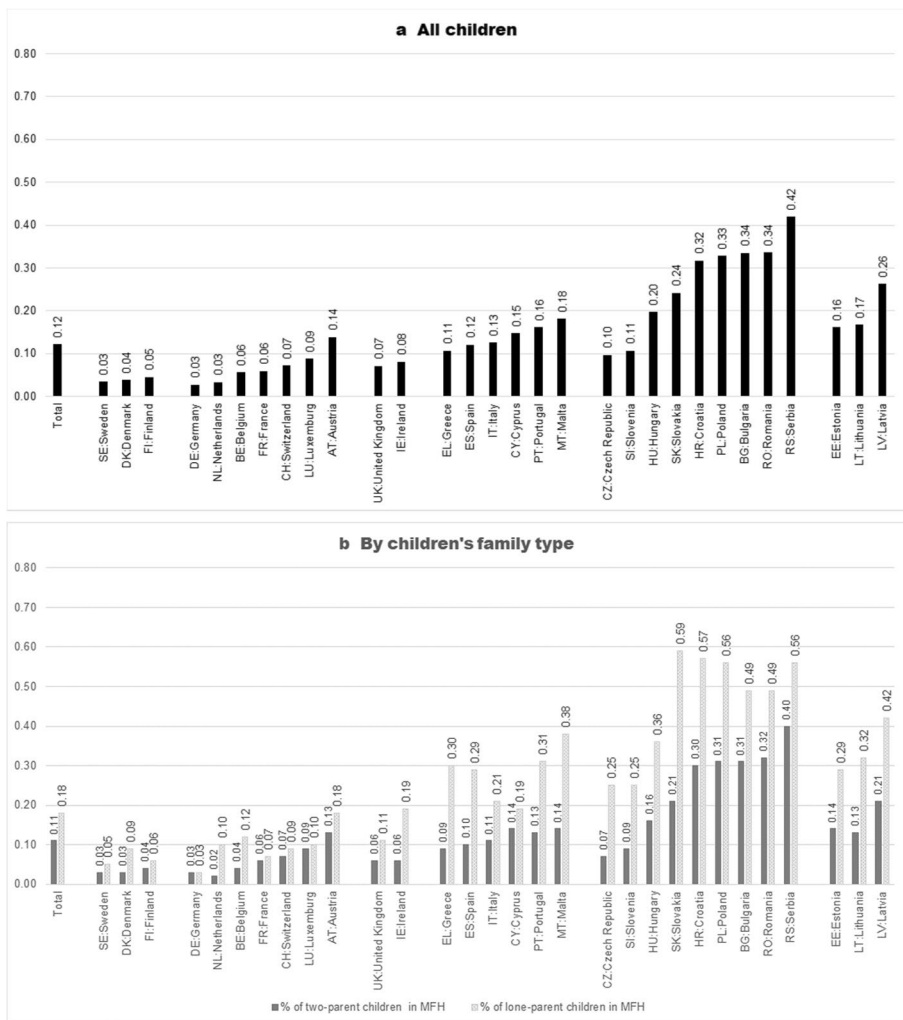


**Fig. 1** Proportion of children who live in two-parent and lone parent families. *Note:* Authors' calculations based on 2014 EU-SILC cross-sectional data UDB ver. 2014–2 1–8–16

include both intact two-parent families as well as recomposed (step-parent) families. Thus, in countries with higher prevalence of recomposed families (i.e. Scandinavian, Northern and central European countries) a larger share of two-parent families will be recomposed families.

Figure 2 considers the broader household in which children live and shows the proportion of children who live in multifamily households. The statistics are presented overall for all children and separately for children in two-parent and lone-parent families. Starting with the graph which corresponds to all children, we observe that overall, across all countries included in our analysis, around 12% of children aged 1–15 live in households containing adults beyond their parent(s), i.e., what we term multifamily households. This proportion ranges from around 3% in Sweden, Germany, and the Netherlands, up to 42% in Serbia. Generally, the proportion of children in multifamily households is highest in Eastern Europe (except for the Czech Republic and Slovenia), the Baltic countries and several South European countries (Malta, Cyprus and Portugal) plus Hungary and Austria. It is rather lower in other Southern European countries (Greece, Spain, Italy) and in the Continental countries and lowest in Nordic countries. In almost every country, a higher proportion of children in lone-parent families than those in two-parent families live in households that include adults beyond their parents.

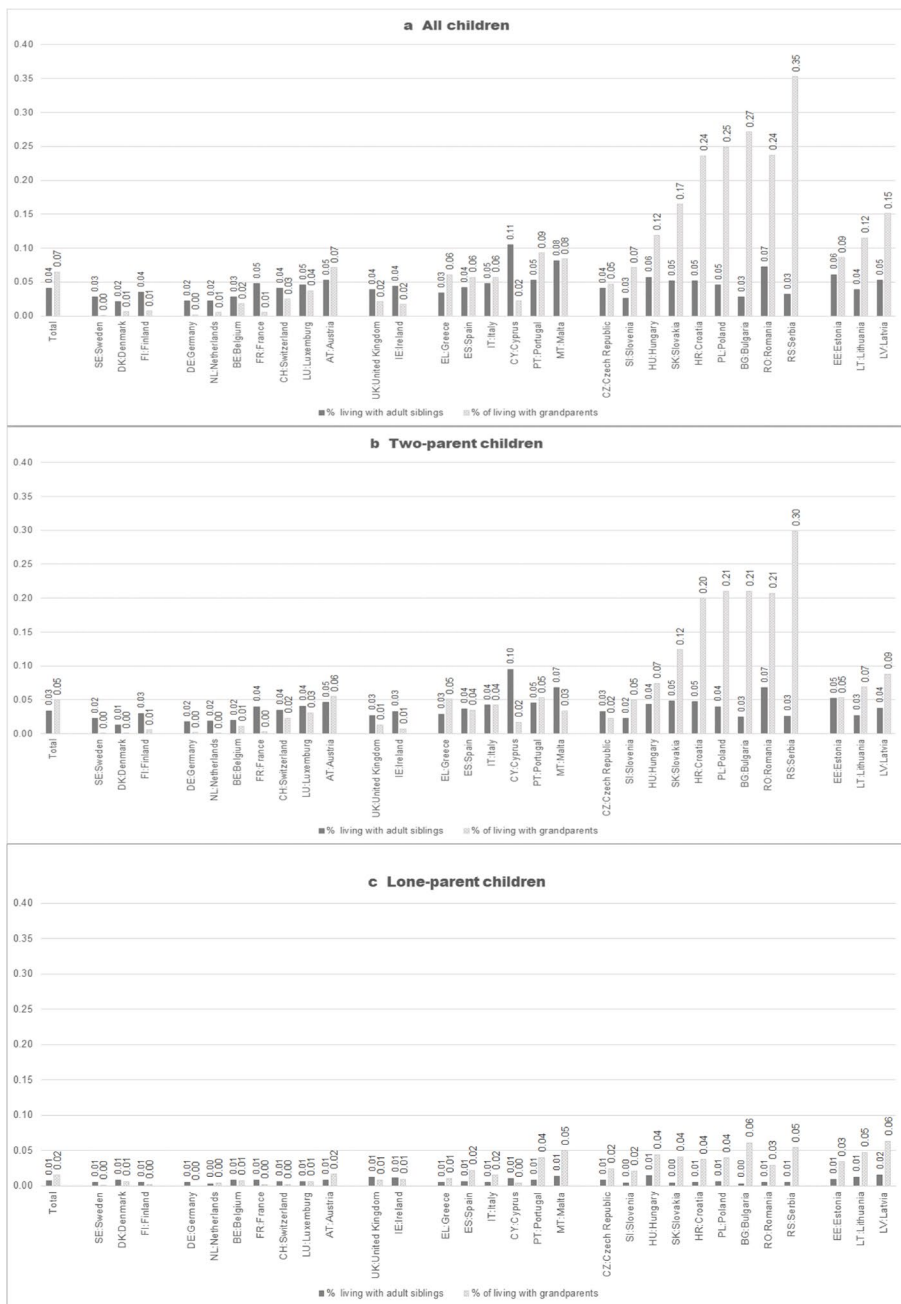
Figure 3 considers in more detail the composition of multifamily households which include dependent children. As shown in Fig. 3a, across all countries, around 7% of children live with their grandparents and another 4% with their adult sib-



**Fig. 2** Proportion of children who live in multifamily households (MFH) across Europe, overall and by children's family type. *Note:* Authors' calculations based on 2014 EU-SILC cross-sectional data UDB ver. 2014-2 1-8-16

lings.<sup>10</sup> Although there is again a very large cross-country variation, a general pattern that emerges is that co-residence with grandparents is most prevalent in Southern and Eastern European countries and less so in the Nordic and Continental countries. By contrast, co-residence with adult siblings, though again generally more common in Southern and Eastern Europe, displays a substantially smaller variability across countries. As a result of these patterns, in the Nordic countries and the countries of the Continental group, the largest proportion of children in multifamily households

<sup>10</sup>A further 1% of children live in households which include both adult siblings and grandparents and fewer than 1% with adults other than their adult siblings or grandparents – see appendix Table A6.



**Fig. 3** Proportion of children who live with adult siblings and with grandparents, for all children and by family type. *Note:* Authors' calculations based on 2014 EU-SILC cross-sectional data UDB ver. 2014–2 1–8–16. Excludes children living with both adult siblings and grandparents and those living with others – estimates provided in appendix Table A6



live with their adult siblings while in most Eastern and Baltic countries with their grandparents. The Southern European countries stand somewhere in between: having a higher proportion of children who live with their grandparents compared to countries in the Continental and the Nordic cluster and a similar proportion of children who live with adult siblings. Looking at the patterns for children in two-parent and lone-parent families separately (Fig. 3b and c) we observe that while the co-residence patterns for children in two-parent families are similar to that for all children, for children in lone-parent families the most common form of co-residence in all but the Nordic countries is living with grandparents.

## 5 Comparing the Living Standards of Children Living in Nuclear and Multifamily Households

Having examined how children's living arrangements differ across countries we now turn to investigate differences in the deprivation risk among children who live in different household types (Section 5.1). It should be stressed, that this type of descriptive analysis does not aim to address the question of whether the formation of multifamily households is beneficial or detrimental to children's living standards. Such an assessment would require accounting both for the effect of the potential selection into co-residence of families facing financial difficulties as well as other compositional differences across groups with respect to observable background characteristics. Rather, it provides an important benchmark about the living standards of children in different household types which is important for identifying in what kinds of households deprived children are concentrated. In Section 5.2, we examine the extent to which different determinants explain differences in the deprivation risk of different groups of children which is important for understanding what drives the higher deprivation risks of different groups of children and can be useful to inform the targeting of social protection and other interventions.

### 5.1 Descriptive Analysis

Before examining differences in the deprivation risk of children living in different types of households, it is useful to compare their living standards in terms of the equivalised household disposable income (defined in the standard way as the sum of gross income from all sources of all household members minus of income taxes and social security contributions and adjusted by the Modified OECD equivalence scales to reflect differences in size and needs of households of different size and composition). As shown in Table 1, across most countries, children in two-parent nuclear households have the highest average equivalised household income. The group with the next highest income level in most countries in Southern and Eastern Europe as well as in the two Anglo-Saxon countries, is the group of two-parent children who live with their grandparents. By contrast, in most Continental countries, it is the group of two-parent children who live with their adult siblings. In all countries, lone-parent children have a substantially lower average equivalised household income than two-parent children. In countries where sample size allows comparisons, lone-parent chil-

dren who live with their grandparents have slightly higher average income levels than either the group of lone-parent children who live in multi-family households with their adult siblings or those who live in nuclear households (with their parent only). The latter finding is a first indication of the protective role that living with grandparents plays, although as mentioned above, we need to account for compositional differences to reach conclusions on this – a task we undertake in subsequent sections of the paper.

Figure 4 considers differences in deprivation rates across different groups of children, by showing the proportion of children in each group that live in households that are unable to afford 3 or more child deprivation items. Overall, across all countries, 12% of all children lacked three or more items (Fig. 4a). As one would expect there are substantial differences across countries. The lowest child deprivation rates (below 3%) are found in the Nordic countries and Switzerland. Continental and Anglo-Saxon European countries have, on average, the next lowest child deprivation rates although within each country group, rates display significant variation (ranging from as low as 4–6% in Luxembourg, Austria, Germany and France to 10% in Belgium and around 9% and 11% in the UK and Ireland respectively). Wide variation also exists across countries in the Southern group where the child deprivation rates range from 9% in Malta to around 12–14% in Italy, Spain and Cyprus and 16% in Greece and Portugal. The variation in Eastern European countries is even larger with a range from as low as 5% in Slovenia to as high as 56%–59% in Bulgaria and Romania. In most countries children who live in multifamily households face a substantially higher deprivation risk than their counterparts who live in nuclear households, mirroring the differences in average incomes discussed in the section above. However, as a general pattern, we note that differences in the deprivation rates between the group of children who live in multifamily households and those who live in nuclear households are higher in countries with on average higher deprivation rates.

Overall and across most countries, children in lone-parent families - irrespective of whether they live in nuclear or multifamily households - face a substantially higher deprivation risk than children in two-parent families (Fig. 4b and c). Again, consistent with the income patterns discussed above, differences between the two groups are smaller for children who live in multifamily households than for those in nuclear households. This reflects on the one hand, the greater deprivation risk of two-parent children who live in multifamily households compared to their counterparts who live in nuclear households and on the other hand the fact that the deprivation risk of lone-parent children who live in multifamily households is lower than or close to that of lone parent children who live in nuclear households.

Figure 5 presents differences in the deprivation rates among children breaking down the group of children in multifamily households by whether they live with grandparents or adult siblings. Considering first children in two-parent families, we observe that in all countries where differences in deprivation rate are statistically significant, children who live in multifamily households irrespective of whether they live with their grandparents or adult siblings face a much higher deprivation risk than their counterparts who live in nuclear two-parent households. For lone-parent children, the patterns are more mixed. On the one hand, lone-parent children who live with their adult siblings face a higher deprivation risk than their counterparts who

**Table 1** Mean equivalised household among children living in different household types, levels and percent difference relative to two-parent children living in one-family households (OFH)

	Children in one family households		Children in multifamily households					
	Two-parent children	Lone-parent children	Two-parent children			Lone parent children		
			All	... living with adult siblings	... living with grandparents	All	... living with adult siblings	... living with grand-parents
<b>a. Levels</b>								
<b>Total</b>	16,021	11,605	14,739	14,414	13,542	12,007	10,603	13,974
<b>Nordic</b>								
SE: Sweden	28,771	20,607	26,457	27,468	n.a		n.a	n.a
DK: Denmark	31,097	22,538	41,576	36,014	n.a		n.a	n.a
FI: Finland	26,010	19,105	25,872	25,715	25,807	23,449	n.a	n.a
<b>Continental</b>								
DE: Germany	22,227	16,535	27,725	30,394	n.a		n.a	n.a
NL: Netherlands	22,533	17,149	23,052	22,160	n.a	16,561	n.a	n.a
BE: Belgium	24,542	16,132	18,033	19,330	n.a	16,209	n.a	n.a
FR: France	23,385	16,011	17,893	18,341	n.a	15,588	14,052	n.a
CH: Switzerland	38,797	33,545	33,315	33,915	n.a		n.a	n.a
LU: Luxembourg	34,769	25,214	29,939	30,310	28,467		n.a	n.a
AT: Austria	22,829	16,547	21,589	22,632	20,753	19,821	n.a	19,376
<b>Anglo-Saxon</b>								
UK: United Kingdom	22,400	16,161	23,409	22,295	23,789	17,320	17,255	17,616
IE: Ireland	23,416	14,501	17,124	16,718	n.a	15,484	n.a	17,940
<b>Southern</b>								
EL: Greece	9,317	7,538	6,158	5,361	6,668	5,623	n.a	6,774
ES: Spain	14,787	11,098	11,158	9,711	11,745	10,746	n.a	11,307
IT: Italy	16,601	12,200	14,236	13,847	14,682	13,328	10,946	13,288
CY: Cyprus	17,127	11,496	16,009	14,833	13,284	13,606	n.a	n.a

Table 1 (continued)

	Children in one family households		Children in multifamily households					
	Two-parent children	Lone-parent children	Two-parent children			Lone parent children		
			All	... living with adult siblings	... living with grandparents	All	... living with adult siblings	... living with grandparents
PT: Portugal	9,709	7,014	7,103	6,501	7,627	7,092	n.a	7,760
MT: Malta	14,101	9,183	12,592	13,339	11,764	11,732	n.a	11,605
<b>Eastern</b>								
CZ: Czech Republic	8,742	5,856	8,427	8,706	8,241	6,762	n.a	7,277
SI: Slovenia	13,182	10,095	12,270	11,473	12,819	10,275	n.a	10,401
HU: Hungary	4,850	3,454	3,971	3,539	4,198	3,958	2,842	4,396
SK: Slovakia	6,723	6,380	6,456	6,016	6,764	7,332	n.a	7,507
HR: Croatia	5,659	4,394	5,170	4,733	5,350	5,193	n.a	5,021
PL: Poland	6,447	4,581	4,985	4,710	5,091	4,863	3,648	5,067
BG: Bulgaria	3,817	2,385	3,202	2,873	3,291	2,760	n.a	2,878
RO: Romania	2,205	1,914	1,842	1,025	2,119	1,929	n.a	2,020
RS: Serbia	2,949	2,296	2,461	1,832	2,536	2,372	n.a	2,511
<b>Baltic</b>								
EE: Estonia	10,207	6,273	8,182	8,315	7,561	6,457	5,452	6,834
LT: Lithuania	6,191	3,550	6,203	5,766	6,458	4,473	n.a	4,770
LV: Latvia	7,246	4,396	5,774	4,538	6,084	4,837	5,009	4,831
<b>b. % difference relative to two-parent children in OFH</b>								
<b>Total</b>	0.000	-0.276*	-0.080*	-0.100*	-0.155*	-0.251*	-0.338*	-0.128*
<b>Nordic</b>								
SE: Sweden	0.000	-0.284*	-0.080	-0.045	n.a	n.a	n.a	n.a
DK: Denmark	0.000	-0.275*	0.337*	0.158*	n.a	n.a	n.a	n.a
FI: Finland	0.000	-0.265*	-0.005	-0.011	-0.008	-0.098	n.a	n.a

Table 1 (continued)

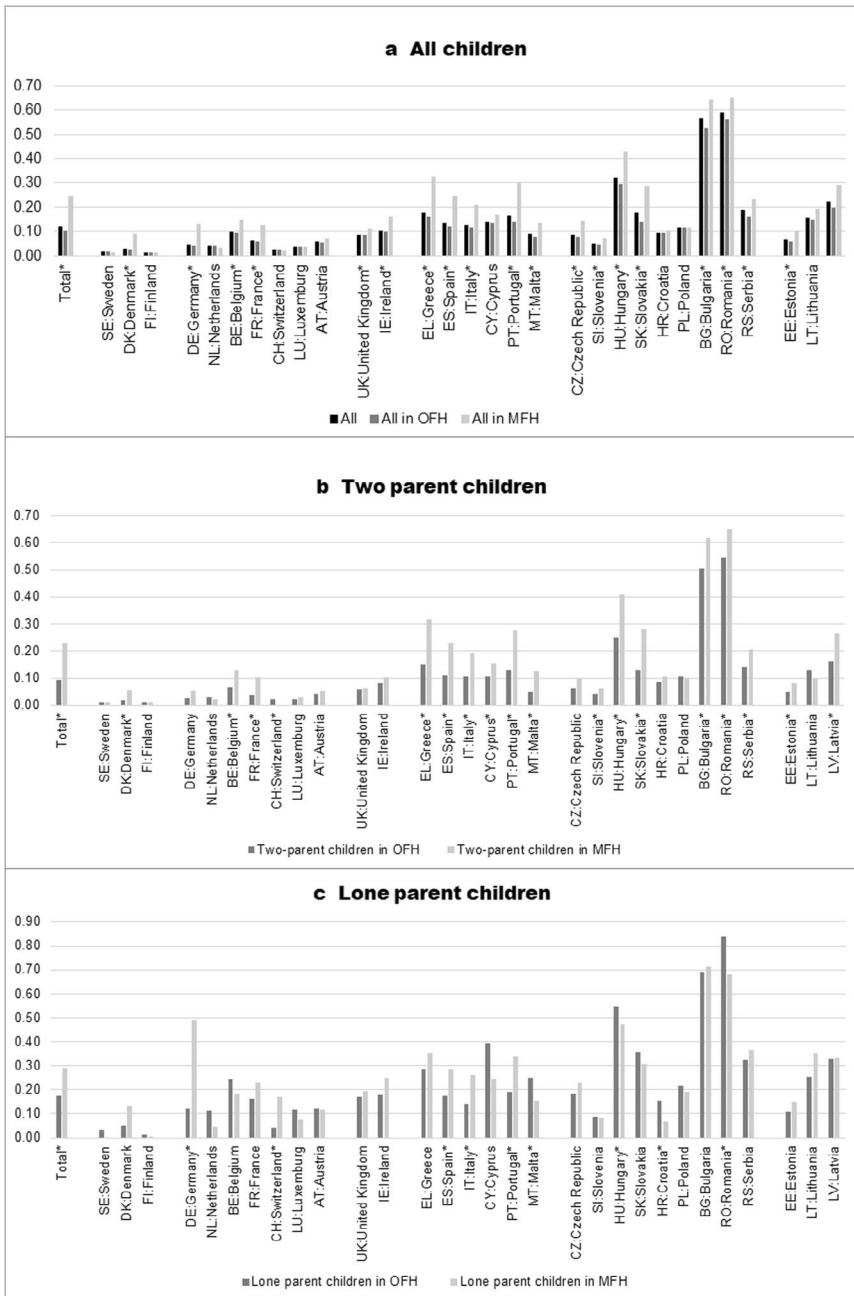
	Children in one family households		Children in multifamily households					
	Two-parent children	Lone-parent children	Two-parent children			Lone parent children		
			All	... living with adult siblings	...living with grandparents	All	...living with adult siblings	... living with grandparents
<b>Continental</b>								
DE: Germany	0.000	-0.256*	0.247*	0.367*	n.a	n.a	n.a	n.a
NL: Netherlands	0.000	-0.239*	0.023	-0.017	n.a	-0.265*	n.a	n.a
BE: Belgium	0.000	-0.343*	-0.265*	-0.212*	n.a	-0.34*	n.a	n.a
FR: France	0.000	-0.315*	-0.235*	-0.216*	n.a	-0.333*	-0.399*	n.a
CH: Switzerland	0.000	-0.135*	-0.141*	-0.126*	n.a	0.000	n.a	n.a
LU: Luxembourg	0.000	-0.275*	-0.139*	-0.128*	-0.181*	n.a	n.a	n.a
AT: Austria	0.000	-0.275*	-0.054*	-0.009	-0.091*	-0.132*	n.a	-0.151*
<b>Anglo-Saxon</b>								
UK: United Kingdom	0.000	-0.279*	0.045	-0.005	0.062	-0.227*	-0.23*	-0.214*
IE: Ireland	0.000	-0.381*	-0.269*	-0.286*	n.a	-0.339*	n.a	-0.234*
<b>Southern</b>								
EL: Greece	0.000	-0.191*	-0.339*	-0.425*	-0.284*	-0.396*	n.a	-0.273
ES: Spain	0.000	-0.249*	-0.245*	-0.343*	-0.206*	-0.273*	n.a	-0.235*
IT: Italy	0.000	-0.265*	-0.142*	-0.166*	-0.116*	-0.197*	-0.341*	-0.200*
CY: Cyprus	0.000	-0.329*	-0.065*	-0.134*	-0.224*	-0.206*	n.a	n.a
PT: Portugal	0.000	-0.278*	-0.268*	-0.33*	-0.214*	-0.27*	n.a	-0.201*
MT: Malta	0.000	-0.349*	-0.107*	-0.054	-0.166*	-0.168*	n.a	-0.177*
<b>Eastern</b>								
CZ: Czech Republic	0.000	-0.330*	-0.036	-0.004	-0.057	-0.226*	n.a	-0.168*
SI: Slovenia	0.000	-0.234*	-0.069*	-0.13*	-0.028	-0.221*	n.a	-0.211*
HU: Hungary	0.000	-0.288*	-0.181*	-0.27*	-0.134*	-0.184*	-0.414*	-0.093*

Table 1 (continued)

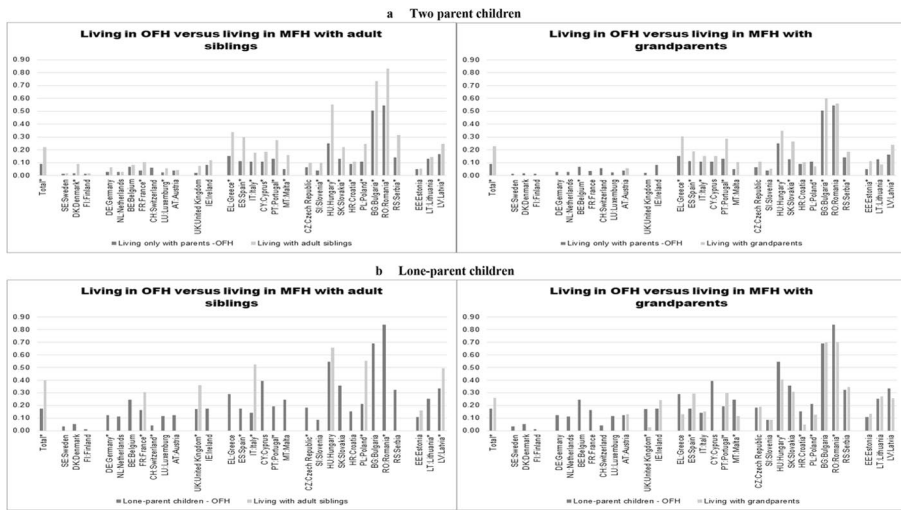
	Children in one family households		Children in multifamily households					
	Two-parent children	Lone-parent children	Two-parent children			Lone parent children		
			All	... living with adult siblings	... living with grandparents	All	... living with adult siblings	... living with grand-parents
SK: Slovakia	0.000	-0.051	-0.040	-0.105	0.006	0.091	n.a	0.117
HR: Croatia	0.000	-0.224*	-0.086*	-0.164*	-0.055	-0.082	n.a	-0.113
PL: Poland	0.000	-0.289*	-0.227*	-0.269*	-0.21*	-0.246*	-0.434*	-0.214*
BG: Bulgaria	0.000	-0.375*	-0.161*	-0.247*	-0.138*	-0.277*	n.a	-0.246*
RO: Romania	0.000	-0.132	-0.164*	-0.535*	-0.039	-0.125	n.a	-0.084
RS: Serbia	0.000	-0.221*	-0.165*	-0.379*	-0.14*	-0.196*	n.a	-0.149*
<b>Baltic</b>								
EE: Estonia	0.000	-0.385*	-0.198*	-0.185*	-0.259*	-0.367*	-0.466*	-0.33*
LT: Lithuania	0.000	-0.427*	0.002	-0.069	0.043	-0.277*	n.a	-0.229*
LV: Latvia	0.000	-0.393*	-0.203*	-0.374*	-0.16*	-0.332*	-0.309*	-0.333*

Authors' calculations based on 2014 EU-SILC cross-sectional data UDB ver. 2014–2 1–8–16. n.a. indicates sample size too small for reliable estimate (i.e., less than 30).

\* indicates significant difference at less than 10% level



**Fig. 4** Deprivation rates among children (1–15) in Europe, overall and by whether they live in one-family household (OFH) or a multifamily household (MFH). *Note:* The average across all countries is unweighted. Within each country group countries are ranked by the proportion of children in MFH from low to high. The asterisk (\*) behind country name indicates significant difference in deprivation rates between children ‘in OFH and ‘in MFH’ (at 95% confidence level). \*Authors’ calculations based on 2014 EU-SILC cross-sectional data UDB ver. 2014–2 1–8–16



**Fig. 5** Deprivation rates among children in one-family household (OFH) and those in multifamily households (MFH) by whether the MFH includes grandparents or adult siblings. *Note:* The average across all countries is unweighted. Within each country group countries are ranked by the proportion of children in MFH from low to high. The asterisk (\*) behind country name indicates significant difference in deprivation rate between children ‘in OFH and those in ‘in MFH’ (at 95% confidence interval). Statistics not reported if sample base is less than 30 obs. Source: Authors’ calculations based on 2014 EU-SILC cross-sectional data UDB ver. 2014–2 1–8–16

live in nuclear households. On the other hand, in the majority of countries with statistically significant differences, lone-parent children who live in multifamily households with their grandparents have lower deprivation rates than their counterparts who live in nuclear households (except Portugal). Nevertheless, for both two-parent and lone-parent children those who live with their adult siblings face higher deprivation risks than those who live with their grandparents (with the exception of two-parent children in Austria, Portugal, Czech Republic, Slovakia and Estonia where the opposite pattern is observed).

Summing up, the results of the empirical analysis so far indicate that children living in multifamily households and especially those who live with their adult siblings are at higher risk of material deprivation and low income than children in nuclear households. The only exception is children of lone-parents who live with their grandparents who, in many countries, are found to face a lower deprivation risk than their counterparts who live in nuclear lone-parent households. As mentioned above, some of what we observe in these descriptive analyses reflect the selection into co-residence of families facing financial difficulties as well as compositional differences across groups. To assess whether living in a multifamily household protects children against deprivation one would need to account for compositional differences and compare the living standards of children under their current living arrangements with the living standards that they would have attained if they lived in a nuclear household. We address these questions in subsequent sections.



## 5.2 Multivariate Analysis: The Role of Socio-Economic Characteristics and Control Over Household Income in Explaining the Higher Deprivation Risk of Children in MFH

As mentioned above, in this section, we investigate the extent to which differences in the deprivation risk across groups of children in different household types reflect differences in the demographic and socio-economic characteristics of these groups. In addition to examining the contribution of household income, and other factors that may be associated with higher child deprivation risk, we examine the extent to which children's deprivation risk depends on the distribution of bargaining power within the household considering both the distribution of bargaining power between children's parents (as proxied by their mothers' income as a share of total parental income) and in the case of children who live in multifamily households between their parents and other household members (as proxied by parents' income as a share of total household income).

Our general approach to address these issues is to estimate a series of regression models for the pooled data for all countries predicting children's deprivation risk that sequentially introduces controls for different sets of variables. The benchmark model (Model A) represents the basic specification and includes a set of country dummies and six dummies classifying children according to their family and household type. Then we augment the model by the logarithm of total equivalised household disposable income, homeownership status, two dummy variables indicating the number of disabled adults in the household, and a dummy indicating the household's low work intensity status (Model B), to examine the extent to which differences in the deprivation risk of the different groups of children can be explained by differences in these characteristics. The subsequent models introduce additional variables to capture the impact of the relative bargaining power of different household members. Model C includes controls for mothers' income as a share of total parental income which we use as a proxy of the bargaining power of mothers relative to fathers. This model aims to explore how the distribution of power between mothers and fathers affects children's deprivation risk. A positive and significant coefficient on mother's income share would suggest that mothers having more bargaining power is protective for children (and controlling for this would decrease the coefficient of children's deprivation risk of all groups of two-parent children and in turn would result in an increase in the coefficients capturing the deprivation risk differential between two-parent children and the other groups). Finally, Model D includes two variables defined for each household type (and set to zero for not applicable household types) to indicate respectively grandparents' and adult siblings' income as a share of total household income, which we use as proxies of the bargaining power of the parents relative to grandparents and adult siblings respectively. Moreover, the model includes a variable indicating for children who live in owner occupied accommodation whether the house is owned by children's parents or other members of the household. Here we are explicitly examining the hypothesis that control over household resources has no effect on children's deprivation risk.

Table 2 shows the results from these models. In line with the results of the descriptive analysis, the results from Model A show that with the exception of two-par-

**Table 2** Marginal effects for probit models predicting children's deprivation risk

	Model A	Model B	Model C	Model D
<i>Household type (ref. two-parent nuclear household)</i>				
Lone-parent nuclear household	0.095*** (14.19)	0.036*** (5.63)	0.045*** (4.75)	0.046*** (4.75)
Two-parent & adult siblings	0.078*** (8.32)	0.044*** (5.26)	0.037*** (3.31)	0.037*** (3.31)
Two-parent & grandparents	0.014 (1.64)	-0.008 (-1.08)	-0.014 (-1.07)	-0.013 (-1.01)
Lone-parent & adult siblings	0.196*** (10.43)	0.125*** (8.04)	0.122*** (6.07)	0.122*** (6.07)
Lone-parent & grandparents	0.065*** (6.50)	0.028*** (3.00)	0.027 (1.45)	0.028 (1.48)
<i>Number of children 0–15</i>				
2		0.018*** (4.04)	0.018*** (3.99)	0.018*** (3.99)
3		0.061*** (10.09)	0.060*** (10.00)	0.060*** (10.00)
<i>Number of disabled adults in the household</i>				
1		0.047*** (9.18)	0.047*** (9.19)	0.047*** (9.19)
2+		0.088*** (10.17)	0.088*** (10.13)	0.088*** (10.13)
<i>Log equivalised household income</i>				
		-0.084*** (-21.04)	-0.084*** (-20.95)	-0.084*** (-20.95)
<i>House owned outright or with mortgage</i>				
		-0.061*** (-12.44)	-0.061*** (-12.44)	-0.064*** (-6.42)
<i>Low work intensity hh (ref. not low work intensity hh)</i>				
		0.054*** (8.47)	0.054*** (8.50)	0.054*** (8.50)
<i>Mother's income share</i>				
			-0.014 (-1.33)	-0.014 (-1.33)
<i>Adult siblings' income share</i>				
			0.036 (1.07)	0.036 (1.08)
<i>Grandparents' income share</i>				
			0.015 (0.63)	0.016 (0.68)
<i>House owned by parents</i>				
				0.003 (0.36)
Observations	83,987	83,987	83,987	83,987
Pseudo R-squared	0.167	0.321	0.321	0.321

Marginal effects from probit models. The sample includes all children aged 1–15. All models include a set of dummies indicating the number of children of different age groups in the household as well as a set of country dummies. Standards errors are clustered within households to account for intra-household correlations. The model also includes two dummy variables indicating two-parent and lone-parent children respectively living with others adults. The variables indicating grandparents', adult siblings, other household members' income share are mutually exclusive and indicate the share of total household income brought by grandparents', adult siblings, other household members respectively. They are defined for each household type and are set to zero for other household types. Z-statistics in parentheses. \*, \*\* and \*\*\* indicate statistically significant effects at 10, 5 and 1 percent levels

ent children who live with their grandparents, all other groups of children face a significantly higher deprivation risk than two-parent children who live in nuclear households. However, the estimated differences for some groups are much smaller compared to the raw differences documented in the descriptive analysis of Section 5. Given that this model controls only country-fixed effects, this decrease reflects the fact that certain groups of children with higher deprivation risk are more prevalent in countries with higher average deprivation rates. In descending order, the groups facing the largest deprivation risk are lone-parent children who live with their adult siblings, lone-parent children who live in nuclear households, two-parent children who live with adult siblings and lone-parent children who live with their grandparents (facing respectively 20, 11, 8 and 6.5 percentage points higher risk than children in two-parent nuclear households). At the other extreme, the groups facing the smallest deprivation risks are two-parent children who live in nuclear households and those who live in multifamily households with their grandparents. Controlling for household income, household work intensity and homeownership status (Model B) explain the higher deprivation risk of all groups of children in lone-parent families as well as of two-parent children who live with their adult siblings to large extent, but not completely. The mother's income share variable in Model C is not statistically significant, but it has the anticipated sign implied by existing evidence and suggests that children's living standards improve as the mother's bargaining power improves (as proxied by mothers' income share). The coefficients on the adult siblings' and grandparents' income share variables are not statistically significant either which supports the conjecture of children being considered as a "public good" in both households types (Becker, 1981; Blundell et al., 2005) and their needs are prioritised by all adults in the household.<sup>11</sup>

## 6 An Assessment of the Potential Gains or Losses of Living in a Multifamily Household

This section assesses the extent to which living in multifamily households protects children against deprivation using a simulation exercise which compares the material living standards of children under their current living arrangements to the counterfactual living standards that they would have attained if they lived with their parent(s) alone. Our assessment is based on comparing the standards of living of children in terms of two indicators. The first is the *equivalised household disposable income* which is the sum of the income of all members of the household adjusted by the

<sup>11</sup> We also estimated a multi-level logit model to test the relationship between country differences in child deprivation risk and the prevalence of different types of multifamily households in a country (see online appendix A7). In addition to the demographic and socio-economic variables included in Model D, the model includes two variables indicating the proportion of children in each country that live in different multi-family household types (i.e. that include households that include grandparents and adult siblings respectively) along with GDP per capita. The results show that child deprivation risk has a positive relationship with the prevalence of multifamily households which include adult siblings and a negative relationship with the proportion of multifamily households which include grandparents. However, both effects are statistically insignificant and moreover their inclusion in the model have a small impact in explaining country differences in child deprivation risk.

household equivalence scale to reflect differences in needs of households of different sizes and compositions (using the modified OECD scales). The second is the *equivalised family disposable income* which is the sum of the income of the children's parents adjusted by the family-level equivalence scales (again using the modified OECD scales).<sup>12</sup>

The difference between these two income measures can be thought of, as capturing the difference in material living standards that children attain under their current living arrangements (captured by the equivalised household income) and the standard of living they could attain by their parents' income (captured by the equivalised family income measure). The latter can be thought of as reflecting the living standards that children and their parents could attain if they did not live in a multifamily household, or if there were neither economies of scale nor sharing of income across members of different family units within households. Note that this assessment abstracts any second-order effects on employment income resulting from changes in labour supply as well as any relevant changes in benefit income eligibility due to changes in the living arrangements. Also note that since co-residence is a form of private transfer that can serve as a substitute of monetary transfers, this assessment also ignores possible transfers between households that would take place if multi-family households lived separately (i.e. transfers made by parents to their adult children if they lived in separate households).

As shown in Table 3, except in the UK, the average equivalised household income of (both two-parent and especially lone-parent) children who live in multifamily households with their grandparents is higher than the equivalised family income measure, suggesting that co-residence with grandparents on average is associated with financial gains for children (and their parents). The financial gains are larger in Southern and Eastern European countries, a result that can be linked to the fact that in these countries the social protection for older people tends to be more developed than for the young and for families with children. The effects for children living in multifamily households with adult siblings vary across countries, but in the majority of countries where significant differences are identified, the average equivalised household income is lower than the equivalised family income measure, indicating that on average in these countries this living arrangement entails some financial losses for children (i.e. the contribution of young adults' income to the household budget is less than the increase in the living costs that their presence in the household entails).<sup>13</sup> This effect is stronger in the Nordic countries as well as in several Southern countries (especially in Italy, Cyprus and to a lesser extent Spain and Greece) and Eastern European countries (especially in Serbia, Bulgaria, Romania and less so in the Czech Republic). By contrast, co-residence with adult siblings is estimated to involve financial gains for two-parent children in Malta, the UK and Ireland as well as for lone-parent children in all countries where the sample size allows us to make inferences.

One thing that should be stressed here is that the assessment discussed above is based on evaluating average differences in the two income measures. The conclu-

<sup>12</sup> Details about the constructing the family income measure is provided in the online Appendix B.

<sup>13</sup> Costs here refer to the costs as estimated based on the OECD equivalence scales rather than the true costs (which are unobserved).

sions may differ if the differences between the two income measures are significantly different across the distribution. In the remainder of this section, we assess the extent to which there are gains/losses in terms of lower/higher deprivation risk among children living in different household types exploiting differences across the two income distributions. This assessment is based on a simple simulation exercise. This consists of two main stages. The first stage involves estimating the relationship between children's deprivation risk and total equivalised household income, controlling for various socio-economic characteristics. The second step uses the coefficients from stage one to predict the probabilities of a child being deprived based, firstly, on their equivalised *household* income, and, secondly, on their equivalised *family* income.

Table 4 shows the average predicted probabilities based on these two income measures for two-parent and lone-parent children. By construction, the two predictions are identical for children living in nuclear households, and thus the results are presented only for children who live in multifamily households. The predicted probabilities in columns (1) and (4) are calculated using total equivalised household income whereas those in columns (2) and (5) are calculated using the equivalised family income. The latter can be seen as capturing the deprivation risk that children would face if their living standards were determined exclusively by their parent's income. The difference between the two predicted probabilities can be seen therefore as reflecting the potential gains or losses children face in terms of reduced or increased deprivation risk by living in a multifamily household.

The regression coefficients used for the calculation of the predicted probabilities in this table are from pooled probit models predicting the probability of being deprived among children living in different household types as a function of the logarithm of equivalised household income and a set of standard demographic controls including the number of children living in the household aged 0–15, a dummy variable indicating whether the household has children aged 16–18, and a set of dummies indicating children's family/household type. The predicted probabilities in the row that corresponds to all countries are calculated using the coefficients from a regression on the pooled sample of all countries with country dummies. The predicted probabilities for each country (reported in subsequent rows of the table) are based on country-level models (since country level models better predict material deprivation especially in the most deprived countries – see discussion in Notten & Guio, 2020). In all models, the standard errors are clustered by household level to account for multiple children per household.<sup>14</sup>

According to the results presented in columns (1)–(3) of Table 4, living with grandparents has a protective effect against deprivation for both two-parent and lone-parent children. This is evident in all countries and is generally very strong. On average, across all countries, the deprivation risk of two-parent children based on the equivalised household income measure is 5.7 percentage points (or 25%) lower than the deprivation risk that would have prevailed under the counterfactual scenario where

<sup>14</sup>Table A8 in the online appendix assesses the predictive power of the models used in the simulation by presenting the deviation in the predicted material deprivation rates based on equivalised household income from the observed. As shown in this table the models' prediction are very close to the observed value and in all cases the difference is insignificant.

**Table 3** Percentage difference between *family* and *household* equivalised income for children living in different multifamily household types (MFH)

	Two-parent children living in MFH – all	Two-parent children living in MFH with adult siblings	Two-parent children living in MFH with grandparents	Lone-parent children living in MFH – all	Lone-parent children living in MFH with adult siblings	Lone-parent children living in MFH with grandparents
<b>Total</b>	0.002*	0.026*	-0.075*	-0.23*	-0.069*	-0.334*
<b>Nordic</b>						
SE: Sweden	0.07*	0.08*	n.a	0.00	n.a	n.a
DK: Denmark	0.15*	0.10*	n.a	0.00	n.a	n.a.*
FI: Finland	0.06*	0.08*	-0.03	-0.06	n.a	n.a.*
<b>Continental</b>						
DE: Germany	0.07*	0.07*	n.a	0.00	n.a	n.a.*
NL: Netherlands	0.04*	0.03*	n.a	-0.29*	n.a	n.a.*
BE: Belgium	-0.01	-0.03	n.a	-0.06	n.a	n.a.*
FR: France	-0.01*	-0.01*	n.a	-0.15*	-0.04	n.a.*
CH: Switzerland	0.01*	0.02*	n.a	n.a	n.a	n.a
LU: Luxembourg	-0.01	0.02*	-0.01	n.a	n.a	n.a.*
AT: Austria	-0.07*	-0.03	-0.09	-0.24*	n.a	-0.27*
<b>Anglo-Saxon</b>						
UK: United Kingdom	-0.01	-0.06	0.08*	-0.29*	-0.12	-0.41*
IE: Ireland	-0.02	-0.05*	n.a	-0.03	n.a	-0.15
<b>Southern</b>						
EL: Greece	-0.11*	0.04*	-0.19*	-0.31*	n.a	-0.41*
ES: Spain	-0.09*	0.03*	-0.19*	-0.45*	n.a	-0.52*
IT: Italy	-0.04	0.11*	-0.15*	-0.3*	0.02	-0.45*
CY: Cyprus	0.1*	0.13*	-0.12*	-0.11	n.a	n.a
PT: Portugal	-0.13*	-0.02	-0.22*	-0.41*	n.a	-0.43*
MT: Malta	-0.11*	-0.12*	-0.08	-0.37*	n.a	-0.41*
<b>Eastern</b>						
CZ: Czech Republic	-0.05	0.02*	-0.15*	-0.36*	n.a	-0.40*

**Table 3** (continued)

	Two-parent children living in MFH – all	Two-parent children living in MFH with adult siblings	Two-parent children living in MFH with grandparents	Lone-parent children living in MFH – all	Lone-parent children living in MFH with adult siblings	Lone-parent children living in MFH with grandparents
SI: Slovenia	-0.06*	-0.01*	-0.09*	-0.28*	n.a	-0.34*
HU: Hungary	-0.13*	-0.03	-0.19*	-0.31*	-0.04	-0.37*
SK: Slovakia	-0.13*	-0.01	-0.17*	-0.37*	n.a	-0.42*
HR: Croatia	-0.08*	-0.02	-0.11*	-0.35*	n.a	-0.38*
PL: Poland	-0.18*	-0.01	-0.22*	-0.46*	-0.12	-0.5*
BG: Bulgaria	-0.11*	0.07*	-0.13*	-0.44*	n.a	-0.45*
RO: Romania	-0.12*	0.05*	-0.15*	-0.41*	n.a	-0.46*
RS: Serbia	-0.17*	0.1*	-0.19*	-0.44*	n.a	-0.47*
<b>Baltic</b>						
EE: Estonia	-0.02	0.07*	-0.14*	-0.24*	-0.18*	-0.24*
LT: Lithuania	-0.1*	0.03	-0.15*	-0.41*	n.a	-0.43*
LV: Latvia	-0.08*	0.03*	-0.18*	-0.33*	-0.15	-0.41*

The average across all countries is unweighted. n.a. indicates sample size too small for reliable estimate (i.e., less than 30). \* indicates significance at less than 10% significance level. Authors' calculations based on 2014 EU-SILC cross-sectional data UDB ver. 2014–2 1–8-16

**Table 4** Differences in the probability of children in multifamily households being deprived predicted using equalised household income and using equalised family income, by family and multifamily household type

	Children in <b>two-parent families</b> in multifamily households which include adult siblings			Children in <b>two-parent families</b> in multifamily households which include grandparents		
	Average predicted probabilities based on equalised household income <b>(1)</b>	Average predicted probabilities based on equalised family income <b>(2)</b>	difference ((2)-(1)) <b>(3)</b>	Average predicted probabilities based on equalised household income <b>(4)</b>	Average predicted probabilities based on equalised family income <b>(5)</b>	difference ((5)-(4)) <b>(6)</b>
<b>Total</b>	0.217	0.222	-0.005*	0.226	0.283	-0.057*
<b>Nordic</b>						
SE: Sweden	0.015	0.016	-0.001	n.a	n.a	n.a
DK: Denmark	0.081	0.069	0.012*	n.a	n.a	n.a
FI: Finland	0.014	0.014	0.000	n.a	n.a	n.a
<b>Continental</b>						
DE: Germany	0.059	0.055	0.004*	n.a	n.a	n.a
NL: Netherlands	0.025	0.026	-0.001	n.a	n.a	n.a
BE: Belgium	0.085	0.083	0.002	n.a	n.a	n.a
FR: France	0.099	0.120	-0.021*	n.a	n.a	n.a
CH: Switzerland	n.a	n.a	n.a	n.a	n.a	n.a
LU: Luxembourg	0.063	0.072	-0.009*	n.a.2	n.a.2	n.a.2
AT: Austria	0.037	0.040	-0.003*	0.053	0.101	-0.048*
<b>Anglo-Saxon</b>						
UK: United Kingdom	0.077	0.087	-0.01*	n.a.2	n.a.2	n.a.2
IE: Ireland	0.118	0.123	-0.005*	n.a	n.a	n.a
<b>Southern</b>						
EL: Greece	0.330	0.293	0.037*	0.301	0.422	-0.121*
ES: Spain	0.286	0.291	-0.005	0.184	0.240	-0.056*
IT: Italy	0.173	0.165	0.008*	0.150	0.189	-0.039*
CY: Cyprus	0.182	0.164	0.018*	0.155	0.239	-0.084*



**Table 4** (continued)

PT: Portugal	0.270	0.302	-0.032*	0.282	0.386	-0.104*
MT: Malta	0.149	0.175	-0.026*	0.122	0.169	-0.047*
<b>Eastern</b>						
CZ: Czech Republic	0.096	0.103	-0.007	0.101	0.161	-0.06*
SI: Slovenia	0.093	0.097	-0.004	0.051	0.072	-0.021*
HU: Hungary	0.547	0.554	-0.007	0.347	0.444	-0.097*
SK: Slovakia	0.220	0.233	-0.013*	0.263	0.343	-0.08*
HR: Croatia	0.109	0.112	-0.003	0.101	0.133	-0.032*
PL: Poland	0.244	0.266	-0.022*	0.073	0.136	-0.063*
BG: Bulgaria	0.740	0.722	0.018*	0.599	0.654	-0.055*
RO: Romania	0.832	0.823	0.009	0.559	0.609	-0.050*
RS: Serbia	0.311	0.309	0.002	0.182	0.278	-0.096*
<b>Baltic</b>						
EE: Estonia	0.050	0.053	-0.003	0.114	0.159	-0.045*
LT: Lithuania	0.140	0.143	-0.003	0.090	0.151	-0.061*
LV: Latvia	0.239	0.254	-0.015*	0.236	0.319	-0.083*
	Children in <b>lone-parent families</b> living in multifamily household which include adult siblings			Children in <b>lone-parent families</b> living in multifamily household which include grandparents		
	Average predicted probabilities based on equalised household income	Average predicted probabilities based on equalised family income	difference ((2)-(1))	Average predicted probabilities based on equalised household income	Average predicted probabilities based on equalised family income	difference ((5)-(4))
	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>	<b>(5)</b>	<b>(6)</b>
<b>Total</b>	0.392	0.427	-0.035*	0.260	0.443	-0.183*
<b>Nordic</b>						
SE: Sweden	n.a	n.a	n.a	n.a	n.a	n.a
DK: Denmark	n.a	n.a	n.a	n.a	n.a	n.a
FI: Finland	n.a	n.a	n.a	n.a	n.a	n.a
<b>Continental</b>						

Table 4 (continued)

DE: Germany	n.a	n.a	n.a	n.a	n.a	n.a
NL: Netherlands	n.a	n.a	n.a	n.a	n.a	n.a
BE: Belgium	n.a	n.a	n.a	n.a	n.a	n.a
FR: France	0.313	0.348	-0.035*	n.a	n.a	n.a
CH: Switzerland	n.a	n.a	n.a	n.a	n.a	n.a
LU: Luxembourg	n.a	n.a	n.a	n.a	n.a	n.a
AT: Austria	n.a	n.a	n.a	0.143	0.191	-0.048*
<b>Anglo-Saxon</b>						
UK: United Kingdom	0.354	0.395	-0.041*	0.031	0.069	-0.038*
IE: Ireland	n.a	n.a	n.a	0.252	0.292	-0.04*
<b>Southern</b>						
EL: Greece	n.a	n.a	n.a	0.148	0.547	-0.399*
ES: Spain	n.a	n.a	n.a	0.291	0.526	-0.235*
IT: Italy	0.518	0.537	-0.019	0.150	0.384	-0.234*
CY: Cyprus	n.a	n.a	n.a			n.a
PT: Portugal	n.a	n.a	n.a	0.296	0.494	-0.198*
MT: Malta	n.a	n.a	n.a	0.123	0.329	-0.206*
<b>Eastern</b>						
CZ: Czech Republic	n.a	n.a	n.a	0.189	0.431	-0.242*
SI: Slovenia	n.a	n.a	n.a	0.085	0.205	-0.12*
HU: Hungary	0.655	0.668	-0.013	0.407	0.600	-0.193*
SK: Slovakia	n.a	n.a	n.a	0.305	0.527	-0.222*
HR: Croatia	n.a	n.a	n.a	0.048	0.136	-0.088*
PL: Poland	0.552	0.588	-0.036*	0.133	0.317	-0.184*
BG: Bulgaria	n.a	n.a	n.a	0.702	0.852	-0.15*
RO: Romania	n.a	n.a	n.a	0.688	0.820	-0.132*
RS: Serbia	n.a	n.a	n.a	0.341	0.566	-0.225*
<b>Baltic</b>						

**Table 4** (continued)

EE:Estonia	0.154	0.212	-0.058*	0.128	0.207	-0.079*
LT: Lithuania	n.a	n.a	n.a	0.263	0.476	-0.213*
LV: Latvia	0.498	0.552	-0.054*	0.250	0.396	-0.146*

The predicted probabilities in this table are calculated based on regression coefficients from pooled probit models predicting the probability of being deprived for children in different family types as a function of number of children of different ages in the household, total equivalised household income and family type. The predicted probabilities in the row that corresponds to all countries are from a regression on the pooled sample of all countries with country dummies, while the predicted probabilities for each country are based on country-level models. Standards errors are clustered at household level to account for multiple children per household. n.a. indicates sample size too small for reliable estimate (i.e. less than 30). n.a.<sup>2</sup> that the deprivation outcome does not vary for the particular group (all non-deprived). \*, \*\* and \*\*\* indicate statistically significant effects at 10, 5 and 1 percent levels

Source: Authors' calculations based on 2014 EU-SILC cross-sectional data UDB ver. 2014–2 1–8-16

children and their parents were not living with their grandparents. The magnitude of the effect however varies substantially across countries, ranging from slightly more than 2 percentage points in Slovenia up to 12 percentage points in Greece. Generally, the largest effects are found in countries within the Southern European cluster (especially in Greece, Portugal and Cyprus), though some large effects are also found in many Eastern European countries. The protective effect of living with grandparents is even more marked for children in lone-parent families. The smallest effects (of around 4 percentage points) are found in the UK and Ireland and the largest again in Greece (around 40 percentage points), with large effects also found in other Southern and several Eastern European countries.

Living with adult siblings has smaller and often insignificant effects. No clear patterns exist among the countries where significant effects are found i.e. there are some countries where the estimated effects suggest that living with adult siblings protects a large share of children against deprivation (Portugal, Malta, France, Poland, Slovakia, the UK and Luxembourg especially for lone-parent children) and others (including Greece, Bulgaria, Cyprus, Denmark and Italy and to a lesser extent Germany) where this living arrangement is estimated to have a detrimental effect on dependent children's deprivation (Table 4, columns (4)-(6)).

## 7 Conclusions

Drawing on data from the 2014 EU-SILC, this paper details a wide array of children's living arrangements across several European countries, including living in multifamily households with grandparents and living in multifamily households with adult siblings; it illustrates how children's living standards vary by the type of household in which they live; and it provides evidence on the extent to which the intrahousehold sharing of resources affect children's deprivation outcomes. In line with previous studies, we find that co-residence with grandparents is most prevalent in Southern and Eastern European countries and less so in the Nordic and Continental countries, whereas co-residence with adult siblings, though again generally more common in Southern and Eastern Europe, displays a substantially smaller variability across countries.

We found substantial differences in the deprivation risk among groups of children living in different household types. Except for lone-parent children who live with their grandparents (who in many countries face a lower deprivation risk than their counterparts who live in nuclear households), all other groups of children in multifamily households face a significantly higher deprivation risk than their peers living in nuclear households. However, analysis of the determinants of children's deprivation risk, shows that to a large extent, the higher deprivation risk of children in multifamily households, reflects the selection into co-residence of families facing financial difficulties.

In fact, for children in most circumstances, living in a multifamily household has a protective effect. We assessed this protective effect using a simulation-based exercise which compares the deprivation risk of children under their current living arrangements with the deprivation that they would have faced if they lived only with

their parents. The findings from this simulation suggest that the protective effect and indeed the direction of financial solidarity differs across different household types. Co-residence with grandparents was found to have an important role in protecting children (both those in two-parent and lone-parent families) against deprivation in all countries (where sample size allows the effects to be estimated) and especially in the Southern European and to a lesser extent in Eastern European countries, i.e. in countries where social security support for the elderly is more developed than for children. Co-residence with adult siblings was also found to protect children in lone-parent families against deprivation (in all countries where sample size allows statistical inferences). By contrast for children in two-parent families, co-residence with adult siblings has more mixed effects with not a clear-cut country pattern. In the majority of countries (14 out of 30) it has no effect, in 10 countries it has a protective effect and in 6 countries a detrimental effect on children's deprivation risk. Countries where this living arrangement has a detrimental effect include Greece, Bulgaria, Cyprus, Italy on the one hand and Denmark and Germany on the other.

Analysis of the relationship between children's deprivation and proxies of the distribution of bargaining power within the households shows that neither the distribution of resources between the parents nor that between parents and other household members have any statistically significant association with children's deprivation. This suggests either that spending on children is treated as a household public good not only by their parents (Blundell et al., 2005) but also by other household members or that all household members share the same preferences when it comes to spending on children. Though this result appears incompatible with evidence from direct survey questions about the degree of sharing within households from the 2010 intrahousehold module presented in Verbist et al. (2020)—which suggests that full sharing of income occurs less in multigenerational households—it is possible that both are correct. On the one hand, our finding about the absence of any association between control over household resources and children's deprivation outcomes does not preclude the possibility that other indicators of children's well-being are affected by the existence of incomplete sharing. On the other hand, the presence of incomplete sharing suggested by the direct questions does not preclude the possibility that incomplete sharing does not affect children's living standards. This would for example, if the child is considered as a household public good and if all household members do not have different preferences when it comes to spending on children, as mentioned above.

Even though the evidence that living in multifamily households protects children against deprivation is strong, some limitations need to be highlighted. First, as discussed in the data section, due to data constraints we did not examine whether child deprivation outcomes differ between intact two-parent and recomposed (stepparent) families. Second, again due to data collection rules and in particular due to the fact the EU-SILC child deprivation questions are addressed to a respondent who answers on behalf of children in the household as a group, it is not possible to identify differences in deprivation between children in the household. Although, this may be less concerning in the case of children in intact two-parent families, it may be more problematic for children in recomposed families because children in these families may have variable access to resources, depending on their non-resident parents' con-

tributions to total household income (Cantillon & Guio, 2024) and thus stepparents, grandparents and adult siblings may prioritise their natural children, grandchildren or siblings over step-children, step-grandchildren and step/half siblings. Future research should prioritise exploring these issues. However, such analysis requires child deprivation data to be collected for each child in the household as well as more detailed data on household relationship to be collected as part of the household grid to distinguish between natural and step and adoptive children.

Notwithstanding these issues our findings have several policy implications. From a policy perspective, our findings underscore the important function that households perform in providing economic support and protecting family members at risk of low living standards. However, they also highlight that in the process of performing this important function, families are sometimes faced with important trade-offs. For example, the co-residence of young adults with their parents is a coping strategy employed by families in response to the structural constraints (e.g., high youth unemployment, underemployment, housing supply shortages) faced by young adults as they transition to adulthood. While this may lead to a reduced poverty risk for the young adults themselves, the deprivation risk of parents and dependent siblings may rise. Indeed, our findings indicate that many dependent children face a higher deprivation risk when their adult siblings still live in the parental home than they would if they did not (under the assumption that there are no interhousehold transfers between parents and their adult children if they lived in a separate household), especially in countries with very high youth unemployment and inadequate social protection support for younger adults. This does not imply that if adult children lived in that we need to stress that co-residence with adults siblings. Rather, these detrimental effects point to the importance of setting policy goals that allow young adults a smooth transition to adulthood and independence, including ensuring adequate social protection in the transition out of the child welfare system, addressing housing supply shortages and implementing policies to tackle youth unemployment. At the same, policies should allow parents to support their children in the transition to independence, with corresponding recognition by the benefits and housing systems that there is not a single discrete point of transition to adulthood.

In relation to co-residence with grandparents, although we find a protective effect of living with grandparents on child deprivation in many European countries – especially those with high rates of multigenerational co-residence – as is also stressed by Verbist et al. (2020), “the conclusion cannot be that policy should stimulate the formation of such households”. Rather this finding again underscores the important function that the formation of multigenerational households plays as a short-term ‘coping strategy’, and the large and growing age imbalance that characterizes social protection spending in many European countries in favour of pensioners (Raitano et al., 2021). One of the core functions of social protection in general and social security, in particular, is to assist with smoothing living standards across the life cycle, but the erosion of entitlements for parents and children is undermining the effectiveness of the system in meeting this objective and forcing families into adopting living arrangements that may not be of their choosing, with potentially negative consequences for their wider well-being.

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**Data availability** The results presented in this paper are based on analysis of data from EU-SILC cross-sectional data (UDB ver. 2014–21–8-16). These data were provided by Eurostat ESTAT Microdata Access under research project 260/2016-EU-SILC. Restrictions apply to the availability of these data, which were used under license for this study. The authors can supply the programmes (in stata) for replicating the results presented in the paper and the online supplementary file.

## Declarations

**Conflicts of interest/Competing interests** The authors have no relevant financial or non-financial interests to disclose.

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