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# **To what extent do welfare states compensate for the cost of children? The joint impact of taxes, benefits and public goods and services**

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## **Introduction**

Within the spirit of the social investment turn, welfare state efforts to support families with children have amplified and diversified, increasing the use of tax advantages and child-centred services (Daly & Ferragina, 2017; Ferrarini et al., 2012; Vandenbroucke & Vleminckx, 2011). Despite these common trends, there are large cross-national differences in how and to which extent families with children are supported (Adema, 2012; Gauthier, 2002; Fagnani & Math, 2008; Thévenon, 2011). This is generally the result of a political compromise, taking into account common deservingness notions, but also considerations regarding financial work incentives, budgetary concerns and objectives such as child well-being, gender equity, fertility,

female labour market participation, or support of a male bread-winner model (e.g. Adema, 2012; Thévenon, 2011). Besides minimizing the loss of welfare compared to childless families, family policies are also (increasingly) used as a tool for reducing (child) poverty (Daly & Ferragina, 2017; Ferrarini et al., 2012). Studies have shown that family policies can indeed contribute significantly to the reduction of poverty for families with children (e.g. Bradshaw, 2013; Chen & Corak, 2008; Immervoll et al., 2001; Van Mechelen & Bradshaw, 2013). Child support has also proven to be an important instrument to combat in-work poverty among families with children, which is especially prevalent among single parent and single earner couple families (Maldonado & Nieuwenhuis, 2015; Marchal et al., 2018). Therefore, in this paper we address the question to which extent cash and in-kind welfare state efforts compensate for the additional needs of families with children and facilitate access to essential goods and services, compared to childless families. Given their increased poverty risks, we focus on single parents and single earner couples at the lower end of the earnings distribution.

Even though there is a growing body of literature on welfare state generosity towards families with children, studies often focus one-sidedly on transfers in cash (e.g. Chen & Corak, 2008; Immervoll et al., 2001; Van Lancker & Van Mechelen, 2015) or on

government expenditure (e.g. Adema, 2012; Bäckman & Ferrarini, 2010), disregarding the actual costs households face when accessing essential goods and services. A few studies partly take into account out-of-pocket costs for families with children for some services such as child care and health care (e.g. Bradshaw and Finch, 2002) or assess the distributive impact including cash and in-kind benefits (e.g. Förster & Verbist, 2012), taking account of the heterogeneity in the impact of government expenditures. However, these studies typically lack an adequate empirical and cross-nationally comparable underpinning regarding the total needs-based costs that families face. This study seeks to address this gap by proposing a new indicator which assesses to what extent welfare states compensate for the essential costs of children, while taking account of the impact of publicly subsidized goods and services. We look at differences in the compensation for the cost of children in specific household types across the income distribution.

To do so, we start from a ‘needs-based approach’ for estimating the cost of children in an empirical way. More in particular, we build on cross-nationally comparable reference budgets, i.e. priced baskets of goods and services that illustrate what households need at the minimum in order to participate adequately in society (e.g. Goedemé et al, 2015a, 2015b), to derive the minimum cost of raising a child. In order

to assess in a comparable way how welfare states distribute cash resources for a broad range of family situations we make use of the new Hypothetical Household Tool (HHoT) in EUROMOD. We focus on families with children that are between 6 and 18 years old, an age group that is often neglected, even though the private direct cost of a child (Storms & Bogaerts, 2012; Thévenon, 2009) as well as public expenditures (OECD, 2013) generally increase with the age of children.

In this article we focus on six welfare states for which we have comparable reference budgets: Belgium, Finland, Greece, Hungary, Italy and Spain. Comparative research (Bradshaw & Finch, 2002; Fagnani & Math, 2008; Thévenon, 2011; Van de Ven et al., 2017) has shown that, with the exception of the 'liberal regime', these countries cover well the variation in levels of GDP and in the design of and spending on family policies that can be found in Europe: (1) Finland, a Nordic welfare state focusing on universal dual earner support with generous service-oriented family policies (e.g. Gupta et al., 2008), (2) Belgium, often classified as a continental welfare state, also with generous family policies, but a stronger emphasis on cash benefits and tax advantages corresponding to family size (e.g. Ghysels & Van Lancker, 2011; Storms & Bogaerts, 2012), (3) Hungary, belonging to the diverse and rapidly changing group of Eastern European welfare states, with a limited provision of services, but relatively

high spending on universal cash benefits (e.g. Cerami, 2006; Salanauskaite & Verbist 2013), and, finally, (4) Greece, Italy and Spain, three Southern EU welfare states, with the state taking a rather subsidiary role ('familialism') relying mainly on tax policy measures (e.g. Karamessini, 2008; Matsaganis et al., 2005).

In this article, we contend that the new indicator that we propose, the child cost compensation indicator, offers a useful addition to the literature on the generosity and distributive impact of the welfare state. In particular, the indicator allows to go beyond cash and expenditure-based evaluations of welfare state generosity to families with children. Furthermore, the indicator does not assess family-oriented policies in isolation but looks at how the tax-benefit system as a whole, including the interactions between various policies, affect the income position of households with children as compared to similar households without children. By making use of hypothetical household simulations, the intention is not to make representative conclusions for the population. However, it allows us to make abstraction of the socio-demographic composition of each population, so that the institutional architecture of welfare state generosity is captured in its pure form. As we try to illustrate for six different institutional contexts, this helps to uncover new insights into how welfare states shape the economic well-being of families with children by distinct patterns of taxation, social benefits and benefits in-kind.

In what follows, we start with a theoretical consideration on the cost of a child, including both a normative and a methodological perspective. Subsequently, we explain how we derived the cost of children from reference budgets and we describe the use of the Hypothetical Household Tool (HHoT) in EUROMOD. The results are subdivided into three sections. In the first part we discuss the essential costs of children, paying particular attention to heavily subsidized services such as education, health care and (public) transport. In the second part, we identify the child cash benefit packages that exist in each country under study. In the third part, we bring all this information together into the *child cost compensation* indicator, a new indicator of welfare state generosity to families with children. We conclude with a brief discussion of the main findings and limitations of this study.

## **Why welfare states compensate for the cost of a child**

Childrearing costs money. This means that, with an equal level of income, families with children will be able to consume less per capita compared to childless families. Moreover, parents often experience a potential loss of income due to the need to provide parental care. On the other hand, children yield private benefits. One can assume that parents decide to have children when these benefits are expected to be larger than the private costs (Bradbury, 2008; Pollak & Wales, 1979; Wolf et al.,

2011). Hence, why should the cost of a child be compensated? There are two main arguments for policy makers to (at least partly) compensate for the cost of childrearing.

Firstly, having children, raising them well and investing in their capacities is not only beneficial for the household to whom the children belong, but also yield positive externalities for society as a whole. As future adults they will participate in the labour market, produce goods and services, and pay taxes (Folbre, 2008; Wolf et al., 2011). In order to maximise these positive externalities, society benefits from creating a family-friendly environment and investing in children's human capital (Esping-Andersen, 2008). Accordingly, a public subsidy for families with children is legitimate. However, it does not necessarily follow that (1) the cost of having and raising children should be fully compensated; (2) the cost of children should be compensated equally across households.

Secondly, if we take the perspective of the children themselves, there is also a social justice argument to be considered. Several studies have shown that low-income families have less financial and social capital to invest in their children compared to higher income groups (e.g. Esping-Andersen, 2008; Woessmann, 2004). This negatively affects the children's current and future opportunities, and contributes to



reproducing inequalities (e.g. Corak, 2006; Griggs & Walker, 2008). Hence, from a children's equity perspective, not only should society support households in raising children, there should also be increased levels of support for low-income households to combat child poverty and reduce the gap in background-related life-chances.

In practice, indeed, all contemporary welfare states support families with children, implementing a wide variety of policies, often combining vertical and horizontal redistribution (e.g. Adema, 2012; Daly & Ferragina, 2017; Kamerman & Kahn, 1978). The question of this paper is whether these welfare state efforts are sufficient to compensate for the cost of children, and in particular for vulnerable households. According to Verbist and Van Lancker (2016), child benefit systems show a strong correlation between vertical and horizontal equity objectives: countries that succeed in minimizing the welfare loss of childrearing tend to succeed in a larger child poverty reduction as well. This is related to the fact that children are overrepresented in low income families, which implies that child benefits, not only through the logic of targeting but also by default tend to lead to vertical redistribution. Several other studies have shown that family benefits contribute significantly to the reduction of poverty among children (e.g. Bradshaw, 2013; Chen & Corak, 2008; Immervoll et al., 2001; Van Mechelen & Bradshaw, 2013). Publicly provided and subsidised

services also have redistributive effects, although generally less compared to cash benefits, especially if they are not accessible for all socio-economic groups in society (Förster & Verbist, 2012; Ghysels & Van Lancker, 2011; Marical et al., 2008; Vandenbroucke & Vleminckx, 2011). However, the design of family policies, for instance prioritising good-quality child care services or rather high level cash benefits, may affect child poverty also through potential effects on (female) labour market participation or wage demand (Bäckman & Ferrarini, 2010; Maldonado & Nieuwenhuis, 2015; Whiteford & Adema, 2007). Broadly speaking, scholars agree that good performances are generally found in countries with a balanced and generous system with mutually reinforcing family support measures, combining a universal system with a targeted approach to low income families (Van Mechelen & Bradshaw, 2013; Van Lancker & Van Mechelen, 2015). Although these studies have shown the impact of child benefit policies on reducing child poverty, enhancing labour market participation and equity, they do not inform us on the extent to which welfare states actually compensate for the cost of children across the income distribution. Before explaining our needs-based approach to assess the level of child cost compensation, the next section discusses briefly the literature on how the cost of a child can be identified.

## **Identifying the cost of a child**

In the literature, there are different approaches to define and measure the cost of a child. The cost of children is generally defined as the marginal cost households face when a child is added to the household. Besides the direct cost, parents experience an indirect cost due to the reduced labour market participation and adult time (e.g. Bradbury, 2008; Koulovatianos et al., 2009). However, this so-called opportunity cost is beyond the scope of this paper, given our focus on how welfare states facilitate access to essential goods and services for families with children. Taking opportunity costs into consideration (which vary strongly across families and income groups), would conceal rather than reveal important cross-national variations in the cost of accessing essential goods and services and how welfare states compensate for this through cash transfers. This paper focuses on the direct cost of children, but even then, the measurement remains a disputed question (Browning, 1992; Deaton & Muellbauer, 1986; Thévenon, 2009). For instance, which proportion of shared goods should be attributed to children and what is the role of economies of scale? Moreover, the cost of children depends on many factors such as the age, gender and rank of children, the household income, the societal context, the health situation and

intra-household dynamics (Bargain & Donni, 2012; Thévenon, 2009; Storms & Bogaerts, 2012).

For the purpose of evaluating the generosity of tax-benefit policies, and measuring poverty across households, researchers and policy makers adhere often to a rather arbitrarily chosen equivalence scale. Equivalence scales measure relative needs between households of different sizes and composition (Buhmann et al., 1988). The modified OECD scale, which is widely used in European studies, assigns a weight of 1 to the first adult household member, 0.5 for each additional adult member, and 0.3 for each child below the age of 14 years. According to this scale, in order to attain a similar living standard, a single parent with one child should be able to spend 30% more than a single adult. However, household needs vary in more complex ways than suggested by the modified OECD equivalence scale and depend for instance on tenure status, the health situation and the accessibility of services (Goedemé et al., 2019; Paulus et al., 2010). Moreover, economies of scale vary across the income distribution as well as between countries (e.g. Brandolini, 2007).

In contrast, there has been a substantial amount of research trying to assess the cost of a child in a more empirical way. Broadly speaking, two methods stand out: the indirect and the direct method. The indirect method relies on actual household

expenditure patterns. In order to assess the additional cost of children, one typically compares the level of food expenses (or other basic goods), the consumption of adult-specific goods such as alcohol, or, in a more general approach, the parents' utility function of a household with children to a similar household without children (Bargain & Donni, 2012; Deaton & Muellbauer, 1986; for an alternative approach based on indifference curves, see Chiappori, 2016). In contrast, the direct method is concerned with the 'needs question' (Browning, 1992): what goods and services do children minimally need to satisfy their basic needs, and how much does it cost for households? This normative perspective is the dominant approach in reference budgets research (Sarlo, 2013; Saunders, 1999; Storms & Bogaerts, 2012), which is not driven by budget constraints as is the case with actual expenditure data. Following this approach, the cost of children is computed by subtracting the reference budget of a hypothetical household without children from the budget of a similar household type with children. The difference reflects the child-related costs as well as the cost of shared household items that can be attributed to children in a specific household situation and context (Oldfield & Bradshaw, 2011).

## **Data and methods**

In this paper, we apply the direct method to derive what children cost at the minimum in order to participate adequately in society. In what follows we provide further details on the cross-nationally comparable reference budgets that we use. Subsequently we explain how we estimate the cash benefit packages for households with children as compared to households without children.

### ***The estimation of the cost of children: reference budgets***

In this paper, we look at the cost of children from what we call a ‘needs-based approach’. In other words, the cost of children is estimated starting from a normative and empirical assessment of the cost of goods and services that can be considered necessities. The outcome consists of so-called ‘reference budgets’ (RBs). We start from the first attempt to create cross-nationally comparable reference budgets that illustrate which goods and services hypothetical households need at the minimum to participate adequately in society (Goedemé et al., 2015b). More in particular, the RBs have been developed for six European cities (Antwerp, Athens, Barcelona, Budapest, Helsinki, Milan) on the basis of a common theoretical and methodological framework (Goedemé et al., 2015b). In order to participate adequately in society, ten

‘intermediate needs’ are identified (cf. Doyal & Gough, 1991): adequate food, clothing, housing, personal care and health care, safety in childhood, mobility, rest and leisure and maintaining social relations<sup>1</sup>. These are translated into detailed lists of goods and services and adapted to the local context by national teams based on a variety of information sources including (inter)national guidelines, scientific literature, focus group discussions and survey data (Goedemé et al., 2015a, 2015b). All items were priced during the first half of 2014 in well-spread retailers following a common procedure. Importantly, we collected out-of-pocket costs for households in terms of the disposable income that is required (net income after income taxes and social contributions), taking account of reimbursements that people can receive. The cost of a dwelling was estimated at the 30<sup>th</sup> percentile of the housing cost distribution of dwellings that met some minimum quality criteria (for more details on the method see Van den Bosch et al., 2016)<sup>2</sup>. Given that the budgets were developed for large cities, the cost of a car was not included.

As expected, the resources one needs at the minimum differ largely across households depending on the socio-economic context and the characteristics of the household members. Therefore, the RBs are developed for a limited number of well-defined household types: a single person or couple without children; a single person

or couple with one child; a single person or couple with two children. The adults are assumed to be at working age. The children are assumed to be 6-11 years old (boy) or 12-17 years old (girl)<sup>3</sup>. The cost of childcare is not included due to the large variation in care instruments and in their formal and informal use within countries, which depends largely on the family's living situation such as the age of children, labour market opportunities, cultural and social norms and the availability of private and public childcare provisions (Janta, 2014). Furthermore, we also assume that all household members are well-informed, self-reliant, in good health and make use of public services if they have access to them. Hence, the resulting budget should be seen as a reference bottom line above which many families will need additional resources to participate adequately in society (Goedemé et al., 2015b). A drawback of making use of a limited set of hypothetical households is that they cannot be considered representative for the population as a whole. Furthermore, the prevalence of these household types varies from one country to another. Yet, the main advantage of using exactly the same set of household types to compare across countries, is that it shows how welfare states operate, without the confounding effect of different population compositions across countries, allowing for a pure comparison of the design of welfare state policies for the household types under consideration.



By subtracting the budget of a family without children from the budget of a family with children, the cost of children of different ages can be calculated, taking into account both child-specific costs and shared household costs. Moreover, comparing different household types while adhering to similar ‘preferences’ (e.g. in terms of a healthy lifestyle, use of public transport, types of products bought) allows us to identify economies of scale. By looking at the effective cost for private households to access essential goods and services, welfare state generosity in terms of benefits in kind is automatically taken into account.

### ***The estimation of cash benefits for families with children: HHoT***

In order to simulate taxes and benefits that apply to a specific gross wage, we make use of the Hypothetical Household Tool (HHoT). HHoT is a new instrument that is part of the European tax-benefit microsimulation model EUROMOD (cf. Sutherland & Figari, 2013). The flexibility of the tool allows the user to specify a large variation of hypothetical households for which the net income, given a pre-specified gross income, can be simulated (Hufkens et al., 2016). The characteristics of the hypothetical households are the same as those used for constructing the reference budgets. We specify the gross income for single parents and single earner couples in the case of (1) earning 40% of a single average wage, (2) earning a single average

wage or (3) earning 150% of a single average wage. The average wage of a full time worker in each country is extracted from the OECD's online database (OECD, 2016). For the countries under study, 40% of the average wage represents a low wage<sup>4</sup>. While keeping the gross wage constant, we subtract the net income of a family without children from the net income of a similar family with children. This allows us to identify the total cash (dis)advantage provided by the state related to having children, the so-called net "child-contingent" payments (See Figari et al., 2011). We call this the child cash benefit package.

In each country, the child cash benefit package is simulated for the year 2014 and consists of several income components, including gross income, personal income taxes and social contributions for employees, family benefits, social assistance top-ups and housing benefits. In Greece, Italy and Spain there are no national social assistance benefit schemes, but both in Italy and Spain eligible households can be covered by regional social assistance. Only for Spain, this regional information is included in EUROMOD and, in this paper, social assistance is simulated for Catalonia. Housing allowances are, for our specific household types in the year 2014, only simulated in Hungary<sup>5</sup> where home maintenance support is allocated to households with an income under a certain threshold. The total disposable income

of the household refers to the sum of all income components, subtracting taxes and social contributions. Importantly, the cash components covered are limited to those simulated in EUROMOD. Therefore, study allowances and tax deductions for the use of services (e.g. the use of childcare), are not included, even though they can make a significant difference.

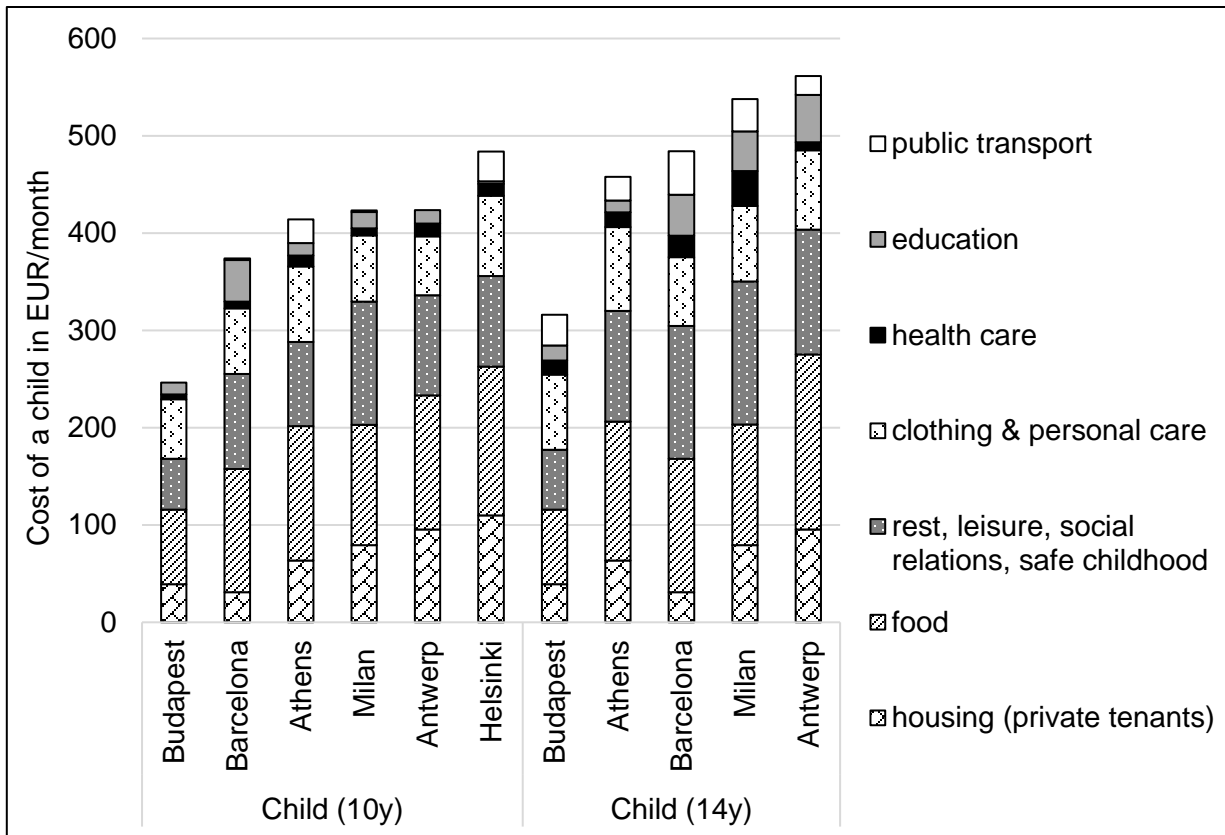
## **The generosity of welfare states to families with children**

In this section we take a hypothetical household approach in order to assess the generosity of six different welfare states to families with children. We start with discussing the essential costs of children in primary and secondary school as derived from reference budget research. Secondly, more insight is given into the level and determinants of the simulated child cash benefit packages. Finally, at the end of this section, we propose an indicator that can contribute to assess welfare state generosity to families with children: the *child cost compensation* indicator.

### ***The cost of children***

Figure 1 illustrates what a child of about 10 or 14 years old costs at the minimum in order to be able to participate adequately in six large EU cities<sup>6</sup>. Food, housing and safety in childhood account for the largest part of the total budget (see Appendix

Table. 1 for a list of categories included in the different baskets). It is worth stressing that the relative out-of-pocket costs of what are generally regarded essential services to be subsidized by the state (education, health care and transport) are rather low. In line with other studies (Bradbury, 2008; Storms & Bogaerts, 2012; Thévenon, 2009), it can be observed that the cost of a child generally increases with age. As we did not include costs related to childcare or after school care, the cost of children of 10 years old will be higher when families make use of care services, which would probably also increase differences across countries. For families with two children, economies of scale can reduce certain costs such as costs related to housing. However, economies of scale are rather limited at the level of what is minimally necessary for adequate social participation (Penne et al., 2016).



**Figure 1.** The essential cost of a child of 10 or 14 years old, renting a dwelling at the private market, EUR per month, 2014.

Notes: For Budapest, the exchange rate used is 300 HUF to the euro. Data on a child of 14 years old are missing for Finland.

Source: own calculations using ImPROvE budgets 2014 (Goedemé et al, 2015b).

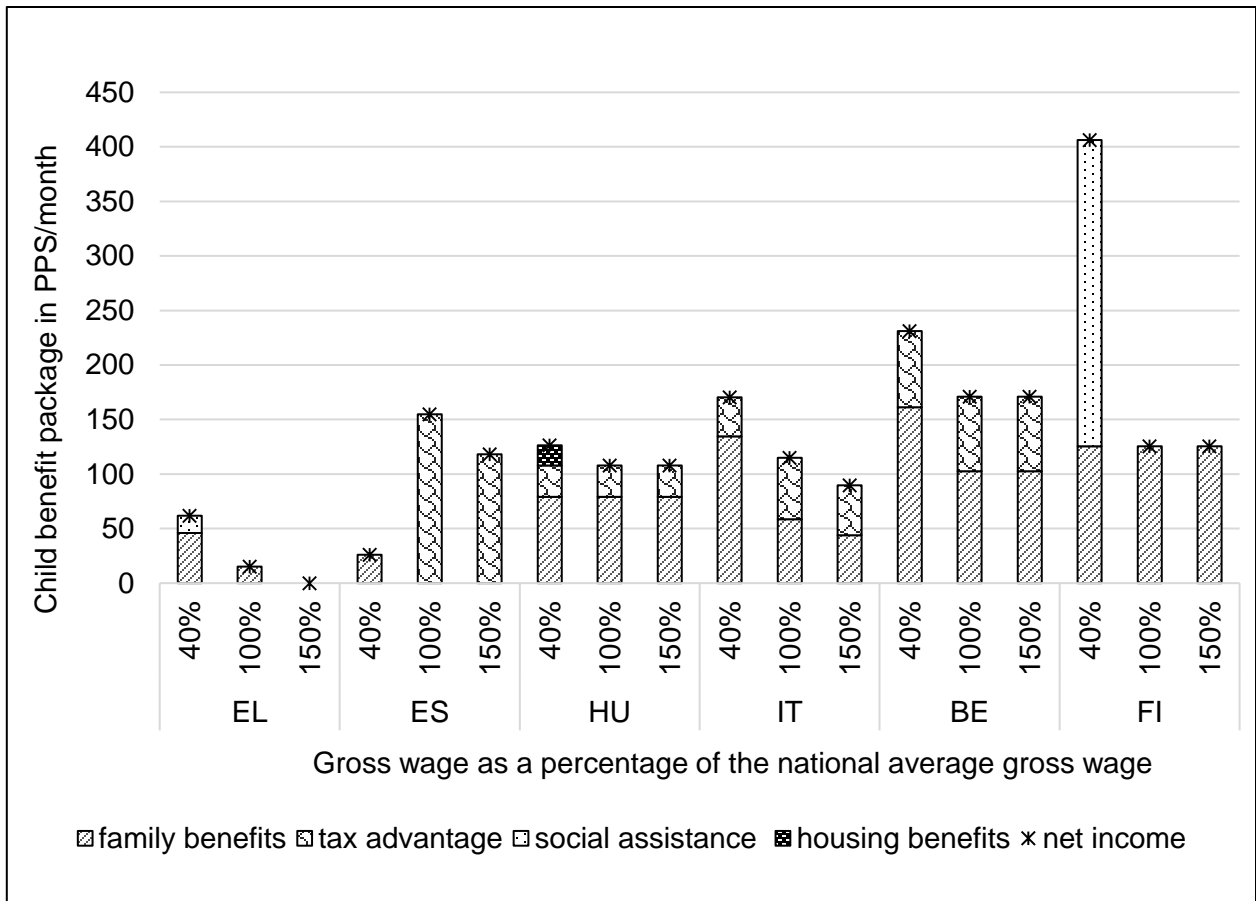
When comparing the cost of children across the six cities we find important differences. The cost of a child at both ages is the lowest in Budapest while it is the highest in Helsinki and in Antwerp. These differences can be mainly explained by

variations in the availability and price of goods and services and, to a smaller extent, by variations in the geographical, institutional and socio-cultural context. For instance, the differences in climate have an impact on the choice of specific clothing items, and the differences in socio-cultural habits have an impact on the choice of social activities. Regarding the institutional context, the extent to which essential services are publicly provided or subsidized influences the cross-national differences in out-of-pocket costs. For instance, the low cost of health care for teenagers in Antwerp is partly due to state subsidies for goods and services such as a dental visit and birth control (girls <21y). Another example is the high cost of essential school material and taxes for primary education in Barcelona versus the very low cost in Helsinki.

### ***The level and determinants of child cash benefit packages***

The child cash benefit package corresponds to the specific cash advantages for families with children compared to similar childless families. In all countries, the level of this package is conditioned by different factors such as household composition and gross income. Figure 2 illustrates how the level of the cash benefit package for children varies with income (earning 40, 100 and 150% of the average national gross wage) in each country. Taxes and benefits are simulated for single

parent households, renting a dwelling on the private market, expressed in Purchasing Power Standards to allow for cross-national comparisons (i.e., corrected for price differences across countries). At 40% of the average wage, the child cash benefit package is the highest in Finland and the lowest in Spain. In most countries, the package is higher for low income families, which is often due to the higher family benefits they receive. In Finland, family benefits do not vary across the income distribution, but families with an income at 40% of the average wage receive a large social assistance top-up. In Greece, the simulated social assistance top-ups refer to a lump sum which was exceptionally allocated to families with a low income in the year 2014. In Spain, families are no longer entitled to family benefits above 40% of average gross wage, but higher up the income distribution they receive significant tax advantages.



**Figure 2.** The child cash benefit package at 40%, 100% and 150% of the average gross wage, for a child (10y), living in a single parent family, renting a dwelling at the private market, expressed in PPS per month, 2014.

Source: own calculations using HHoT/EUROMOD 2014. Purchasing power parities for final household consumption expenditure extracted from the Eurostat on-line database. Average wages refer to the national average gross wage of a full time worker, extracted from the OECD database.

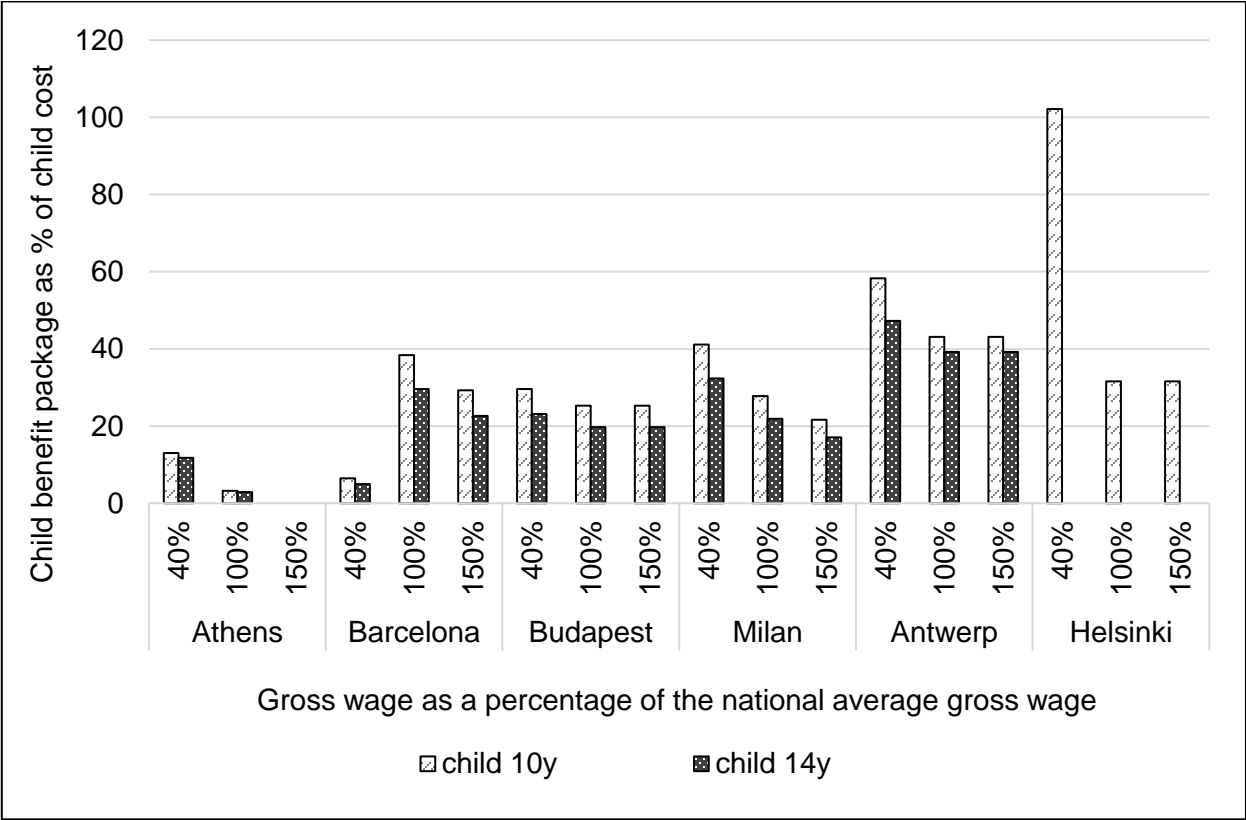


Besides gross income, housing costs, marital status and the number and the age of children determine the level of the child cash benefit package. In the case of outright owners, the results remain largely the same, apart from the social assistance top-up in Finland which is not allocated to outright owners because of the lower life expenses (i.e. housing costs) which are included in the means-test (for more information see Honkanen et al., 2017). For a single earner couple family, the child benefit package is usually lower compared to a single parent family due to differences in taxes and social assistance top-ups and specific benefits targeted at single parents in Belgium, Finland and Hungary. The child benefit package increases with the number of children, although usually not in a proportional way due to the different treatment of the second child within the tax-benefit system (e.g. higher family benefits in Belgium and Hungary) and interactions with the social assistance scheme. Between the age of 6 and 18 years old there is no variation in the child benefit package in the selected countries, except for Belgium where child benefits increase with the age. In sum, the level of the cash benefits assigned to families with children varies largely across and within countries. Given that these factors operate differently across countries, one should be careful with generalising the findings of just a few situations to the entire population.

### ***A new indicator of welfare state generosity***

In this section we propose an indicator that can provide a better understanding of welfare state generosity to families with children, bringing together cash and in-kind benefits, while taking account of the needs-based cost of children: the *child cost compensation* indicator. Figure 3 illustrates this indicator, which expresses the child benefit package (cf. Figure 2, in EUR instead of PPS) for a child in a single parent family as a percentage of the essential cost of one child (about 10 or 14 years old, cf. Figure 1) in six cities. The figure shows that the essential cost of a child is nowhere fully compensated except for low wage workers in Helsinki. In the other countries, the child benefit packages are compensating between 0 and 60% of the cost of a child with large differences as well within as across countries. For low wage workers, the child cost compensation is the lowest in Barcelona and Athens (5 resp. 13%) and the highest in Antwerp and Helsinki (58 resp. 100%). In general, the child cost compensation decreases with income (except for Barcelona) and with the age of the child. The latter can be explained by the higher costs as children grow older, while the benefits generally do not vary. For a single earner couple family, costs are generally compensated to a lesser extent since they receive less child-specific advantages. For outright owners, the child cost compensation is slightly higher in

most countries, which is mainly due to the lower housing costs (For details, see Appendix 2).

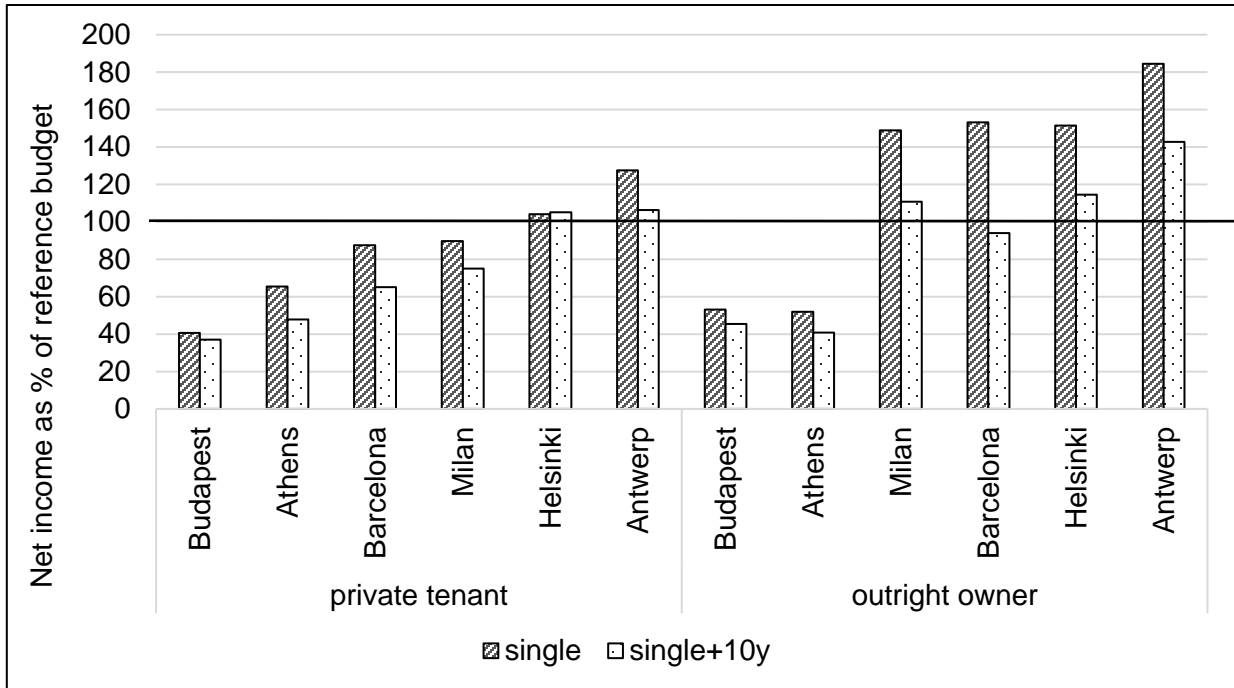


**Figure 3.** The child cost compensation indicator. The child cash benefit package at several wage levels expressed as a percentage of the essential cost of a child of 10 and 14 years, in a single parent family, private tenant, 2014.

Note: The indicator is based on a comparison in Euros, both in the numerator and the denominator. Data on a child of 14 years old are missing for Finland.

Source: own calculations using HHoT/EUROMOD 2014 & ImPRovE budgets 2014 (Goedemé et al, 2015b).

It is noteworthy that in most cities (except for Barcelona), the welfare state is working harder to compensate the cost of children at the lower end of the income distribution. In Figure 4 we evaluate how this translates into the adequacy of low (or minimum) wages for single parent families with children compared to childless families. To assess adequacy, we express the net income as a percentage of the reference budgets. Figure 4 illustrates the adequacy of the income of a single person with and without a child, working full time at a low wage. The figure indicates that earning 40% of the average wage, for singles with or without children renting a dwelling at the private market, is nearly everywhere insufficient to participate adequately in society. Only in Helsinki and Antwerp, resources seem to be adequate. The lower housing costs for outright owners obviously result in a higher level of adequacy. Nevertheless, for single parents with children in Budapest, Athens and Barcelona incomes remain largely inadequate regardless of the tenure status. Importantly, we observe that the net incomes of families with children are everywhere (except for private tenants in Helsinki) less adequate compared to families without children. This warrants further in-depth political debate about reducing the cost of children or increasing the cash advantages towards families with children, especially for families living on a very low income.



**Figure 4.** The adequacy of the net income of a single without a child and a single parent with a child (10y), working full time at 40% of the average wage, private tenants vs. outright owners, 2014.

Source: own calculations using HHoT/EUROMOD 2014 & ImPRovE budgets 2014 (Goedemé et al, 2015b).

## Discussion and conclusions

In this paper we have assessed the generosity of six welfare states to families with children compared to similar families without children. We argue that purely cash-based evaluations of the generosity of welfare states miss an important dimension,

which cannot be adequately assessed by looking at government expenditures only. Hypothetical household simulations of both essential out-of-pocket costs and tax-benefits can help to fill this gap. Reference budgets offer a tool to estimate the minimum out-of-pocket costs of allowing children to participate adequately in society, including the cost for accessing publicly provided or subsidized services. The Hypothetical Household Tool in EUROMOD allows to estimate how tax-benefit rules affect the net income of a family when children are added to the household, keeping everything else constant. By integrating both types of information, we propose a new indicator, the *child cost compensation indicator*, that aims to contribute to a better understanding of welfare state generosity to families with children.

We know from previous studies (e.g. Van Mechelen & Bradshaw, 2013) that child-specific policies can contribute significantly to the reduction of poverty, but little is known on the extent to which these policies effectively compensate for cost of children across the income distribution. First of all, the *child cost compensation indicator* shows that, in all selected cities, the essential direct cost of a child in a single parent or single earner couple family is compensated only partially, generally less than 60%. Only for low-wage workers paying private rent in Helsinki, and receiving a social assistance top-up, the child-related cost for accessing essential

goods and services is fully covered by the child cash benefit package. Although there are large cross-national variations, it is clear that a family with and without a child are generally not equally well off in terms of the disposable income that is needed for adequate social participation, while assuming the same labour supply and gross wage. This raises the question about how this compares to reasonable horizontal equity objectives. Secondly, regarding vertical equity, the paper reveals that, although family policies work stronger at the lower end of the income distribution (except for Barcelona), the income of single parents and single earner couples with children working on a low wage, is in many cases, especially in the case of private tenants, insufficient to participate adequately in society. By taking a needs-based approach, the indicator shows that subsidizing essential goods and services, and in particular reducing housing costs, can improve the adequacy of incomes. Finally, the paper indicates that the costs of families with older children are generally less compensated. This is an issue that should receive more attention when analysing welfare state generosity to families with children.

The results of the paper are not necessarily contradicting previous cross-national comparisons of welfare state generosity towards families with children. Yet, they refine our insights into two main issues: (1) the ranking of welfare states in

supporting families with children, and, (2) the conjunction of cash and in-kind benefits in supporting families with children. As indicated by previous studies (Bradshaw & Finch, 2002; Thévenon, 2011), Antwerp and Helsinki are taking a high-support road to compensate families with children, followed by Budapest and Milan, while Barcelona and Athens show rather limited support. In the latter cities, the low child cost compensation seems to be in line with the 'South European familialism hypothesis' (e.g. Karamessini, 2008). Moreover, by relying more on tax advantages, low-income families in Barcelona benefit less compared to high income families. However, our results for Milan do not follow the Southern Welfare state model, showing a relatively high child cost compensation for low wage earners. Yet, families with children are still less well-off compared to childless families in terms of fulfilling their needs for adequate social participation. Secondly, in line with previous studies (Förster & Verbist, 2012; Vandenbroucke & Vleminckx, 2011), we see no conflict between cash and in-kind benefits, although they are not always going hand in hand either. In the high-support-cities, Antwerp and Helsinki, generous family benefits are accompanied by a relatively generous subsidization of child-specific services, while in the cities with the lowest support, Barcelona and Athens, families with children receive not only lower cash support, but families seem to face also relatively higher costs in order to access essential services. However, in Milan, and to a lesser



extent in Budapest, relatively generous family-specific cash support to low wage earners is combined with a relatively high cost of publicly provided services.

The paper also reveals that differences in child cost compensation do not always correspond to levels of public spending on families as a percentage of GDP (cf. Table 3 in Appendix), which is often used as a proxy for welfare state generosity (e.g. Adema et al., 2012; Thévenon, 2011). For instance, governments in Finland and Belgium spend both a high amount on families with children, but Finland (Helsinki) succeeds better in compensating the cost of children at the bottom. Likewise, Italy and Spain show similar public spending levels, but through low-income targeting, disadvantaged children are better supported in Italy (Milan). Given that the level of public spending on families with children depends on many other factors (including, for instance, the demographic structure of the population and the relative level of wages in the public sector), our indicator offers a more direct estimate of how generous welfare states are towards families with children in their design. It allows for showing not only the overall level of support on average, but also how it is distributed between different family situations. Further, the cross-country patterns that the child cost compensation indicator shows may be an invitation to rethink our

understanding of cross-national variations in public spending on families with children and their effectiveness in reducing poverty and inequality.

Our approach has several limitations. The most important limitation is that we can only estimate the child-specific costs and policies for a limited number of hypothetical situations, focusing solely on working –single earner couple and single parent– families renting on the private market or being an outright homeowner, and living in specific cities. These situations cannot be taken to be representative for the population as a whole. For instance, according to the EU-SILC survey, renting a dwelling at the private market, is much more common in some countries (e.g. Belgium) than in others (e.g. Hungary). Similarly, single parent families with children cover a relatively small group of the population (below 10%), with the largest share in Belgium and the lowest in Greece. Also, the share of single earner couple families typically differs largely across countries, being much more represented in the Southern European Countries and Hungary than in Finland and Belgium (OECD, 2013). Still, as we have tried to show, by combining the results for different family types, it is possible to get a more complete picture of how welfare states operate and it would be interesting to see whether future studies that cover a broader range of household situations would be able to replicate our findings.

Another limitation of our study is that we estimated the cost of children in particular cities. We are well aware that in some countries significant regional price variations (in particular related to housing), as well as regional policies do exist which are not taken into account by the tax-benefit simulations. Moreover, when focusing on the access costs of education, health care, and public transport we only take into account the minimum out-of-pocket cost, while disregarding other important differences across regions in the quality and availability of the services. The availability of regional price data in particular would be very beneficial for expanding the scope of the study and facilitate extrapolation to the national level. Despite these limitations, the hypothetical household approach has the advantage of clarity: it is a pure institutional approach in the sense that we compare how the same hypothetical households would fare in the six cities in accordance with policy intentions. The results are not blurred by different compositions of the population in each of these countries, or different rates of take-up and compliance. Obviously, an assessment based on representative survey data would offer a very valuable complement to our study (e.g. Verbist & Van Lancker, 2016), but implies the necessity to estimate the cost of children for a much broader range of situations. We are convinced that the indicator proposed in this paper offers an significant added value in understanding how generous different welfare states are towards families with children by going

beyond cash benefits and by trying to take better into account welfare state efforts in providing and subsidizing essential goods and services, a perspective that has received too little attention, in spite of its (growing) importance.

## Notes

1. Some needs are not fully covered by the reference budgets presented in this paper, notably security and life-long learning.
2. The reference costs of housing are estimated for the year 2012 and refer to a broader region than the city for which the simulations are done. Prices are adjusted to 2014 using specific price indices for 'actual rentals' and 'electricity, gas and other fuels'.
3. Reference budgets for a girl of 14 years old are not available for Helsinki.
4. In Belgium the minimum wage is about 40% of the average wage, in Greece and Hungary about 35% and in Spain about 20%. In Italy and Finland there is no statutory minimum wage (Eurofound, 2016).
5. In the other countries, for the year under study housing allowances are not simulated because of a lack of information in Euromod due to the complexity (FI), the regional variation (IT & ES) or the specific targeting and limited scope of the allowance (BE, EL).
6. Given that the value in EUR of the reference budgets represents a similar consumption pattern across the six cities, the EUR values represent the real differences in out-of-pocket costs for having a living standard in accordance with the reference budgets. Therefore, converting them in international currency with purchasing power parities, would bias the comparison in the sense that the outcome

would show the difference in purchasing power with an income at the level of the reference budgets if households would have an average consumption pattern rather than the one represented in the reference budgets.

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