OECD Social, Employment and Migration Working Papers
No. 135

Money or Kindergarten? Distributive Effects of Cash Versus In-Kind Family Transfers for Young Children

Michael Förster,

Gerlinde Verbist

https://dx.doi.org/10.1787/5k92vxbgpmnt-en

OECD

Unclassified **DELSA/ELSA/WD/SEM(2012)6**

Organisation de Coopération et de Développement Économiques
Organisation for Economic Co-operation and Development **11-Sep-2012**

English - Or. English

DIRECTORATE FOR EMPLOYMENT, LABOUR AND SOCIAL AFFAIRS
EMPLOYMENT, LABOUR AND SOCIAL AFFAIRS COMMITTEE

DELSA/ELSA/WD/SEM(2012)6
Unclassified

OECD SOCIAL, EMPLOYMENT AND MIGRATION WORKING PAPERS No. 135

MONEY OR KINDERGARTEN? DISTRIBUTIVE EFFECTS OF CASH VERSUS IN-KIND FAMILY TRANSFERS FOR YOUNG CHILDREN

Michael Förster, OECD Social Policy Division and Gerlinde Verbist, University of Antwerp, Belgium

JEL Classification:
D31, H40, I38, J13

Key words:
Income distribution, child poverty, family policy, cash and in-kind transfers

All Social, Employment and Migration Working Papers are now available through the OLIS website at www.oecd.org/els/workingpapers

JT03326085

Complete document available on OLIS in its original format
This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

English - Or. English

DIRECTORATE FOR EMPLOYMENT, LABOUR AND SOCIAL AFFAIRS

www.oecd.org/els

OECD SOCIAL, EMPLOYMENT AND MIGRATION WORKING PAPERS

www.oecd.org/els/workingpapers

This series is designed to make available to a wider readership selected labour market, social policy and migration studies prepared for use within the OECD. Authorship is usually collective, but principal writers are named. The papers are generally available only in their original language – English or French – with a summary in the other.

Comment on the series is welcome, and should be sent to the Directorate for Employment, Labour and Social Affairs, 2, rue André-Pascal, 75775 PARIS CEDEX 16, France.

The opinions expressed and arguments employed here are the responsibility of the author(s) and do not necessarily reflect those of the OECD.

Applications for permission to reproduce or translate all or part of this material should be made to:

Head of Publications Service
OECD
2, rue André-Pascal
75775 Paris, CEDEX 16
France

Copyright OECD 2012

ACKNOWLEDGEMENTS

We thank Willem Adema, Dominic Richardson, Olivier Thevenon and Monika Queisser (OECD Social Policy Division) for helpful discussions and for providing us with valuable comments on an earlier draft of the paper. We gratefully acknowledge the many suggestions provided by the participants of the workshop at DIW Berlin on 24 January 2011 where the preliminary results from the analysis were presented and discussed. We are grateful to Maria Vaalavuo for providing national child-care estimates for the imputation procedure in chapter 5. Thanks also to Maxime Ladaique (OECD Social Policy Division) and the colleagues from the OECD Family Database team for guidance on OECD social expenditure and OECD family policy data. This study was part of a larger project investigating the distributive effects of publicly provided services, which was co-funded by a European Commission grant. The views expressed in this paper are those of the authors and do not necessarily reflect those of the OECD or its member countries.

ABSTRACT

1. Public support to families with pre-school children can be in the form of cash benefits (*e.g.* child allowances) or of "in-kind" support (*e.g.* care services such as kindergartens). The mix of these support measures varies greatly across OECD countries, from a cash / in-kind composition of 10%/90% to 80%/20%. This paper imputes the value of services into an "extended" household income and compares the resulting distributive patterns and the redistributive effect of these two strands of family policies. On average, cash and in-kind transfers each constitute 7 – 8% of the incomes of families with young children. Both instruments are redistributive. Cash transfers reduce child poverty by one third, with the estimated impacts in Austria, Ireland, Sweden, Hungary and Finland performing above average. When services are accounted for, child poverty falls by one quarter and poverty among children enrolled in childcare is more than halved. This reduction is highest in Belgium, France, Hungary, Iceland and Sweden.

2. The paper also presents simulations in which cash transfers are replaced by services, and vice versa, to provide a better understanding of these effects. The results from these simulations do not allow us to draw "generalised" conclusions as to which of the two instruments fares "better". However, in a majority of countries, if all in-kind spending on childcare were transformed into cash benefits, a lump-sum approach (*i.e.* a basic income supplement to all children) would be more effective in reducing poverty than an up-rating of present child benefits. The analysis in this paper is exploratory in that it considers only the first-round distributive effects of the policy instruments and does not capture additional indirect and longer-term redistributive effects, in particular possible labour supply effects and their potential impact on household incomes. The hypothetical simulations constitute extreme cases in that the entire volume of early childhood education and care (ECEC) services is replaced by cash transfers, and vice versa. The simulations nevertheless provide useful benchmarks for estimating potential losses or gains in redistribution when key elements of the early childhood policy mix are to be changed.

RÉSUMÉ

3. L'aide publique aux familles ayant des enfants en âge préscolaire peut prendre la forme de prestations monétaires (allocations familiales, par exemple) ou en «nature» (par exemple les services de garde tels que les jardins d'enfants). La combinaison de ces mesures de soutien varie considérablement selon les pays de l'OCDE, d'une composition monétaire / ou en « nature » allant de 10%/90% à 80%/20%. Ce document attribue la valeur des services à un revenu « élargi » des ménages et compare les facteurs distributifs résultant et l'effet redistributif de ces deux volets de la politique familiale. En moyenne, les transferts monétaires et en nature constituent chacun 7- 8% des revenus des familles ayant des enfants en bas âge. Les deux instruments sont redistributifs. Les transferts monétaires réduisent la pauvreté infantile d'un tiers, et les effets estimés sont en-dessus de la moyenne en Autriche, Irlande, Suède, Hongrie et en Finlande. Lorsque les services sont pris en compte, la pauvreté infantile chute d'un quart et la pauvreté chez les enfants inscrits dans les services de garde est divisée par deux. Cette réduction est la plus élevée en Belgique, en France, en Hongrie, en Islande et en Suède.

4. Le document présente également des simulations dans lesquelles les transferts monétaires sont remplacés par les services, et inversement, afin de fournir une meilleure compréhension de ces effets. Les résultats de ces simulations ne nous permettent pas d'établir de conclusions "généralisées" quant auquel des deux instruments « rapporte » le plus. Cependant, dans la majorité des pays, si toutes les dépenses de services de garde d'enfants étaient transformées en prestations monétaires, une approche forfaitaire (soit un supplément de revenu de base à tous les enfants) serait plus efficace dans la réduction de la pauvreté qu'une revalorisation des prestations actuelles aux enfants. L'analyse présentée dans ce document est exploratoire en ce sens qu'elle ne considère que les effets distributifs de premier niveau des instruments politiques et ne tient pas compte d'autres effets redistributifs indirects et de long terme, en particulier les effets éventuels sur l'offre de main-d'œuvre et leur impact potentiel sur les revenus des ménages. Les simulations hypothétiques constituent des cas extrêmes dans la mesure où l'ensemble de services d'EAJE est remplacé par des transferts monétaires, et inversement. Néanmoins, ils fournissent des références utiles pour estimer les pertes ou gains potentiels de redistribution lorsque des éléments clés de la politique de la petite enfance doivent être modifiés.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS 3
ABSTRACT 4
RÉSUMÉ 5
1. INTRODUCTION 8
2. CASH OR IN-KIND BENEFITS? 10
3. PUBLIC SPENDING ON FAMILIES IN OECD-COUNTRIES 13
3.1 Size of spending on families 13
3.2 Cash transfers and tax-breaks for families 16
3.3 Early Childhood Education and Childcare services (ECEC) 17
4. THE DISTRIBUTIVE IMPACT OF CASH TRANSFERS FOR YOUNG CHILDREN 20
4.1 Size and distribution over quintiles 21
4.2 The effect of cash family transfers on poverty among young children 23
5. THE DISTRIBUTIVE IMPACT OF EARLY CHILDHOOD EDUCATION AND CHILDCARE SERVICES 25
5.1 How to account for early childhood education and childcare services (ECEC) in distributive analyses 25
5.2 Size of ECEC services 26
5.3 Quintile distributions 27
5.4 The effect of ECEC services on poverty among young children 32
6. COMPARING THE DISTRIBUTIVE EFFECT OF CASH AND IN-KIND TRANSFERS FOR YOUNGER CHILDREN 35
6.1 Size and quintile distribution 35
6.2 Inequality, progressivity and poverty 38
7. MOVING FROM IN-KIND TO CASH BENEFITS AND VICE VERSA: SIMULATION RESULTS 41
7.1 More money: switching from services to cash 41
7.2 More Kindergarten: converting cash to services 42
7.3 Effects on poverty 43
8. SUMMARY AND CONCLUSION 46
ANNEX 1: ADDITIONAL TABLES AND FIGURES 49
REFERENCES 57

Tables

Table 1: Enrolment rates in early childhood education and childcare, by age 19
Table 2: Share of young child cash transfers in disposable income, by income quintile 21
Table 3: Actual cash transfer beneficiaries as a share over all children younger than 6. 23
Table 4: Share of ECEC services in disposable income for individuals living in a household with at least one young child, by income quintile 28
Table 5: Actual ECEC beneficiaries as a share of all children aged 0-5, by income quintile 32
Table 6: Poverty rates before and after accounting for ECEC services 33

Table 7: Share in extended income of total of cash and in-kind benefits for young children, by extended income quintile 36
Table 8: Overlap between users of cash and in-kind, all children younger than 6, total and those in bottom quintile only, 20071 37
Table 9: Effect on young child poverty of simulated alternatives, percentage reduction. 44
Table A.1: Overview of care arrangements for pre-school children in OECD countries..... 50
Table A.2: Overview of family benefits and tax breaks[1], 2007..... 51
Table A.2 (cont.): Overview of family benefits and tax breaks[1], 2007 52
Table A.2 (cont.): Overview of family benefits and tax breaks[1], 2007 53
Table A.2 (cont.): Overview of family benefits and tax breaks[1], 2007 54
Table A.3: Progressivity (P) and vertical equity (VE) effect of cash and in-kind benefits for young children, 20071 55
Table A.4: Poverty rates for young children, before and after cash and in-kind child benefits 56

Figures

Figure 1: Poverty rates for young children, compared to overall poverty rate, 2007..... 12
Figure 2: Public spending on family benefits in cash, services and tax measures, in per cent of GDP, 2007 14
Figure 3: Public expenditures on families in OECD countries, cash and services, 2007..... 15
Figure 4: Evolution of public expenditures on families, OECD average(*),
cash and services, 1998-2007. 16
Figure 5: Public expenditure on childcare and early education (ECEC) services, per cent of GDP, 200717
Figure 6: Distribution of cash transfers to young children over household disposable income quintiles, 22
Figure 7: Size of family cash benefits going to young children and young children's poverty rate (panel A) and percentage reduction in young children's poverty (panel B). 24
Figure 8: In-kind benefit from ECEC services as a share of disposable income average over individuals in households where at least one young child is present. 27
Figure 9: Distribution of ECEC in-kind benefits over quintiles..... 29
Figure 10: Distribution of childcare (Panel A) and pre-primary education (B) in-kind benefits over quintiles 30
Figure 11: Distribution of ECEC, childcare and pre-primary education beneficiaries over income quintiles 31
Figure 12: Size of in-kind benefits (as a share of disposable income, horizontal axis) going to young children and young children's poverty rate (vertical axis in (A)), and percentage reduction in young children's poverty rate through these in-kind benefits (vertical axis in (B))..... 34
Figure 13: Size of cash and in-kind as a share of extended income (i.e. income after inclusion of cash and in-kind benefits), individuals living in a household where at least one young child is present. 35
Figure 14: Vertical Equity coefficient of total of cash and in-kind benefits to young children and relative contribution of both instruments. 38
Figure 15: Progressivity of cash and in-kind benefits to young children (absolute values of Kakwani indexes). 39
Figure 16: Reduction in child poverty due to cash and in-kind benefits for young children 40
Figure 17: Progressivity (Kakwani coefficient) for baseline and simulated alternatives CASH1 and CASH2 42
Figure 18: Progressivity (Kakwani coefficient) for baseline and simulated alternatives IK1 and IK2..... 43
Figure A.1: Distribution of children aged younger than 6 over quintiles..... 49

1. INTRODUCTION

5. Public support to families with pre-school children is an important investment which serves several societal goals at the same time, such as: a better education and, more generally, economic and social well-being of children; a better reconciliation of family with work life for parents; cushioning poverty risks of families with children; or lowering barriers for the decision of having children. But equity considerations also figure high on the list of objectives, including the issue to which extent support to families with pre-school children contributes to redistribute resources and, hence, decrease inequality.

6. Recent OECD work has reviewed extensively the different ways in which governments support families and how policies impact on family well-being and, in particular, child well-being outcomes (OECD 2009, OECD 2011a). This paper provides additional evidence by looking at how the different policy instruments redistribute household income and how they may reduce income poverty. The analyses remain descriptive and do not attempt to identify the causal factors of different observed redistributive patterns. The paper feeds into ongoing OECD work focusing on the relative efficiency and effectiveness of family cash and in-kind support.

7. Public support to families with children can be in the form of *cash* – child or family allowances, for instance – or of *in-kind* support – provision of care such as kindergartens, for instance – and all countries provide a mix of these support measures. This mix is, however, very diverse across OECD countries, with a share of cash in total spending varying from below 10% to over 80%.

8. The available comparative empirical evidence on the redistributive effect of total public spending in OECD countries relies almost exclusively on the concept of household cash income, thus ignoring the services governments provide to households. Including those services matters a lot, however, as it gives a more complete picture of policy efforts. Recent work which imputes the value of public services (health, education, housing and care) into household incomes suggests that these services taken together contribute to reducing income inequality, by between 20% and 30% depending on the inequality measure used (OECD 2011b).

9. This issue is particularly relevant in the domain of family policy. In some countries, governmental support towards families is mainly provided in the form of cash benefits (*e.g.* family allowance) or through the tax system (*e.g.* tax credits for households with children). When considering only the cash income concept, similar support offered through public services is disregarded. This discrepancy produces an inaccurate account of a country's efforts in this domain and countries relying on monetary benefits appear to be more generous and redistributive, while the effort of countries providing in-kind support to families with children is not acknowledged.

10. The relationship between cash transfers and services for young children is the focus of this study. In the literature, various arguments are used when comparing both instruments: in general, there is some agreement that in terms of labour supply effects services appear to be more effective, whereas from a pure utility perspective cash transfers receive higher marks. Often neglected in the debate are the effects of these measures on income distribution and poverty. Which of the two instruments are "better" when distributional considerations are taken into account? The analyses in this study focus on families with pre-

school children, as policies directed to this age group more often face choices between cash or in-kind oriented measures. Simulations in which cash transfers are replaced by services, and vice versa, are produced to provide a better understanding of these effects, given the level and distributive pattern of the current instruments across 27 OECD countries.

11. The paper starts with a discussion of the main issues raised in the cash versus in-kind debate in the domain of family policy. Chapter 3 provides an overview of the level of public spending on families across OECD countries, comparing cash and in-kind spending. The distributive impact of cash transfers for young children is the topic of chapter 4, while the effect of Early Childhood Education and Childcare services is dealt with in chapter 5. Chapter 6 compares both instruments in terms of their equalising and anti-poverty properties and chapter 7 presents a selection of simulations, in which the switch from cash towards in-kind and vice versa is investigated. Chapter 8 concludes.

12. Currently, many OECD countries have embarked on a path of fiscal consolidation in the aftermath of the financial and economic crisis. Some of the planned and discussed measures refer to the balance and the efficiency of in-kind versus cash child transfers. The analyses below rely on a methodology of "extended income", with the value of public services imputed into household income. This relies on a series of assumptions, regarding the valuation and allocation of these services and how to account for differences in needs.[1] Furthermore, differences in the quality of services as well as indirect effects (such as the increase in income through higher labour supply) cannot be accounted for. Still, in terms of short-term distributive outcomes of possible spending shifts between services and cash benefits, the results presented below may provide useful guidance.

[1] For an extensive discussion of these methodological issues, see Verbist *et al.* (2012).

2. CASH OR IN-KIND BENEFITS?

13. Family cash benefits and services can be considered as different though complementary policy strategies that individual countries use to solve the often opposing pressures of labour market and demographic objectives, such as increased female labour force participation and rising maternal employment, higher fertility rates, reconciling work and family life, gender equity, parental nurturing and child development (Kamerman and Gatenio-Gabel 2010; OECD 2011a). The "cash versus services" debate deals with the issue whether policies should focus more on the use of cash transfers (that can either support mothers to stay at home, or improve their access to purchase childcare services on the market), or on the use of services.

14. The literature sums up arguments both in favour and against the use of cash transfers and/or services. One of the standard arguments for using cash transfers relates to a better functioning of the private market of childcare providers. Cash transfers can increase access to the childcare market; they can lead to a larger supply of services, to a greater responsiveness of the market to consumer preferences, to increased competition and therefore greater efficiency among private providers; moreover, they support free choice (Kamerman and Kahn 1989; Kamerman and Waldfogel 2005). A major argument against unconditional cash transfers is that they can create a disincentive for the second earner (often the mothers) to supply labour. Another argument is that a cash benefit to purchase care services may not be sufficient to pay for high-quality childcare, thus representing possible problems of affordability, access and quality (Kamerman and Gatenio-Gabel 2010). The following paragraphs discuss these different arguments in more detail.

15. In terms of labour supply, the literature provides indications that services are preferable to cash transfers. Child benefits increase non-labour income, thus enhancing the income effect in labour supply models. Childcare services on the contrary reduce the relative price of childcare and should facilitate employment of parents, especially mothers. The European Commission (2009) reports evidence from country studies according to which the availability of childcare facilities intensifies mothers' labour market participation rates. Bassanini and Duval (2006) find that "from the point of view of raising female participation and employment, childcare subsidies are preferable to child benefits, as only the former increase the return from "market work for mothers".

16. It is important to distinguish short-term and long-term effects. With respect to the short-term, Currie and Gahvary (2008) assert that childcare services are likely to have positive labour supply effects, especially for young women. At the same time, when reviewing the major studies that examine the elasticity of maternal employment with respect to childcare prices (see *e.g.* also Blau and Currie 2006; Gelbach 2002), they conclude that there is little evidence that services have such positive short-term effects on labour supply that would tend to offset the deadweight loss associated with the tax system. Childcare services may have, however, longer-term positive labour supply effects for mothers with young children, when taking into account potential losses in future earnings due to longer career interruptions.

17. Other long-term effects relate, for instance, to the possible impact on human capital formation of young children and their potentially higher future wages later in life. Currie and Gahvary (2008) state that "the empirical literature offers some support for the idea that in-kind transfers to children may be

productivity enhancing in the long run. Of course, whether programs increase work capacity and productivity will actually increase the number of hours worked will depend on the income and substitution effects associated with higher wages. If the substitution effect is stronger than the income effect for low wage workers and if programs are targeted to children at risk of becoming low wage workers, then it is likely that these programs will increase the labour supply of workers at the bottom of the income distribution. Moreover, even if hours fall, taxable income will rise in response to an increase in productivity as long as consumption is a normal good."

18. These long-term effects may also provide a justification for the more paternalistic arguments that are traditionally seen as underpinning the provision of public services over cash transfers. According to Currie and Gahvary (2008) such arguments become more powerful "when the intended recipient of a transfer program is a child but the transfer goes to parents. Parents may not take full account of the utility of their children when making decisions or they may neglect to factor in externalities. For example, suboptimal spending on children's education may lead not only to poorer individual prospects, but also to slower future economic growth."

19. Counter to this line of arguments, freedom of choice is often invoked as an argument in favour of unconditional cash transfers, which do not put a constraint on behaviour as services (and conditional transfers) do. This issue of free choice has been stressed in many studies (*e.g.* Kamerman and Kahn 1989, 1991; Kamerman and Waldfogel 2005). A cash transfer in principle gives parents the freedom to choose to spend this money either on purchasing childcare services or providing an income supplement that allows parents to stay at home to care themselves for their young children. However, this freedom of choice is only real if the cash transfer is sufficiently high to replace all or most of the wage forgone, or to cover all or most of the childcare costs and under the condition that there is sufficient supply of childcare services to meet the demand; especially for lower incomes free choice may not be a true option in practice (Kamerman and Gatenio-Gabel 2010).

20. In terms of fertility considerations, a number of studies point to the importance of childcare facilities within the context of childbearing behaviour (for a summary and discussion, see European Commission 2009; OECD 2011a). However, for impacting fertility levels, provision of childcare alone does not seem sufficient but rather a combination of policy factors and initiatives, namely childcare availability and affordability, availability of part-time employment for women and longer periods of parental leave (D'Addio and d'Ercole, 2005).

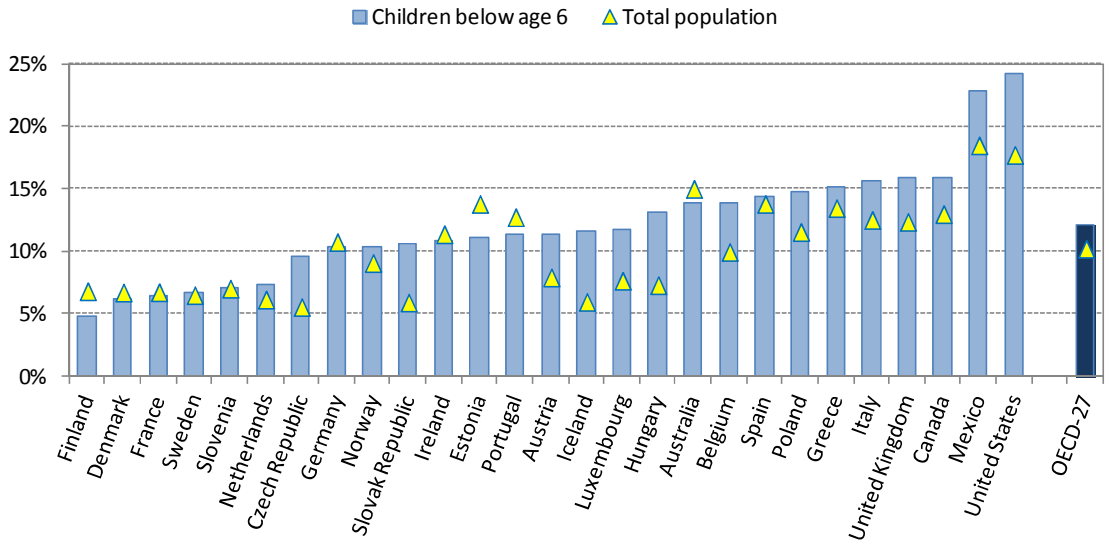
21. In terms of child well-being, the literature seems to indicate that high-quality childcare is beneficial for the children's development, except for the youngest group (less than 1 year of age) (see *e.g.* Kamerman *et al.* 2003). OECD (2009) shows that the evidence on the impact of early childhood care on child well-being also depends on the children's age: while evidence is mixed from birth to age three, more consensus is found that high-quality care can improve cognitive functioning from age three to five. More generally, early childhood experiences have long-term effects, and Vaalavuo (2011) discusses studies which suggest that poverty and disadvantage in childhood are precursors to educational and labour market failure later in life. A limited and unequal access to childcare services can maintain social inequalities, whereas investment in early education pays off efficiently and can protect children from further social disadvantages (Esping-Andersen 2005).

22. As illustrated by the previous discussion of arguments, distributional considerations in terms of poverty and inequality outcomes are rarely invoked in this debate, despite the actual priority of government early childhood policies attached to equity considerations. Indeed, a recent survey among 31 OECD countries ranks "equity" as the most important among a set of policy goals for their early childhood

education and care policy, ahead of for instance "maternal labour participation" or "demographic challenge". (OECD 2012)[2]

23. Furthermore, there is wide variation across countries in terms of poverty among young children, *i.e.* children aged younger than six (see Figure 1), which may also relate to differences in distributional characteristics of various policy strategies in place. Finland, at 5%, reports the lowest poverty rate, but also Denmark, France, Sweden, Slovenia and the Netherlands have rates below 8%. On the other hand, high poverty rates can be found in Mexico and the United States (over 20%). In most countries with high poverty rates for young children, these numbers are also considerably higher than poverty for the overall population. The present study investigates the distributional features of cash transfers and in-kind benefits and how these instruments contribute to child poverty outcomes.

Figure 1: Poverty rates for young children, compared to overall poverty rate, 2007[1]



Note: Poverty rates defined as proportion of individuals in households with less than 50% of median disposable household income. Household incomes are corrected for household size with an equivalence elasticity of 0.5. [1] Data refer to 2004 for Canada, Mexico and the United States.

Source: Authors' computations from EU-SILC for EU-countries; LIS for Canada, Mexico and the United States (data for 2004); and, HILDA for Australia (data for 2007).

[2] 31 countries were given a list of example policy goals to choose from OECD 2006 (*Starting Strong*). All 31 countries mentioned "equity measures", 26 countries mentioned "worklife balance", 21 countries "maternal labour participation" and 13 countries "demographic challenge" (OECD 2012).

3. PUBLIC SPENDING ON FAMILIES IN OECD-COUNTRIES

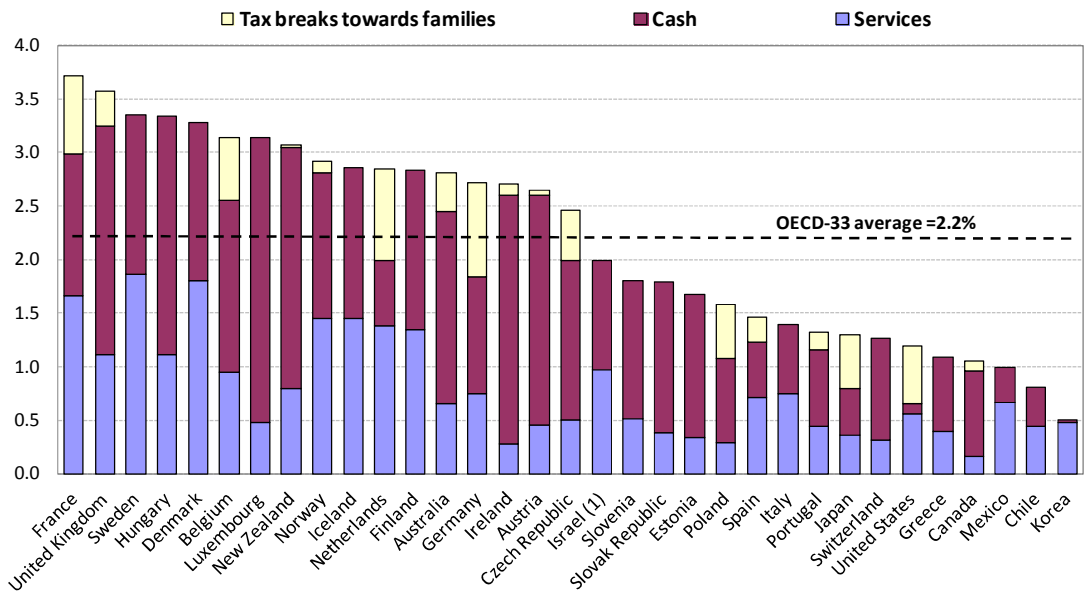
24. Public policies for families take on different forms. The OECD Family Database distinguishes three types of spending, namely (1) child-related cash transfers to families with children; (2) financial support for families provided through the tax system; and (3) public expenditures on services for families with children. The child-related cash transfers to families with children include child allowances, public income support payments during periods of parental leave, income support for sole families, and public childcare support through earmarked payments to parents. Financial support for families provided through the tax system include tax exemptions (*e.g.* income from child benefits that is not included in the tax base), child tax allowances (amounts for children that are deducted from gross income and are not included in the taxable income), and child tax credits (amounts that are deducted from the tax liability)[3]. Public spending on services for families with children include direct financing and subsidising of providers of childcare and early education facilities, as well as public spending on assistance for young people and residential facilities, and on family services. These specific forms of spending for families add to other measures of social spending, both in the form of cash (*e.g.* social assistance, unemployment benefits) and services (*e.g.* health care, social housing), for which families with children can also be eligible.

3.1 Size of spending on families

25. On average across OECD countries these three types of spending correspond to 2.2% of GDP (Figure 2). France and the United Kingdom have the highest spending (more than 3.5%), while Chile and Korea have the lowest (below 1%). In most countries cash transfers make up the major category of spending, followed by services. Tax breaks are less frequently used, though in some countries they are important (namely in Belgium, France, Germany, Japan, the Netherlands, Poland and the United States).

[3] If any excess of the child tax credit over the liability is returned to the tax-payer in cash, then the resulting cash payment is recorded under (1) child-related cash transfers above (the same applies to child tax credits that are paid out in cash to recipients as a general rule, for example in Austria and Canada).

Figure 2: Public spending on family benefits in cash, services and tax measures, in per cent of GDP, 2007

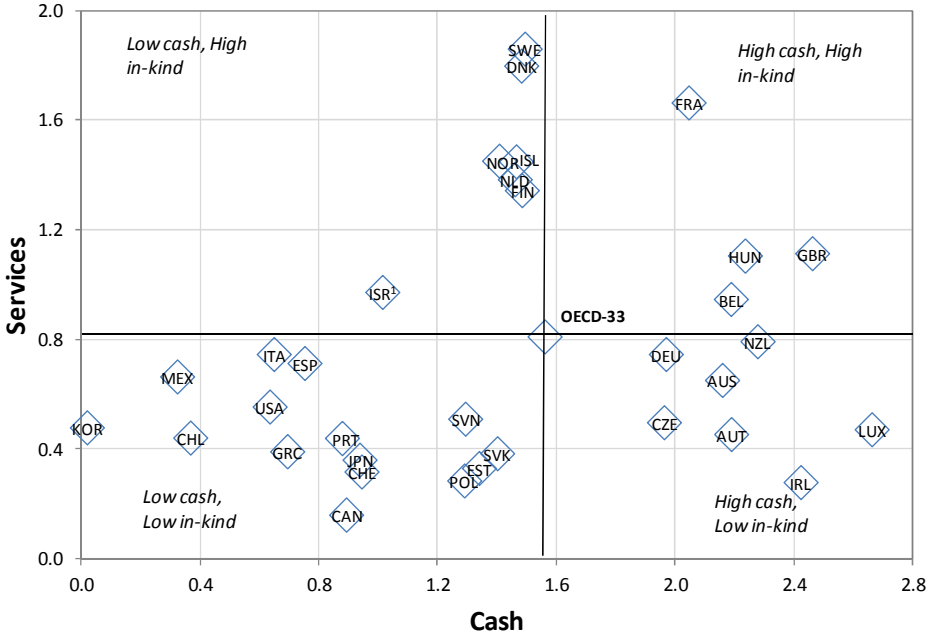


Notes: Public support accounted here only concerns public support that is exclusively for families (*e.g.* child payments and allowances, parental leave benefits and childcare support). Spending recorded in other social policy areas as health and housing support also assists families, but not exclusively, and is not included here. Data on tax breaks towards families is not available for Chile, Estonia, Greece, Hungary, Israel and Slovenia. (1) The data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: OECD Family Database and OECD Social Expenditure Database (www.oecd.org/els/social/expenditure), 2011.

26. Is there a trade-off between cash and in-kind family spending, or do countries with high cash spending also invest more on services? Figure 3 below plots cash (including both child-related cash transfers and tax breaks) against in-kind public expenditures on families as a share of GDP. The picture is very diverse, though a slightly positive correlation can be seen between cash and services: countries that spend relatively more on cash benefits are often also those countries that invest much in services, and vice versa. Especially France combines high levels of spending on both categories. The Nordic countries and the Netherlands have high spending on services, combined with average cash expenditures. Countries with both relatively low spending on cash and on in-kind, are the Southern European countries, Estonia, Poland, the Slovak Republic, Switzerland and most of the non-European OECD countries. Australia and New Zealand, however, combine high cash spending with below-average levels of services, as do Germany, Luxembourg, Austria, Ireland and the Czech Republic.

Figure 3: Public expenditures on families in OECD countries, cash and services, 2007



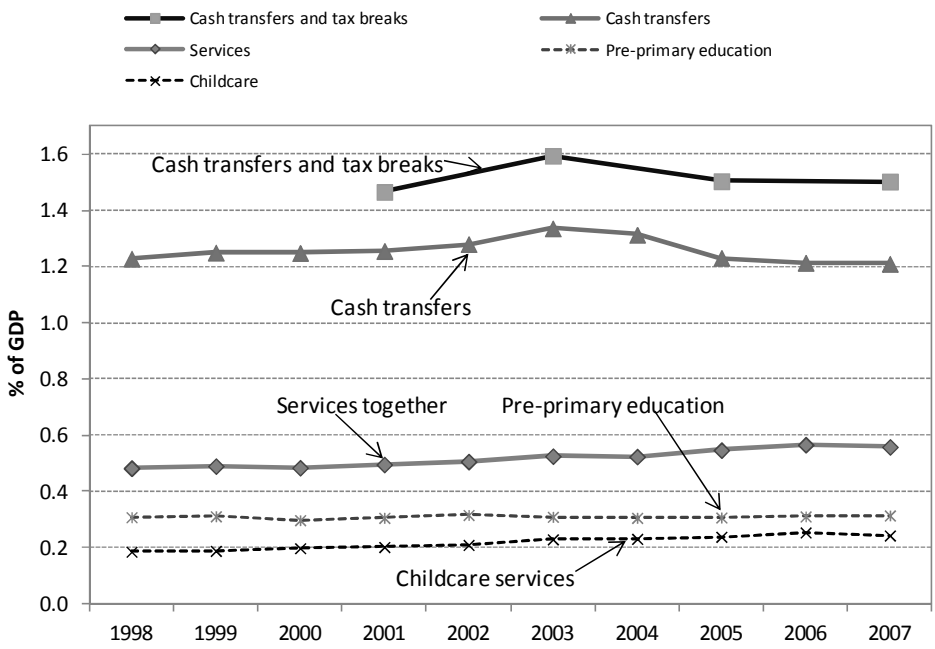
Note: (1) The data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: OECD Social Expenditure Database (www.oecd.org/els/social/expenditure), 2010.

27. It is interesting to follow the evolution of family expenditures on cash and services over the past ten years up to 2007. On average for the OECD, expenditures in terms of GDP remained rather stable. Nonetheless, expenditures on both cash and services tended to slightly increase until 2003. From that moment onwards, cash expenditures somewhat declined, whereas spending on services (childcare and pre-primary education) continued to increase. This modest increase in spending on services is largely due to extra public efforts on childcare, as expenditures on pre-primary education remained constant over time. [4] Expenditures on tax breaks also tended to increase continuously since 2001.

[4] There is, however, also an effect of improved recording of public childcare spending in the OECD Social Expenditure database (see Adema *et al.* 2011).

Figure 4: Evolution of public expenditures on families, OECD average(*), cash and services, 1998-2007



Notes: (*) OECD average for 30 countries, excluding Chile, Estonia, Israel and Slovenia. No data on expenditures on tax breaks are available for Greece, Hungary, Luxembourg, Poland, Portugal, Switzerland and Turkey.

Source: OECD Social Expenditure Database (www.oecd.org/els/social/expenditure), 2011.

3.2 Cash transfers and tax-breaks for families

28. Cash spending on families consists of both family benefits as well as tax breaks aimed at families with children. In general, family benefits are much bigger than the tax breaks, but in some countries tax breaks are far from negligible. Table A.2 in the Annex presents an overview of types of family benefits and tax breaks for OECD-countries for families (more details can be found in OECD 2007). Most family benefits are granted to families with dependent children (thus including in general children younger than 18 and in many countries also students).

29. In most countries family benefits also vary with age of the child, granting higher rates to both youngest age groups and oldest age groups (as in Australia, Belgium, Portugal), or to older age groups (Austria, the Czech Republic, France, Luxembourg, the Netherlands, Poland), or to the younger (as in Denmark and Iceland). Also the number of children in the household can influence the level of the benefit per child. Most countries which differentiate benefit levels by number of children do this in favour of larger families (*e.g.* France, Hungary, Italy and Sweden). In a limited number of countries, the benefits per child are a decreasing function of number of children (*e.g.* Portugal and the child benefit in the United Kingdom).

30. Particularly relevant from the point of view of distributive analysis is whether benefits are means-tested. In the majority of countries, family benefits are universal, *i.e.* not dependent on income. However, in some countries (part of) the allowance is means-tested, *e.g.* in Australia, Canada, the Czech Republic, Italy, Poland, Spain and the United States (Table A.2).

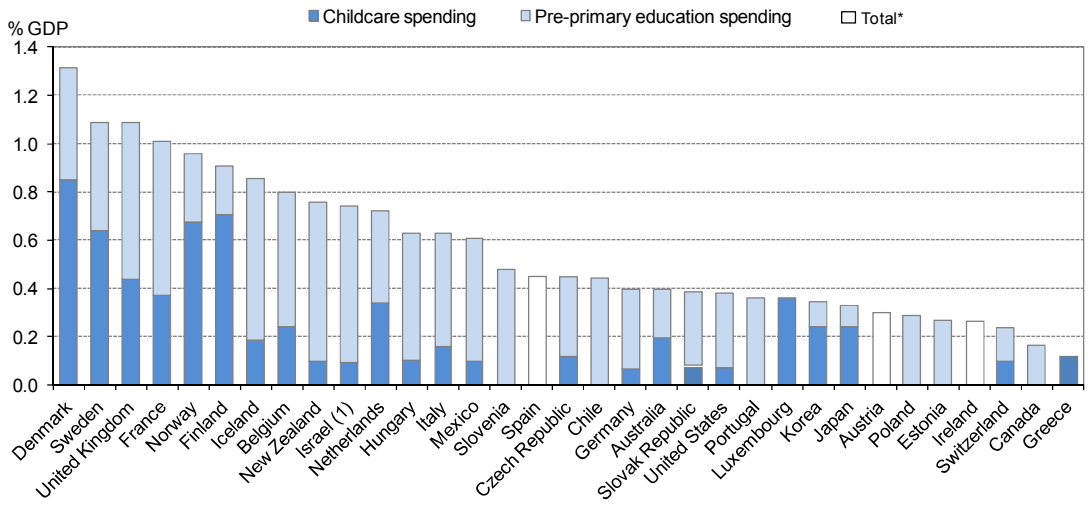
31. Tax breaks for families are in general channelled through two instruments, namely tax allowances and tax credits. Child tax allowances are amounts deducted from gross income, and their advantage may vary in size over the income distribution in the case of a progressive rate schedule. This type of tax break is applied in countries like the Czech Republic, Greece and Poland. Tax credits, on the other hand, are amounts deducted from tax liabilities, and are more frequently used in the domain of family policy than tax allowances. Examples of this type of instrument can be found in Belgium, Canada, Germany, the Netherlands, the Slovak Republic, the United Kingdom and the United States. Also worth mentioning in this context is the French 'quotient familial', in which the number of children is also used in the denominator for adjusting the tax base.

3.3 Early Childhood Education and Childcare services (ECEC)

32. Public spending on services for families with children mainly consists of the direct financing and subsidising of childcare and early education facilities. The share of ECEC services in total public spending may be relatively small, but it is not negligible. With close to 1% or more of GDP, ECEC services provided for children below 6 years of age are important in most Nordic countries, as well as in the United Kingdom, France and Belgium (see Figure 5). In most countries, expenditures on pre-primary education are a more sizeable category than those on childcare. In countries with high enrolment rates in formal care for under 3 years old, public spending on childcare is accordingly high. This is notably the case in the Nordic countries, France and the United Kingdom.

33. Categories of pre-primary education and formal childcare are often overlapping in OECD and national data, and in some countries there is no distinction between the two. Hence, pre-primary education is here taken into account together with childcare in order to avoid the double counting of children using these services. It also gives a more comparable image of services provided to children under school-age.

Figure 5: Public expenditure on childcare and early education (ECEC) services, per cent of GDP, 2007



Notes: * Figures for Austria, Ireland and Spain cannot be disaggregated by type of service. (1) The data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: OECD Family Database, Indicator PF3.1A.

34. Formal care services for children below compulsory school age can be categorized into two broad groups, along age groups of children (see Table A.1 in Annex for an overview; more details on this categorization can be found in the Family Database of the OECD http://www.oecd.org/els/social/family/database):

i. *Day care:* centre-based day care encompasses all formal childcare that is provided outside the home in licensed services, usually provided to children younger than 4 years of age. They are referred to as nurseries, day care centres, crèches, playschools, kinderkrippen and parent-run groups. Family day care is provided in a home setting (either the childminder's home or that of the child) for the same age group and is usually of smaller size than centre-based day care (often maximum 3 or 4 children).

ii. *Pre-school education programmes* (kindergarten) are centre- or school-based programmes to prepare children for compulsory education; they often include an educational content and are supervised by qualified staff. Pre-primary education (ISCED level 0) is defined as the initial stage of organised instruction, designed primarily to introduce very young children to a school-type environment.

35. Some 80% of the 3 to 5 year-olds in the OECD are enrolled in pre-school education, and universal access for 4 to 5 year-olds is almost everywhere a general feature (see Table 1). Much more cross-country variation exists for children under 3 years old. With 66 per cent, the coverage for under 3 year-olds is the highest in Denmark. High enrolment rates are also found in the three other Nordic countries, the Benelux countries, France and Portugal. Much lower enrolment rates for under 3 year-olds are found in the Central and Eastern-European countries and in Mexico. These enrolment rates are closely linked to the supply of public childcare places for younger children: the number of places available, the geographical spread and opening hours of facilities explain to a large extent the access to and use that is made of these public services.

Table 1: Enrolment rates in early childhood education and childcare, by age

	Formal care	Pre-school from 3 to 5 years			
	Under 3 years	3 years	4 years	5 years	3 to 5 years
Australia	29.0	12.1	52.6	99.8	54.6
Austria	12.1	52.4	85.6	94.8	77.6
Belgium	48.4	99.3	99.6	99.5	99.4
Canada	24.0	15.7	41.7	99.2	56.8
Czech Republic	2.2	58.3	86.8	95.0	79.7
Denmark	65.7	94.1	95.3	85.1	91.5
Estonia	17.5	85.3	91.2	90.4	89.0
Finland	28.6	68.5	75.4	78.9	74.2
France	42.0	99.0	100.0	100.6	99.9
Germany	17.8	86.9	95.4	95.8	92.7
Greece	15.7	0.0	52.4	88.0	46.6
Hungary	8.8	72.1	92.5	96.6	87.1
Iceland	55.0	95.4	95.6	96.8	95.9
Ireland	30.8	13.1	54.8	101.5	56.4
Israel (1)	23.0	79.6	86.3	94.7	86.8
Italy	29.2	94.8	98.6	99.0	97.4
Japan	28.3	75.4	95.7	98.2	90.0
Korea	37.7	73.3	79.3	86.3	79.8
Luxembourg	38.6	69.3	95.2	93.4	85.9
Mexico (a)	5.8	34.3	93.2	117.9	82.8
Netherlands	55.9	0.1	99.5	99.3	67.1
New Zealand	37.9	87.5	95.1	99.9	94.1
Norway	51.3	92.3	95.3	95.9	94.5
Poland	7.9	36.1	48.1	57.7	47.3
Portugal	47.4	63.0	81.3	92.6	79.2
Slovak Republic	3.0	62.9	74.8	83.5	73.5
Slovenia	33.8	69.5	79.3	83.7	77.5
Spain	37.5	97.6	98.7	99.3	98.5
Sweden	46.7	88.6	91.8	93.0	91.1
Switzerland	..	9.6	39.5	93.1	47.5
Turkey	..	2.8	13.0	55.4	23.8
United Kingdom	40.8	82.4	97.3	98.8	92.7
United States (b)	31.4	36.3	57.5	73.3	55.7
OECD 31-average	30.8	64.4	83.4	93.2	80.5

Notes: Data refer to the latest year available except for: a) Data for children aged 0-2 concern 2009; b) Data for children aged 0-2 concern 2005. (1) The data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law. Averages exclude Switzerland and Turkey.

Source: OECD Family Database. For children 0-2: Australia, ABS Childcare service (2008); Canada, National Longitudinal Survey of Children and Youth (2006); New Zealand, Education Counts' statistics (2008); European countries, EU-SILC (2008). Germany, administrative data; Nordic countries, NOSOSCO (2007-2008). US, Early Childhood Program Participation Survey (2005); For children 3-5: OECD Education database.

4. THE DISTRIBUTIVE IMPACT OF CASH TRANSFERS FOR YOUNG CHILDREN

36. OECD (2011a) and UNICEF (2010) examine the impact of taxes and benefits on child poverty, by comparing poverty rates that would theoretically prevail if household incomes were determined by market income sources alone with those calculated on the basis of disposable income. They find that such government intervention reduces child poverty substantially in all countries. However, the Nordic countries and the Netherlands are achieving a much higher reduction than for instance Italy and Spain. Whereas these numbers look at the effect of all taxes and benefits, the focus in this paper is on benefits that are aimed at children, and more specifically those younger than 6.

37. Most studies investigating the distributive impact of family transfers have looked at total family cash benefits (see *e.g.* Förster and Toth 2001; Immervoll *et al*., 2001; Levy *et al*., 2007; Matsaganis *et al*., 2007; OECD 2011a), while this paper concentrates on cash transfers to pre-school children only (*i.e.* children younger than 6). This requires determining the value of family allowances aimed at young children. A methodology is proposed in Figari *et al*. (2009), which provides a measure of net "child-contingent" cash payments by capturing all the elements of taxes and benefits that occur due to the presence of children in the household[5]. To this end they use the microsimulation model EUROMOD (Sutherland 2001) and recalculate tax liabilities and benefit entitlements assuming no children are present in the household and compare the resulting values with those when the children are present. Replicating this methodology with the assumption that no younger children (*i.e.* below age 6) are present in the households would result in a measure of net "young child contingent payments", which also include the tax-breaks for families.

38. Unfortunately, as EUROMOD currently covers only a selection of EU countries, a cruder method has been applied in this study, starting from the value of cash transfers that is available in the datasets. In EU-SILC (2007 data) the variable HY050 is used, which includes family or child allowances, birth grants, maternity and other family leave benefits. For the Netherlands, maternity and parental leave benefits are not included under this heading, as these amounts cannot be separated from the wage variable. For Germany it also includes the amount of 'Kindergeld' that is allocated through the personal income tax system (which is the bulk of tax breaks for families), as well as the working mother refundable tax credit for very young children for Spain. For Australia, HILDA (2007) reports the family tax benefit. For Canada and the USA the LIS-data contain only child allowances, whereas for Mexico there is no information on family cash transfers (these datasets refer to 2004). Consequently, for three countries (Australia, Germany and Spain) tax breaks towards children are also included. For other countries, this was unfortunately not possible. In particular for the United States and the Netherlands, this will result in a considerable underestimation of cash efforts. The cash benefit for children younger than 6 is calculated by multiplying total family benefits of the households by the proportion of the number children aged 0-5 in the total number of children in the household, where the total number of children is specified as all children younger than 18 in the household.

39. The following sections describe the distributive impact of cash transfers for children in terms of their size (share of disposable income), their distribution over quintiles and their impact on relative poverty.

---

5 This means that also cash-for-care benefits and tax breaks for childcare are included in these net child-contingent payments when they are simulated in EUROMOD (for more details see Figari *et al*. (2009)).

4.1 Size and distribution over quintiles

40. Cash transfers to young children range from close to 0% to 17.1% of disposable household income (average over individuals in households where at least one young child is present, see Table 2). The proportions are especially high in Hungary and also in three Nordic countries (Finland, Norway, Sweden), Austria and Ireland. Very low levels are found in Southern Europe, Canada, the Netherlands and the United States[6]. In almost all countries, cash transfers represent a higher share for low incomes than they do for high incomes. In Hungary, for instance, these cash transfers represent 30% of disposable income in the bottom quintile, compared to only 17% in the top. Spain, however, is an exception, with a share that is similar in all quintiles (and even tends to go up with higher income), despite the fact that child benefits in Spain are means-tested. However, as mentioned above, the working mother tax credit is also included here and is probably more advantageous to two earner households, who are higher up in the income distribution.

Table 2: Share of young child cash transfers in disposable household income of families with young children, by income quintile, 2007[1]

	Q1	Q2	Q3	Q4	Q5	Total
Australia	24.3%	13.6%	6.5%	3.4%	1.5%	7.4%
Austria	20.3%	15.6%	12.2%	9.1%	5.8%	12.1%
Belgium	14.7%	8.5%	6.3%	5.6%	3.5%	6.5%
Canada	14.4%	4.1%	1.8%	0.6%	0.2%	2.8%
Czech Republic	20.9%	12.2%	9.0%	6.1%	3.4%	9.1%
Denmark	10.2%	6.1%	4.4%	3.4%	2.3%	4.3%
Estonia	18.9%	11.8%	9.9%	8.5%	6.8%	8.9%
Finland	25.2%	16.8%	12.8%	9.7%	5.1%	12.1%
France	12.4%	10.2%	6.9%	6.7%	3.0%	7.0%
Germany	19.5%	11.4%	8.1%	5.3%	2.9%	7.8%
Greece	2.0%	1.9%	1.0%	1.6%	1.1%	1.4%
Hungary	30.1%	21.2%	17.8%	12.8%	9.9%	17.1%
Iceland	14.8%	8.1%	6.8%	4.0%	2.6%	6.4%
Ireland	29.5%	16.3%	10.3%	8.1%	4.1%	10.2%
Italy	4.2%	4.0%	1.9%	1.2%	1.0%	2.0%
Luxembourg	15.3%	12.0%	10.8%	8.8%	4.4%	9.6%
Netherlands	4.7%	3.0%	2.1%	1.6%	1.1%	2.1%
Norway	26.7%	15.1%	10.9%	10.5%	6.7%	12.3%
Poland	9.6%	6.4%	3.8%	2.6%	1.0%	3.4%
Portugal	6.0%	4.4%	3.0%	3.4%	1.0%	2.7%
Slovak Republic	16.2%	11.2%	8.1%	7.3%	3.7%	8.2%
Slovenia	14.7%	7.8%	8.3%	7.0%	5.1%	7.8%
Spain	1.2%	0.9%	1.4%	1.7%	1.6%	1.5%
Sweden	16.4%	13.5%	12.0%	8.4%	6.7%	10.8%
United Kingdom	17.4%	9.5%	5.3%	3.8%	2.0%	5.7%
United States	0.2%	0.1%	0.0%	0.1%	0.0%	0.0%
OECD-26	15.0%	9.5%	7.0%	5.4%	3.3%	6.9%

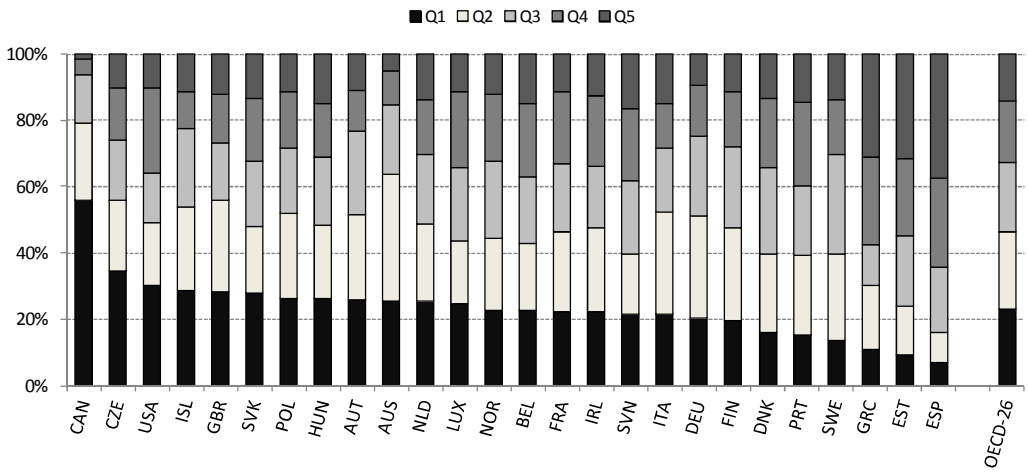
Note: [1)] Data for Canada and the United States refer to 2004. Young children refer to children below age 6. Quintiles are built on the basis of disposable equivalised household income of families with young children.

Source: Authors' calculations from EU-SILC (2007), HILDA (2007) and LIS (2004).

[6] The lower values for the Netherlands and the United States are also due to the exclusion of tax breaks.

41. On average across countries, cash transfers to young children are rather evenly distributed over the population (Figure 6). Two opposing patterns can be observed: in Canada, low-income children receive a much higher share of these transfers (55% going to the first quintile), while this share is 10% or less in Estonia and Spain, where especially higher incomes benefit from these transfers (more than the 30% goes to the top quintile). This partially reflects the distribution of young children over quintiles. On average, young children are slightly overrepresented in the bottom quintile and underrepresented at the top. Especially in Austria, the Czech Republic, Hungary and Luxembourg, young children in the bottom quintile represent around 30% of the total, whereas in Estonia this is around 15% (see Annex Figure A.1). But also other factors determine the distribution of cash transfers, notably the characteristics of the family benefit systems. Countries with high shares of spending on the bottom quintile are often countries with means-tested family benefits (*e.g.* Canada, Australia, the Czech Republic, the United Kingdom and the United States, see overview in Table A.2).

Figure 6: Distribution of cash transfers to young children over household disposable income quintiles, 2007[1]



Note: [1)] Data for Canada and the United States refer to 2004. Young children refer to children below age 6. Quintiles are built on the basis of disposable equivalised household income of families with young children.

Source: Authors' calculations from EU-SILC (2007), HILDA (2007) and LIS (2004).

42. The role of targeting of family cash transfers is also illustrated by the proportion of actual beneficiaries over all children younger than 6 (see Table 3). In general, the use of cash transfers is widespread (with shares around 85%) and rather evenly distributed. The most notable exception is Spain, where only 11% of young children in the bottom quintile receive cash transfers compared to an average of 25% and a top quintile share of 40%. Low overall shares are also encountered in Greece, Italy, Poland and the United States, (well below 75%), with in the two Southern European countries a share in the bottom quintile that is below average whereas Poland and the United States exhibit a clearly pro-poor pattern.

Table 3: Actual cash transfer beneficiaries as a share over all children younger than 6, 2007[1]

	Q1	Q2	Q3	Q4	Q5	Total
Australia	96.8%	99.2%	93.0%	69.9%	54.8%	87.2%
Austria	95.2%	100.0%	99.2%	92.9%	94.6%	97.0%
Belgium	98.3%	97.8%	96.1%	96.5%	96.4%	97.1%
Canada	100.0%	99.9%	100.0%	86.2%	21.4%	88.2%
Czech Republic	98.2%	99.5%	96.5%	94.2%	80.1%	95.1%
Denmark	92.4%	98.2%	97.4%	99.0%	97.5%	97.1%
Estonia	100.0%	100.0%	97.9%	99.3%	92.8%	97.9%
Finland	99.6%	100.0%	100.0%	100.0%	100.0%	99.9%
France	90.6%	87.5%	81.0%	84.2%	75.5%	84.5%
Germany	98.0%	98.5%	99.2%	97.8%	92.9%	97.8%
Greece	29.7%	39.0%	31.0%	35.2%	24.3%	32.1%
Hungary	98.8%	97.8%	98.6%	97.5%	98.4%	98.3%
Iceland	97.8%	97.8%	96.0%	99.2%	96.3%	97.4%
Ireland	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Italy	49.3%	72.2%	60.4%	55.4%	37.2%	56.0%
Luxembourg	96.0%	98.0%	97.9%	97.0%	98.6%	97.3%
Netherlands	95.7%	96.1%	93.5%	90.1%	91.3%	93.6%
Norway	95.1%	94.7%	99.6%	96.8%	97.5%	96.7%
Poland	85.4%	78.8%	56.5%	47.5%	31.2%	62.0%
Portugal	95.0%	91.9%	96.2%	92.2%	69.8%	89.1%
Slovak Republic	99.2%	100.0%	95.6%	96.6%	94.0%	97.4%
Slovenia	98.3%	96.8%	99.0%	94.6%	77.3%	94.4%
Spain	10.6%	17.9%	28.0%	33.0%	40.4%	25.4%
Sweden	86.6%	94.3%	92.1%	86.9%	86.0%	90.0%
United Kingdom	96.1%	97.2%	97.7%	96.1%	93.5%	96.3%
United States	0.9%	0.7%	0.5%	0.5%	0.2%	0.6%
OECD-26	84.7%	86.7%	84.7%	82.3%	74.7%	83.4%

Note: [1)] Data for Canada and the United States refer to 2004. Young children refer to children below age 6. Quintiles are built on the basis of disposable equivalised household income of families with young children.

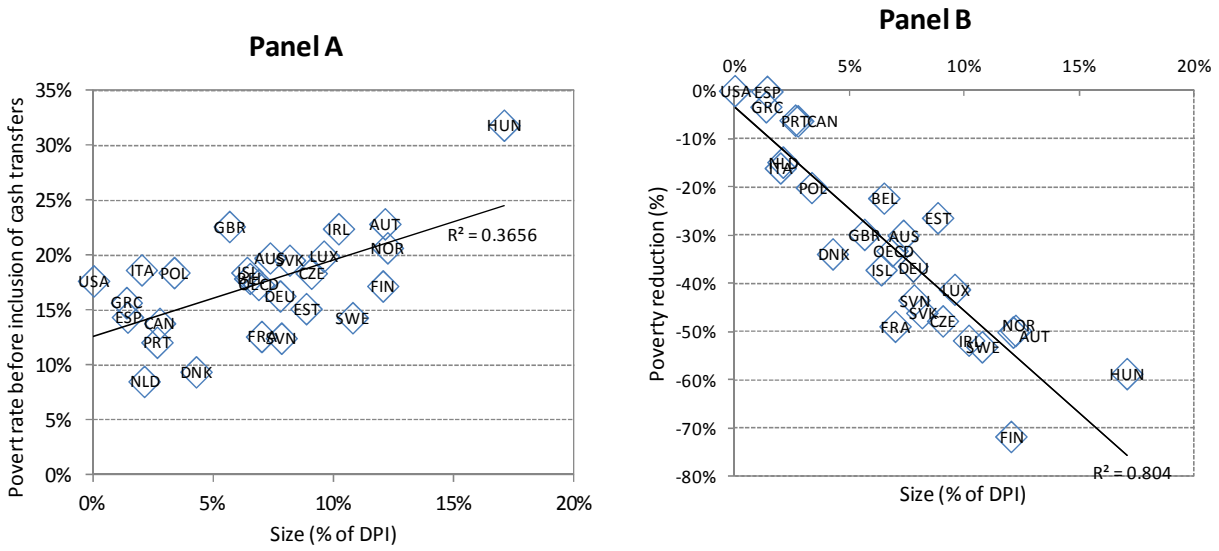
Source: Authors' calculations from EU-SILC (2007), HILDA (2007) and LIS (2004).

4.2 The effect of cash family transfers on poverty among young children

43. To which extent do cash family transfers contribute to reduce poverty among young children, especially given the fact that such transfers are in many countries rather evenly spread over the income distribution (as shown in the previous section)? A first question refers to a possible relationship between young children's poverty rates *before* including cash transfers and the efforts in family cash spending, *i.e.* whether there is a possible association between spending generosity and market income poverty. Overall, this relationship is positive (Figure 7, Panel A), though the correlation is rather modest. This suggests that also other factors are playing a role, in particular parental earnings, the role of the wider tax-benefit system, or household composition factors.

44. Panel B of Figure 7 shows the poverty reduction, *i.e.* the percentage difference between the poverty rate before and after including cash benefits going to young children plotted against the relative size of cash transfers. On average across OECD countries, these cash transfers reduce poverty among young children by around one third. Austria, Finland, Hungary, Ireland and Sweden perform well above average, whereas the Southern European countries, Canada and the United States are at the other end of the spectrum with very low reductions in child poverty after accounting for net cash benefits. The relationship is strongly positive: higher spending goes hand in hand with higher poverty reductions.

Figure 7: Size of family cash benefits going to young children and young children's poverty rate (panel A) and percentage reduction in young children's poverty (panel B), 2007[1]



Note: [1)] Data for Canada and the United States refer to 2004. Young children refer to children below age 6. Poverty rate defined as percentage of young children living in households with incomes below 50% of median equivalised income.

Source: Authors' calculations from EU-SILC (2007), HILDA (2007) and LIS (2004).

5. THE DISTRIBUTIVE IMPACT OF EARLY CHILDHOOD EDUCATION AND CHILDCARE SERVICES

45. Countries adopt different policy mixes in terms of choosing between cash and services, also in the domain of family policy. Consequently, it is important to include Early Childhood Education and Childcare (ECEC) services in the study of income distribution, as it may shed a different light on cross-country comparisons of economic welfare. Access to affordable childcare is seen as one of the key ingredients of a broader set of strategies which seek to reconcile work and family life, promote equal opportunities and combat social exclusion (Matsaganis and Verbist, 2009; OECD, 2011a). In this chapter, the distribution and poverty effects of ECEC services, which refer to the total of pre-primary education and formal childcare are investigated for 27 OECD countries. Where possible, the separate effect of childcare and pre-primary education is presented.

5.1 How to account for early childhood education and childcare services (ECEC) in distributive analyses

46. Incorporating the value of government services in household income raises a range of methodological questions, such as how to value public services and how to allocate this value among individuals and households (see *e.g.* Marical *et al.* 2008; Garfinkel *et al.* 2006; OECD 2008; Aaberge *et al*. 2010; Paulus *et al*., 2010, Verbist *et al*., 2011). The large body of literature in this domain has mainly focused on the major categories of public health care and education, often neglecting other services like ECEC. OECD (2011b), Vaalavuo (2011) and Matsaganis and Verbist (2009) are recent examples of internationally comparative studies that analyse the distributive effect of childcare subsidies. These studies indicate that, overall, the inclusion of childcare subsidies in the income definition tends to reduce the degree of income inequality, as well as the risk of poverty.[7] The results are driven to a large extent by the extent of use, which may or may not reflect the availability of ECEC services. A similar analysis is undertaken in this paper, as it builds further upon the analysis presented in OECD (2011b).

47. Regarding the valuation of public services, this paper follows the standard approach in the literature, namely to assume the transfer to the beneficiaries to equal the average cost of producing the public services. In other words, one euro spent on services is assumed to equal one euro worth to households or individuals. This, however, is a very strong assumption as it means that differences within and across countries in the quality and efficiency in the provision of these services are neglected. This constitutes a serious drawback for interpreting fully the results from the analysis below, as quality issues in care have been shown to be crucial for policy outcomes and public budgets costs are a key aspect in policy

[7] In these studies, the strongest effects on inequality and (child) poverty are found in Belgium and Sweden, whereas the effects in Greece and Finland appeared to be more limited. In the first two countries, use of ECEC services appeared to be rather evenly spread over income groups, whereas in Greece and Finland, top income groups had relatively higher usage rates.

decision making (OECD 2009 and 2012). Amounts per user of pre-primary education are derived from the OECD Education Database, whereas the amounts for childcare come from various national sources.[8]

48. In order to allocate the value of public ECEC services across the population, beneficiaries are defined as the children and their parents that are using these services, thus the value of this type of public service can be allocated to the child or to the parents. As the value of the in-kind benefit is added to household income and distributed evenly over household members, both allocations (to parents or to children) are equivalent. For an appropriate identification of beneficiaries, one ideally needs information on whether the user is benefiting from subsidized care, on the type of childcare that is used (this is relevant in the case where different categories are subsidised in a different way, which is in general the case), and on the intensity of use (number of hours, or full-time or part-time).

49. The imputation of the ECEC transfers is undertaken on the basis of the number of hours of actual use of the services, in order to account for differences in the intensity of use. The differentiation between public and private services is not captured in the datasets used here. This means that in some cases subsidies are allocated to families purchasing a private service. In countries where private services are rare or almost entirely subsidized by the state (*e.g.* as in the Nordic countries), this issue is hardly problematic. But it might lead to double counting of the benefits in the case of *e.g.* France, the Netherlands and the United Kingdom, where many parents pay for private childcare and are partly reimbursed through the tax system (Vaalavuo, 2011). Pre-primary education is in general heavily subsidized and hence free, but formal childcare for the age group 0-2 is not always subsidized to the same extent and there are often user fees; the distribution of these payments could not be taken into account in the imputation. As fees are income dependent in almost all OECD countries (OECD, 2007), this means that the results below are likely to underestimate the distributive effect of ECEC subsidies. This is illustrated in a recent study comparing Sweden and Flanders, which shows that indeed childcare fees are an increasing function of income (Van Lancker and Ghysels, 2012).

50. The number of beneficiaries of childcare services is very low in a number of countries (*i.e.* less than 20 cases in the dataset) so no separate estimates for childcare are given for these countries (notably the Czech Republic (13 cases), Estonia (14), Greece (8), the Slovak Republic (7)). For three countries (Denmark, Germany and Sweden), due to data limitations, only overall results for ECEC are given, with no distinction between childcare and pre-primary education. Also, information on childcare spending is not available for Austria, Ireland, and Portugal, while the LIS data for Canada, Mexico and the United States have no information on use of childcare services. Hence, for these six countries, their total of ECEC-services only includes pre-primary education.

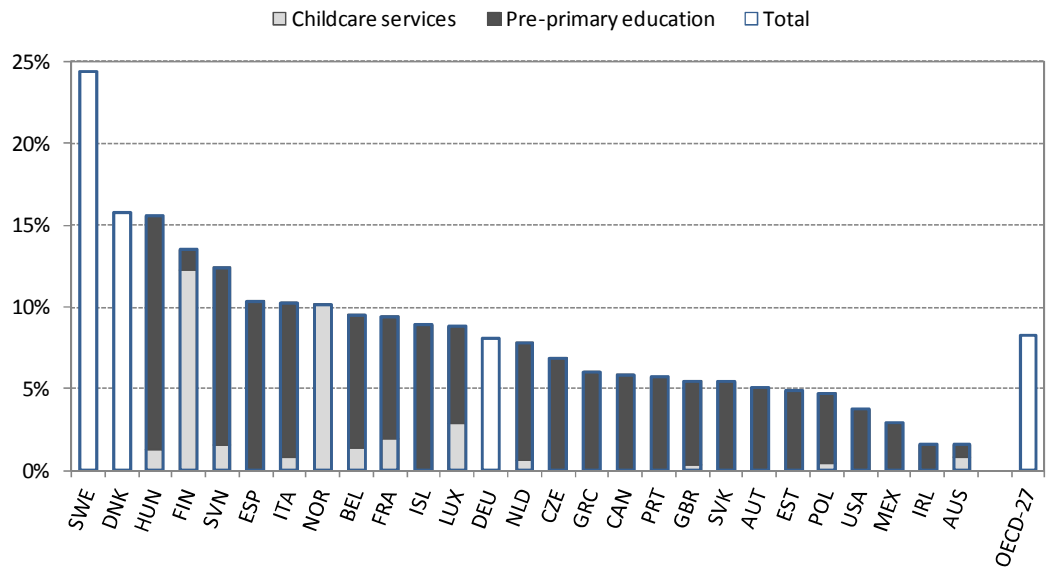
5.2 Size of ECEC services

51. Spending on early childhood education and childcare (ECEC) services can be sizeable when compared to household income, ranging from 1.6% in Australia to 24.4% (Sweden) (Figure 8). For countries where both categories of ECEC can be estimated, childcare expenditures are predominant in the Nordic countries (12.2% in Finland and 10.1% in Norway). In the other countries, pre-primary education carries the biggest weight, with more than 10% of household income in Hungary, Slovenia and Spain. As mentioned above, information on childcare spending is not available in ten countries and this affects the comparability of results. In particular, local childcare spending in some regions of Austria, Canada and the United States is important but cannot be captured here.

---

8 We are grateful to Maria Vaalavuo for providing national estimates for EU-countries (see Vaalavuo 2011 for more details). For Australia, HILDA provides an imputation of the child care benefit, which corresponds to the value of the in-kind benefit households derive from using subsidised childcare.

Figure 8: In-kind benefit from ECEC services as a share of disposable income, average over individuals in households where at least one young child is present, 2007[1]



Notes: [1)] Data for Canada, Mexico and the United States refer to 2004. Young children refer to children below age 6. Countries are ranked in decreasing order by share of ECEC expenditures in disposable income. No distinction between childcare and pre-primary can be made for Denmark, Germany and Sweden. Results for Austria, Canada, Czech Republic, Estonia, Greece, Ireland, Mexico, Portugal, Slovak Republic and United States refer only to pre-primary education.

Source: Authors' calculations from EU-SILC (2007), HILDA (2007) and LIS (2004).

5.3 Quintile distributions

52. In Table 4, ECEC subsidies are expressed as a proportion of disposable income per quintile. In most countries the pattern is progressive, in the sense that for lower incomes ECEC subsidies represent a higher share of disposable income than for the richer households. Overall, and on average across countries, ECEC services account for some 8% of disposable income but this share is 17% for the lowest quintile and only 5% for the richest quintile. Such difference in the shares between the bottom and top quintile is most pronounced in the four non-European countries (Australia, Canada, Mexico and the United States) but also in Estonia and Germany. For the other countries, the variation over income quintiles is much smaller. In terms of absolute size, ECEC benefits amount to more than 30% of disposable income in the bottom quintile in Denmark, Hungary and Sweden.

Table 4: Share of ECEC services for young children in disposable income for individuals living in a household with at least one young child, by income quintile, 2007[1]

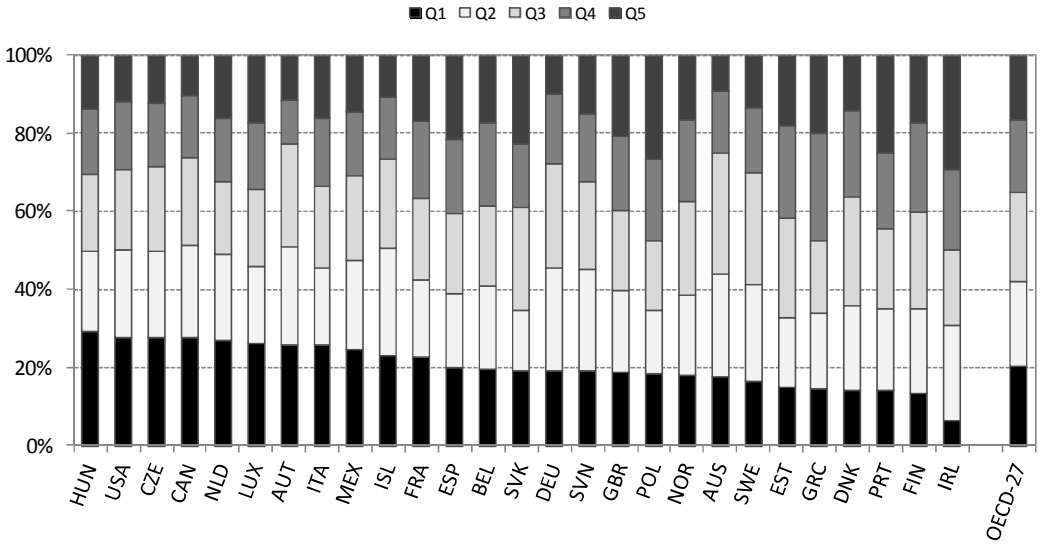
	Q1	Q2	Q3	Q4	Q5	Total
Australia	3.5%	2.0%	2.1%	1.1%	0.6%	1.6%
Austria	8.3%	6.3%	5.3%	3.4%	2.5%	5.0%
Belgium	18.5%	12.9%	9.5%	7.7%	5.9%	9.5%
Canada	14.9%	8.7%	5.8%	4.0%	2.2%	5.8%
Czech Republic	12.5%	9.5%	8.2%	4.7%	3.0%	6.8%
Denmark	33.2%	20.3%	17.1%	13.4%	9.0%	15.7%
Estonia	16.5%	7.9%	6.4%	4.7%	2.1%	4.8%
Finland	19.4%	14.4%	14.5%	14.9%	8.6%	13.4%
France	17.0%	11.3%	9.3%	8.1%	5.9%	9.4%
Germany	19.1%	10.1%	9.4%	6.3%	3.2%	8.1%
Greece	11.2%	8.1%	6.9%	7.2%	3.1%	6.0%
Hungary	30.6%	17.9%	15.8%	11.9%	8.1%	15.5%
Iceland	16.5%	12.3%	9.2%	7.8%	3.4%	8.9%
Ireland	1.3%	2.4%	1.6%	1.2%	1.5%	1.6%
Italy	24.9%	13.0%	10.2%	7.8%	5.4%	10.2%
Luxembourg	14.7%	11.6%	8.9%	6.1%	6.0%	8.8%
Mexico	12.0%	5.6%	3.8%	2.1%	1.0%	2.8%
Netherlands	17.9%	10.2%	6.9%	5.6%	4.4%	7.8%
Norway	17.3%	12.2%	9.3%	8.9%	7.5%	10.1%
Poland	9.3%	5.7%	4.7%	4.4%	3.3%	4.7%
Portugal	11.9%	8.0%	6.2%	5.5%	3.5%	5.7%
Slovak Republic	7.4%	5.6%	7.1%	4.2%	4.0%	5.4%
Slovenia	20.7%	17.7%	13.2%	9.0%	7.3%	12.4%
Spain	24.1%	13.5%	10.8%	8.6%	6.4%	10.3%
Sweden	45.3%	28.5%	26.0%	19.3%	14.7%	24.4%
United Kingdom	11.1%	6.8%	6.0%	4.9%	3.3%	5.4%
United States	12.4%	5.3%	3.7%	2.7%	1.4%	3.7%
OECD-27	16.7%	10.6%	8.8%	6.9%	4.7%	8.3%

Notes: [1)] Data for Canada, Mexico and the United States refer to 2004. Young children refer to children below age 6. Quintiles are built on the basis of disposable equivalised household income of families with young children.

Source: Authors' calculations from EU-SILC (2007), HILDA (2007) and LIS (2004).

53. Figure 9 shows the distribution of the value of ECEC subsidies over income quintiles. In countries like Austria, the Czech Republic, Hungary, Italy, Luxembourg, the Netherlands and the United States, ECEC expenditures taken together tend to be allocated more to lower incomes than to the top groups: the first quintile receives in these countries over 25% of all ECEC subsidies. The opposite is the case in most of the Nordic countries, Greece, Ireland and Portugal, where the lowest quintile receives less than 15%.

Figure 9: Distribution of ECEC in-kind benefits for young children over income quintiles, 2007[1]



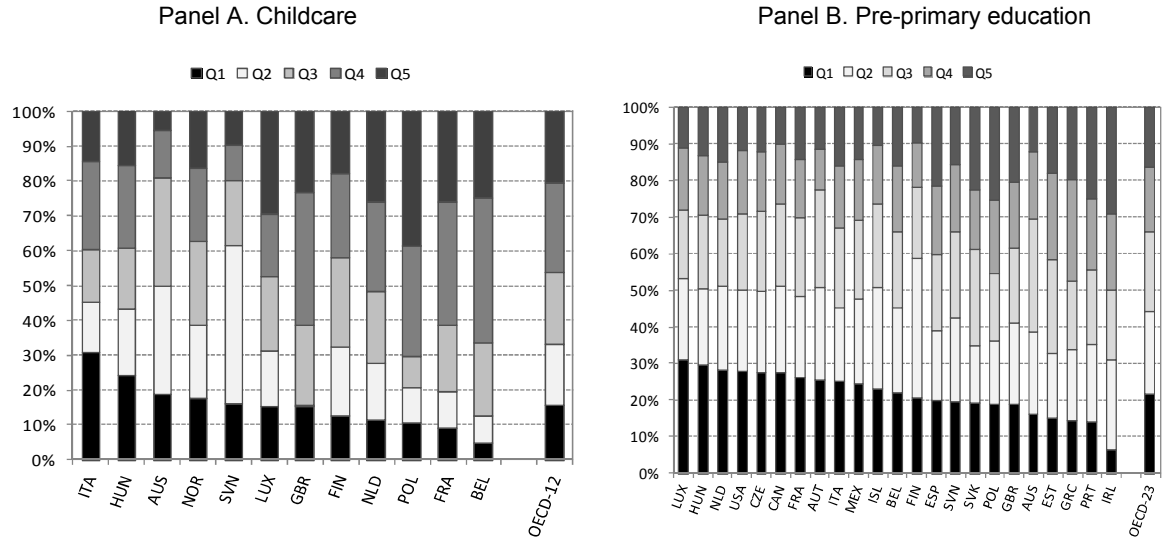
Notes: [1)] Data for Canada, Mexico and the United States refer to 2004. Young children refer to children below age 6. Quintiles are built on the basis of disposable equivalised household income of families with young children. Countries are ranked in decreasing order by share of ECEC expenditures in the bottom quintile (Q1).

Source: Authors' calculations from EU-SILC (2007), HILDA (2007) and LIS (2004).

54. The pattern of childcare services is, however, different from that of pre-primary education. For the 12 countries for which results on childcare can be given, the bottom quintile receives on average less than 20% of the total benefit, with the two top quintiles having higher shares (Figure 10, Panel A). This average hides considerable cross-country variation: in most countries the bottom quintile is strongly underrepresented. This is especially the case in Belgium and France with Q1 shares below 10% and Q5 shares of 25%, thus indicating that the usage of these services is relatively more concentrated among higher income households. In Poland the overrepresentation of the top quintile with more than 30% is striking. In Hungary and Italy, however, the bottom quintile is overrepresented, and the top quintile is strongly underrepresented, thus pointing to more frequent usage of low and middle income households.

55. The distribution of pre-primary education is on average more equal, though also in this case cross-country variation is substantial (Figure 10, Panel B). Luxembourg and Hungary show very high shares going to the bottom quintile (around 30%), but Ireland on the contrary has a Q1 share far below 10% and a Q5 share of 30%.

Figure 10: Distribution of childcare and pre-primary education in-kind benefits for young children over quintiles, 2007[1]



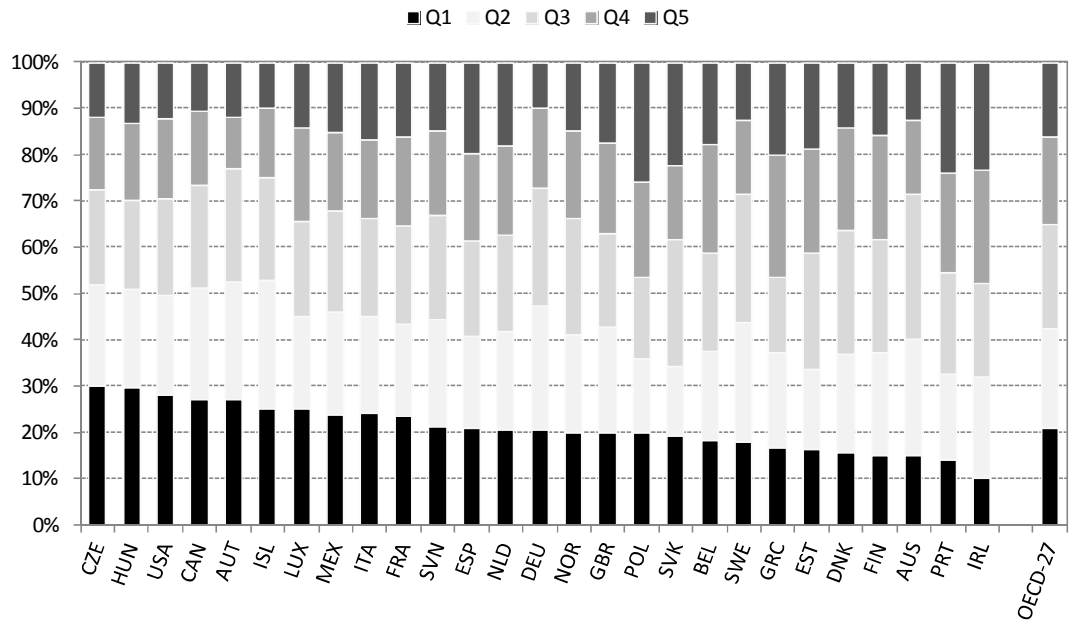
Notes: [1)] Data for Canada, Mexico and the United States refer to 2004. Young children refer to children below age 6. Quintiles are built on the basis of disposable equivalised household income of families with young children. Countries are ranked in decreasing order by share of expenditures in the bottom quintile (Q1).

Source: Authors' calculations from EU-SILC (2007), HILDA (2007) and LIS (2004).

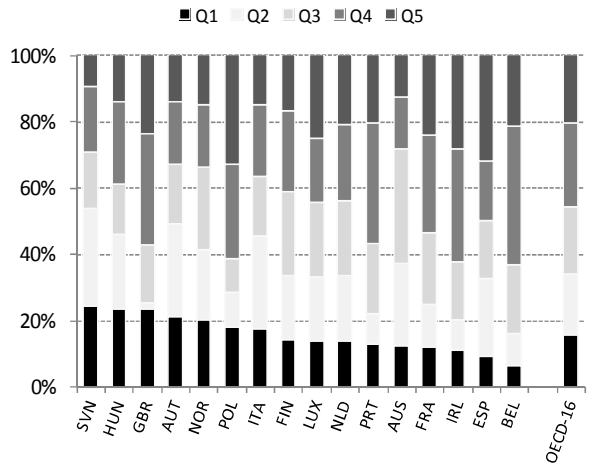
56. These patterns are largely a reflection of the distribution of the beneficiaries over quintiles (see Figure 11), indicating that this is the main driver. The distinction between pre-primary education and childcare patterns is interesting: in general, pre-primary education tends to benefit the lower income groups relatively more, whereas this is far less the case for childcare. This distribution of beneficiaries can result either from the demographic pattern (*i.e.* more or less young children in the quintile), or from differential use.

Figure 11: Distribution of ECEC, childcare and pre-primary education beneficiaries over income quintiles, 2007[1]

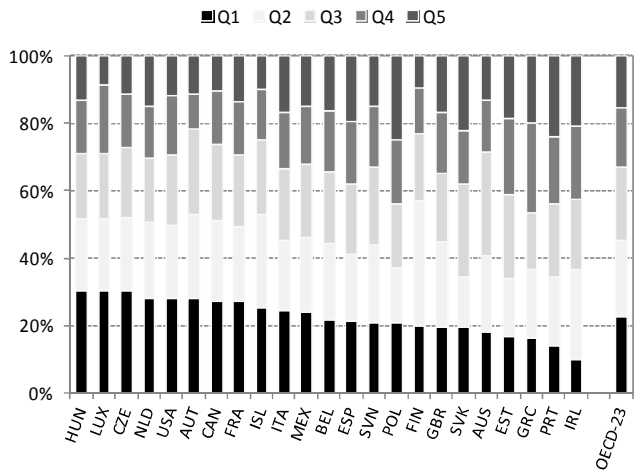
Panel A. Total ECEC beneficiaries



Panel B. Childcare beneficiaries



Panel C. Pre-primary education beneficiaries



Notes: [1)] Data for Canada, Mexico and the United States refer to 2004. Quintiles are built on the basis of disposable equivalised household income of families with young children. Countries are ranked in decreasing order by share of beneficiaries in the bottom quintile (Q1).

Source: Authors' calculations from EU-SILC (2007), HILDA (2007) and LIS (2004).

57. To make this distinction between demographic patterns and differential use, Table 5 shows the proportion of actual beneficiaries over "potential" beneficiaries, for each disposable income quintile. Potential beneficiaries are defined as all children aged 5 years or younger. In most countries the proportion of ECEC-actual users is well below average in the bottom quintile, but larger in the top quintile, thus

providing some evidence for differential use. It would suggest that more of the higher-income potential users make use of childcare than those further below the income ladder. In general, most equal shares across the distribution can be found in the Czech Republic, Germany, Mexico, Sweden and the United States, whereas the most unequal shares are found in Ireland.

Table 5: Actual ECEC beneficiaries as a share of all children aged 0-5, by income quintile, 2007[1]

	Q1	Q2	Q3	Q4	Q5	Total
Australia	33.0%	35.0%	50.8%	39.3%	42.4%	40.1%
Austria	38.1%	44.7%	46.6%	42.8%	47.7%	43.2%
Belgium	54.2%	69.9%	71.6%	75.7%	79.0%	69.2%
Canada	30.9%	32.9%	29.2%	27.5%	26.3%	29.8%
Czech Republic	44.1%	45.6%	46.9%	40.0%	40.7%	43.8%
Denmark	80.1%	80.4%	86.0%	86.8%	84.6%	83.8%
Estonia	56.1%	48.0%	54.2%	53.3%	48.4%	52.0%
Finland	42.2%	45.2%	55.2%	69.5%	66.1%	54.0%
France	63.4%	56.9%	63.4%	63.2%	70.8%	63.0%
Germany	65.8%	59.9%	67.9%	61.0%	57.1%	62.8%
Greece	33.2%	37.6%	38.1%	50.8%	43.8%	40.7%
Hungary	53.0%	52.2%	54.9%	57.2%	55.7%	54.2%
Iceland	59.3%	70.4%	67.4%	74.6%	66.8%	66.8%
Ireland	15.1%	26.7%	31.5%	31.4%	43.0%	28.9%
Italy	55.3%	57.4%	57.4%	57.4%	68.9%	58.5%
Luxembourg	52.2%	63.3%	64.3%	63.3%	75.6%	61.6%
Mexico	15.2%	15.9%	16.2%	15.5%	16.1%	15.8%
Netherlands	66.2%	64.8%	66.8%	69.1%	85.5%	69.4%
Norway	48.6%	57.2%	60.2%	58.9%	67.6%	57.5%
Poland	17.4%	17.2%	20.6%	24.5%	31.5%	21.8%
Portugal	46.5%	45.3%	54.8%	68.1%	68.3%	56.2%
Slovak Republic	29.3%	33.4%	56.1%	42.4%	64.8%	43.2%
Slovenia	56.2%	64.1%	62.0%	57.7%	62.7%	60.4%
Spain	64.7%	66.4%	66.9%	68.0%	72.7%	67.6%
Sweden	70.6%	70.6%	72.6%	70.0%	69.6%	70.9%
United Kingdom	33.7%	38.8%	45.7%	52.2%	53.1%	43.0%
United States	29.6%	27.7%	29.5%	28.8%	28.5%	28.9%
OECD-27	46.4%	49.2%	53.2%	53.7%	56.9%	51.4%

Notes: [1)] Data for Canada, Mexico and the United States refer to 2004.

Source: Authors' calculations from EU-SILC (2007), HILDA (2007) and LIS (2004).

5.4 The effect of ECEC services on poverty among young children

58. One way of assessing the possible poverty impact of services is to compare poverty indicators before and after imputation of such services into extended income. A common method is to apply "floating poverty thresholds", *i.e.* to recalculate the poverty line in order to comprise both cash and in-kind elements (50% of median disposable and of median extended income, respectively). Interpretation of those results is, however, not straightforward. Adding services changes the income distribution and the composition of the population at the bottom end and overall poverty outcomes will be determined to a large extent by the interaction between the characteristics of in-kind beneficiaries and those of the initially poor population.[9] In countries where in-kind beneficiaries (*e.g.* children) are predominantly non-poor before taking account of these services, overall poverty may even increase because of a growing accentuation of the differential

[9] For a more extensive discussion of this issue, see Verbist *et al.* (2012).

with families without in-kind beneficiaries (*e.g.* families without children). It is therefore important to analyse the poverty impact of services on potential beneficiaries separately.

59. The effect of imputing ECEC services into extended income on child poverty rates is illustrated in Table 6. It leads to a fall in child poverty in all countries (Table 6, column 3), on average by one quarter. Poverty rates among children younger than 6 drop dramatically (*i.e.* a percentage reduction of at least 30%) in the Nordic countries, Belgium, France, Germany, Hungary, Italy, Luxembourg, the Netherlands, Slovenia and Spain. Focusing on beneficiary children only (Table 6, column 6), the reductions are even more pronounced and, on average, poverty is more than halved. This illustrates that these in-kind benefits are helping to support vulnerable families with children.

Table 6: Poverty rates before and after accounting for ECEC services, 2007[1]

	Young children <6			Beneficiaries only		
	Before ECEC (1)	After ECEC (2)	% change (3)	Before ECEC (4)	After ECEC (5)	% change (6)
Australia	13.8%	13.0%	-6.1%	11.9%	9.9%	-17.3%
Austria	11.4%	8.6%	-24.9%	9.4%	3.9%	-58.5%
Belgium	13.9%	7.3%	-47.6%	11.4%	3.9%	-65.9%
Canada	15.9%	12.9%	-18.8%	16.6%	8.0%	-51.8%
Czech Republic	9.6%	6.7%	-29.7%	9.9%	3.9%	-60.8%
Denmark	6.2%	4.1%	-33.8%	6.1%	3.9%	-36.0%
Estonia	11.2%	9.9%	-11.6%	11.3%	3.9%	-65.6%
Finland	4.9%	3.3%	-32.0%	4.4%	3.9%	-12.0%
France	6.5%	3.4%	-47.2%	6.9%	3.9%	-43.9%
Germany	10.3%	6.5%	-36.8%	10.5%	3.9%	-62.7%
Greece	15.2%	13.8%	-8.9%	11.8%	3.9%	-67.0%
Hungary	13.1%	5.6%	-57.2%	13.8%	3.9%	-71.7%
Iceland	11.6%	5.6%	-51.4%	12.0%	3.9%	-67.5%
Ireland	10.8%	11.5%	6.3%	4.0%	3.9%	-1.6%
Italy	15.7%	10.2%	-35.0%	15.1%	3.9%	-74.2%
Luxembourg	11.7%	4.5%	-61.2%	11.9%	3.9%	-67.1%
Mexico	22.8%	20.6%	-9.6%	24.0%	12.9%	-46.5%
Netherlands	7.3%	4.2%	-41.6%	6.9%	3.9%	-43.4%
Norway	10.4%	7.4%	-28.3%	9.4%	3.9%	-58.5%
Poland	14.7%	12.6%	-14.4%	12.8%	3.9%	-69.6%
Portugal	11.4%	9.8%	-14.1%	8.0%	3.9%	-51.4%
Slovak Republic	10.5%	8.6%	-18.5%	9.7%	3.9%	-59.7%
Slovenia	7.0%	4.5%	-36.2%	5.9%	3.9%	-34.4%
Spain	14.4%	9.5%	-34.0%	13.6%	3.9%	-71.4%
Sweden	6.7%	3.3%	-50.4%	6.1%	3.9%	-36.1%
United Kingdom	15.9%	13.9%	-12.5%	13.3%	3.9%	-70.7%
United States	24.2%	21.2%	-12.3%	26.5%	19.3%	-27.4%
OECD-27	12.1%	9.0%	-25.8%	11.2%	5.2%	-54.0%

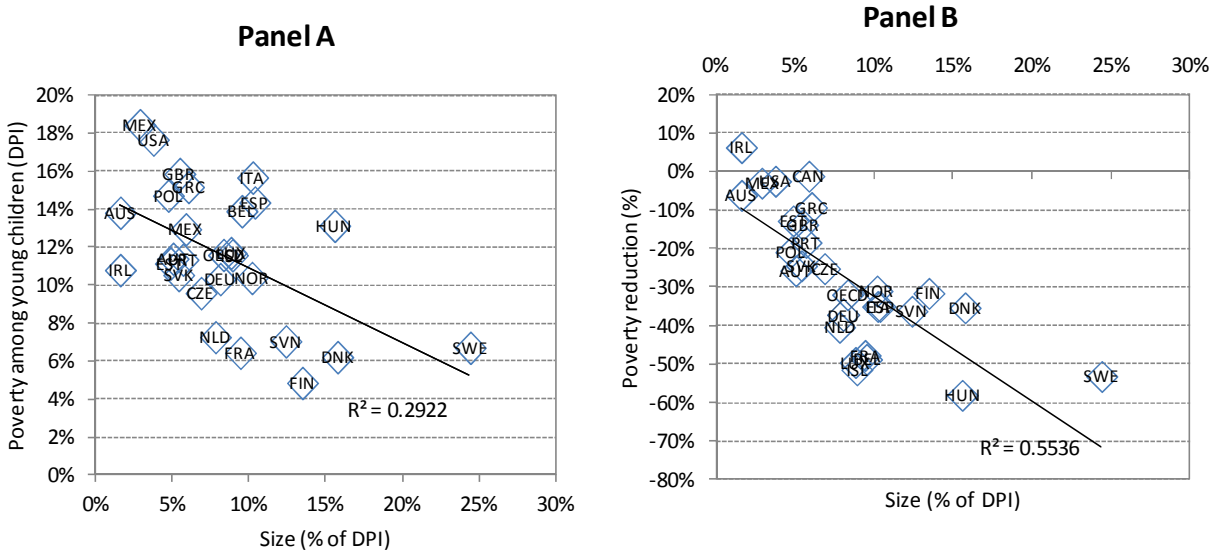
Notes: [1)] Data for Canada, Mexico and the United States refer to 2004. Poverty rates defined as the share of the population below 50% of median disposable cash income ("before ECEC services") and 50% of median extended income ("after ECEC services").

Source: Authors' calculations from EU-SILC (2007), HILDA (2007) and LIS (2004).

60. Figure 12 below compares the size of in-kind benefits (as a share of disposable income) with child poverty and with the poverty reduction achieved by this instrument. Panel A shows that the relationship between young children's poverty rates (in terms of disposable income, so *before* inclusion of in-kind benefits) and the size of these in-kind transfers is negative, *i.e.* countries with lower young children's poverty rates spend relatively more on ECEC services. Panel B shows the relationship of the size with poverty reduction, where the latter is defined as the percentage difference between the poverty

rate before and after including in-kind benefits going to young children. On average these benefits reduce poverty among young children by around 30%. Belgium, France, Hungary, Iceland, Luxembourg and Sweden have higher reduction rates, while the English speaking countries[10] and Mexico record very small reductions. The relationship in Panel B is positive (though weaker than for cash transfers, see Figure 7): higher spending on ECEC services goes hand in hand with higher poverty reductions.

Figure 12: Size of in-kind benefits going to young children and young children's poverty rate (panel A), and percentage reduction in young children's poverty rate (panel B), 2007[1]



Note: [1)] Data for Canada and the United States refer to 2004. Young children refer to children below age 6. Poverty rate defined as percentage of young children living in households with incomes below 50% of median equivalised cash income. Poverty reduction is the percentage difference between the poverty rate before and after including in-kind benefits going to young children.

Source: Authors' calculations from EU-SILC (2007), HILDA (2007) and LIS (2004).

10 Note that, for some of these countries not the entire effort of care spending can be included as programmes are often provided and/or co-financed by local governments, leading to measurement gaps notably in federal states such as Canada.

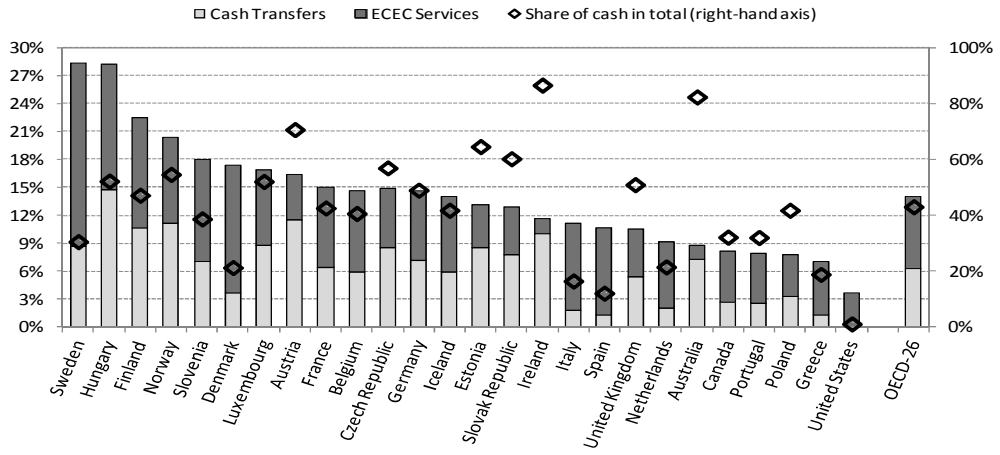
6. COMPARING THE DISTRIBUTIVE EFFECT OF CASH AND IN-KIND TRANSFERS FOR YOUNGER CHILDREN

61. This chapter combines the results from the two previous chapters by comparing the distributive effect of cash and in-kind benefits for young children with one another. How do these two instruments compare to one another in terms of size, inequality and poverty reduction? It needs to be stressed that the estimates below describe the first-order[11] distributive effects of these instruments and additional indirect redistributive effects are not captured. This is particularly important for consideration of services which allow parents to take up (or increase) work and, hence, increase family income. Note that for ECEC services only the total of childcare and pre-primary education services is presented, not the two categories separately.

6.1 Size and quintile distribution[12]

62. Cash and in-kind measures aimed at young children taken together constitute on average 14% of extended income for households with young children, with a larger weight for in-kind (57%) than for cash benefits (Figure 13). In Sweden, Hungary, Finland and Norway, the share is above 20% - these countries combine both generous cash and in-kind measures. The United States report the lowest overall share (about 3% of extended income). In-kind benefits are bigger than cash transfers, except in Australia, Austria, Estonia, Ireland, the Slovak and Czech Republics, where cash transfers have a bigger weight. In Germany, Hungary, Luxemburg and the United Kingdom, cash and in-kind benefits contribute roughly equal shares.

Figure 13: Size of cash and in-kind as a share of extended income, individuals living in a household where at least one young child is present, 2007[1]



Note: [1)] Data for Canada and the United States refer to 2004. Young children refer to children below age 6. Extended income refers to income after inclusion of cash and in-kind benefits.

Source: Authors' calculations from EU-SILC (2007), HILDA (2007) and LIS (2004).

11 'First-order' means that any behavioural reactions (*e.g.* in terms of labour supply) are not considered

12 Mexico is not included in this and the following section as the dataset underlying the analysis does not contain information on cash transfers.

63. When this share of extended income is calculated for each income quintile separately, a progressive pattern emerges: in all countries, the total of cash and in-kind benefits for young children is a decreasing function of income, making up about one fourth of extended income for the poorest 20 percent and less than one tenth for the richest 10 percent, on average (Table 7). Especially in Finland and Hungary, low income households receive a high share (more than one third). With on average 9%, the share in the top income quintile is much more limited. These shares give a first indication of progressivity, but a better comparison of the structure of both policy instruments can be given by using a summary measure for progressivity. Before doing this in the next section, the overlap between beneficiaries of both instruments is analysed.

Table 7: Share of total cash and in-kind benefits for young children in extended income, by extended income quintile, 2007[1]

	Q1	Q2	Q3	Q4	Q5	Total
Australia	27.0%	15.6%	8.4%	4.7%	2.2%	8.8%
Austria	25.6%	21.5%	17.5%	14.0%	8.1%	16.3%
Belgium	26.8%	18.1%	16.5%	13.7%	10.0%	14.6%
Canada	23.2%	12.7%	8.6%	5.8%	2.8%	8.1%
Czech Republic	27.9%	21.7%	17.8%	11.9%	7.0%	14.9%
Denmark	28.5%	21.1%	18.6%	18.1%	13.5%	17.3%
Estonia	30.2%	18.3%	16.7%	12.9%	8.9%	13.1%
Finland	33.0%	27.5%	24.2%	24.3%	16.8%	22.5%
France	21.4%	21.2%	16.2%	14.0%	10.1%	15.0%
Germany	30.2%	20.0%	17.0%	13.7%	6.9%	14.7%
Greece	9.8%	7.5%	8.0%	8.8%	5.1%	7.0%
Hungary	39.7%	36.0%	31.8%	29.3%	19.0%	28.2%
Iceland	27.1%	18.9%	16.8%	12.1%	6.7%	14.0%
Ireland	29.4%	18.4%	12.6%	9.2%	5.7%	11.6%
Italy	18.1%	16.2%	11.5%	10.3%	7.5%	11.1%
Luxembourg	25.7%	20.8%	19.4%	14.9%	10.9%	16.9%
Netherlands	16.1%	12.5%	9.6%	8.0%	6.2%	9.2%
Norway	31.9%	25.3%	20.6%	19.7%	15.5%	20.3%
Poland	14.1%	10.8%	8.1%	7.8%	5.3%	7.7%
Portugal	13.7%	10.7%	9.9%	8.6%	5.0%	7.9%
Slovak Republic	21.6%	16.2%	13.7%	13.0%	7.9%	12.9%
Slovenia	24.7%	19.9%	18.7%	17.8%	15.4%	18.0%
Spain	17.7%	13.7%	11.1%	10.4%	8.3%	10.7%
Sweden	30.6%	25.1%	28.0%	28.6%	28.9%	28.3%
United Kingdom	22.1%	15.6%	11.9%	9.0%	6.2%	10.6%
United States	9.5%	5.5%	4.0%	2.9%	1.6%	3.6%
OECD-26	24.0%	18.1%	15.3%	13.2%	9.3%	14.0%

Note: [1)] Data for Canada and the United States refer to 2004. Young children refer to children below age 6. Extended income refers to income after inclusion of cash and in-kind benefits. Shares are calculated for incomes of individuals living in a household where at least one young child is present.

Source: Authors' calculations from EU-SILC (2007), HILDA (2007) and LIS (2004).

64. Table 8 below shows the overlap of beneficiaries of cash and in-kind, in the left-hand panel for all children younger than six, and in the right-hand panel only for children in the bottom quintile. On average, half of the children combine both instruments. The high enrolment rates in pre-primary education for children aged 3 to 5 do play a role here. Around 30% of children benefit only from cash transfers, whereas the share of those using services but not having cash transfers is limited to 9%; of all young children 10% do not benefit from any of the two instruments. This pattern differs greatly across countries:

beneficiaries of both instruments are most prominent (over 70%) in Belgium, Denmark, Germany, Iceland, the Netherlands and Sweden; in these countries, the share of those benefiting from services only or from neither instrument is in general very low. Greece, Poland, Spain and the United States, however, show an entirely different pattern: children making use of both instruments are a relatively small group (less than 20%), with in Spain and Greece 'in-kind only' being the dominant category [13], in Poland 'cash only' and in the United States 'none'.

Table 8: Overlap between users of cash and in-kind, all children younger than 6, total and those in bottom quintile only, 20071

	Total				Bottom quintile			
	None	Only cash	Only IK	Both	None	Only cash	Only IK	Both
Australia	6.3%	48.8%	6.4%	38.4%	3.3%	62.2%	0.0%	34.6%
Austria	2.2%	46.2%	0.8%	50.7%	2.9%	61.2%	2.1%	33.9%
Belgium	1.6%	18.9%	1.3%	78.2%	1.2%	41.9%	1.1%	55.8%
Canada	7.2%	49.9%	4.6%	38.3%	0.0%	69.3%	0.0%	30.7%
Czech Republic	2.0%	44.9%	2.8%	50.3%	1.8%	60.8%	0.6%	36.8%
Denmark	2.1%	8.3%	0.8%	88.8%	8.9%	16.6%	4.9%	69.7%
Estonia	2.0%	39.2%	0.2%	58.7%	0.1%	52.4%	0.0%	47.6%
Finland	0.0%	35.3%	0.1%	64.6%	0.0%	76.9%	0.0%	23.1%
France	4.7%	19.2%	10.8%	65.3%	4.1%	32.4%	5.4%	58.1%
Germany	1.9%	22.8%	0.2%	75.0%	2.1%	32.3%	0.6%	65.0%
Greece	33.1%	16.4%	34.8%	15.7%	46.1%	24.2%	22.4%	7.3%
Hungary	1.2%	34.8%	0.6%	63.5%	1.9%	62.0%	0.0%	36.1%
Iceland	0.9%	20.3%	1.7%	77.2%	0.4%	33.1%	2.5%	64.1%
Ireland	0.0%	68.3%	0.0%	31.7%	0.0%	87.2%	0.0%	12.8%
Italy	14.3%	17.9%	29.7%	38.1%	23.0%	28.2%	34.2%	14.6%
Luxembourg	2.0%	24.6%	0.7%	72.7%	4.1%	36.6%	0.6%	58.7%
Netherlands	4.9%	13.6%	1.5%	80.0%	6.3%	21.0%	0.0%	72.7%
Norway	2.1%	32.9%	1.2%	63.8%	5.2%	55.5%	2.2%	37.2%
Poland	24.7%	49.1%	13.3%	12.9%	12.8%	76.8%	1.9%	8.5%
Portugal	4.4%	43.3%	6.6%	45.8%	5.8%	64.6%	0.8%	28.8%
Slovak Republic	1.6%	48.7%	1.1%	48.7%	0.9%	66.6%	0.0%	32.5%
Slovenia	1.2%	28.7%	4.4%	65.7%	1.1%	54.8%	0.9%	43.2%
Spain	17.2%	7.5%	57.4%	17.9%	32.0%	6.2%	54.4%	7.4%
Sweden	8.1%	11.2%	1.9%	78.8%	15.8%	32.6%	6.6%	45.0%
United Kingdom	2.4%	44.0%	1.3%	52.3%	3.1%	61.6%	1.0%	34.3%
United States	56.3%	0.3%	43.1%	0.3%	60.1%	0.5%	39.0%	0.4%
OECD-26	7.9%	30.6%	8.7%	52.8%	9.3%	46.8%	7.0%	36.9%

Note: [1)] Data for Canada and the United States refer to 2004. Quintiles are constructed on the basis of extended income. Extended income refers to income after inclusion of cash and in-kind benefits.

Source: Authors' calculations from EU-SILC (2007), HILDA (2007) and LIS (2004).

65. When concentrating on the bottom quintile (right-hand panel in Table 8), the pattern is somewhat different: the group of using both instruments is in general smaller, and the group relying only on cash transfers is larger. This is especially the case in countries like Ireland and Poland (close to 90% and 80%, respectively) where the use of ECEC services is relatively limited and/or concentrated among higher incomes.

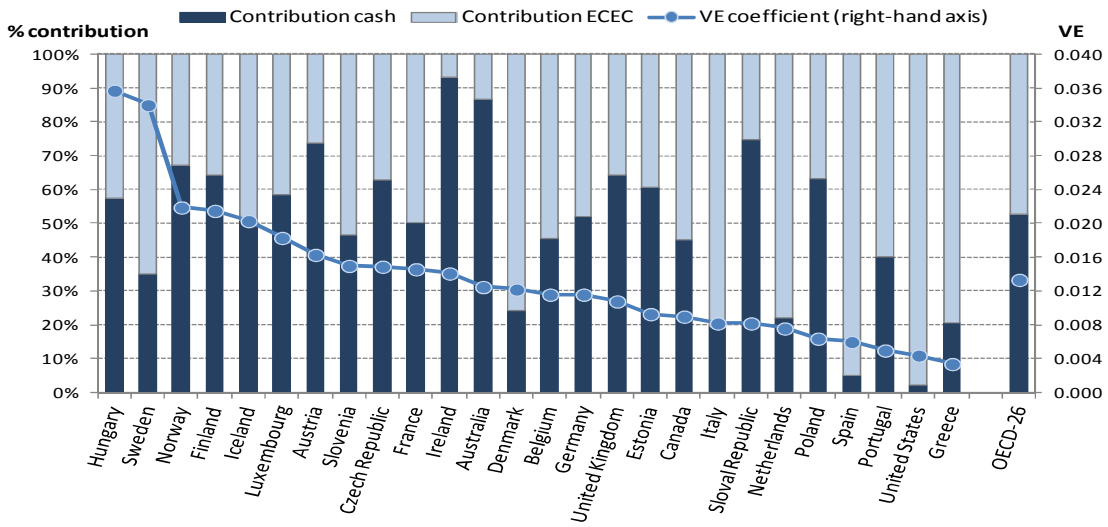
[13] In these two countries, the shares of cash transfers have been shown to be comparatively very low (Figari *et al*. 2009).

6.2 Inequality, progressivity and poverty

66. In order to estimate which of the two instruments, cash or in-kind benefits, would have a stronger first-order inequality reducing effect, two measures of redistribution are calculated: the Vertical Equity indicator and the Kakwani progressivity indicator. The Vertical Equity coefficient (VE) is an indicator for the redistributive effect of a tax-benefit instrument (Reynolds-Smolensky, 1977; recent applications can be found *e.g.* in OECD 2011b; Immervoll and Richardson 2011). In the absence of re-ranking of income units, *VE* measures the change in inequality when moving from income before inclusion of a tax or benefit to after inclusion: $VE = G(X) - G(Y)$, where X is income before and Y income after inclusion of a tax or benefit; and $G()$ is the Gini index. This indicator can be decomposed as $VE = t/(1-t)*K$, where t is the average rate of the tax-benefit instrument and K the Kakwani index of progressivity. The Kakwani index measures the departure from proportionality of a tax-benefit instrument in terms of the area between the pre-instrument Lorenz curve and the concentration curve for the instrument (for more details see Kakwani 1977 and 1984; Lambert, 2001). A proportional instrument yields a value of zero for K, whereas a pro-poor instrument results in a positive value of K (in which case the instrument is called "progressive") and a pro-rich instrument has a negative Kakwani ("regressive").

67. The *VE*-index for the total of the two instruments is equal to the sum of *VE* of the two separate instruments, if X is the same income concept for all instruments (see *e.g.* Lambert, 2001). Figure 14 shows the Vertical Equity coefficient for both instruments together, as well as the relative contribution to vertical equity of cash and in-kind benefits, respectively. Both instruments together reduce inequality most strongly in Hungary and Sweden (*VE* of around 0.035), whereas the reduction is lowest in Southern Europe and the United States. On average across countries, both instruments contribute each to about half of the total *VE*. In countries like Australia, Austria, Ireland and the Slovak Republic, cash transfers are dominant for redistribution, whereas in Denmark, Spain, Greece, Italy, the Netherlands and the United States in-kind benefits deliver the highest contribution to vertical equity.

Figure 14: Vertical Equity coefficient of total of cash and in-kind benefits to young children and relative contribution of both instruments, 2007[1]

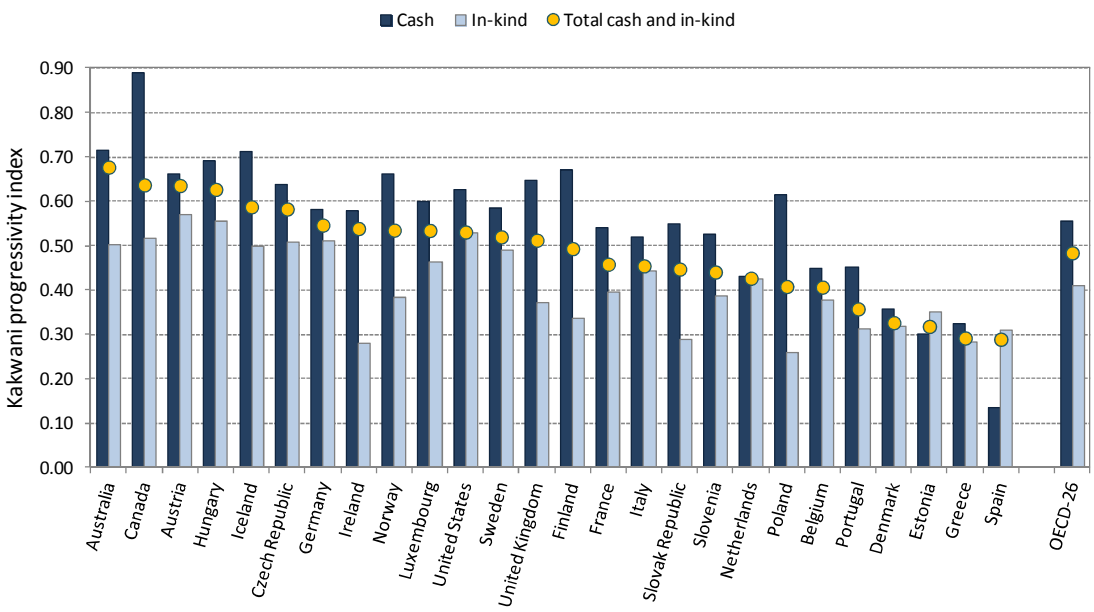


Notes: [1)] Data for Canada and the United States refer to 2004. Countries are ranked from high to low *VE*-coefficient of total of cash and in-kind.

Source: Authors' calculations from EU-SILC (2007), HILDA (2007) and LIS (2004).

68. The value of *VE* depends on two features: the level of the instrument on the one hand, and the structure or progressivity on the other. In all countries, both instruments have a positive Kakwani index and are therefore progressive or pro-poor (see Figure 15). On average, higher Kakwanis are reported for cash transfers than for in-kind benefits, thus suggesting that cash benefits for young children are in general more pro-poor in their structure.[14] Note, however, that the results for the redistributive impact of childcare are lower-bound estimates and likely to be underestimated as the distributive effect of fees could not be considered. The only exceptions to this pattern are Spain where services are apparently more progressive (Kakwani of 0.13 for cash compared to 0.31 for in-kind) and to a lesser extent Estonia. Cash transfers are most progressive in Canada (Kakwani of 0.89) and the least in Spain. ECEC services are most progressive in Austria and Hungary (*K*=0.56-0.57)[15] and the least in Poland (*K*=0.26). In general, a high degree of progressivity goes hand in hand with a relatively large size of the instrument (the correlation between levels expressed as share of extended income and Kakwani indexes is 0.49 for both instruments together, 0.54 for cash but with 0.42 it is smaller for in-kind benefits) (see Table A.3).

Figure 15: Progressivity of cash and in-kind benefits to young children (absolute values of Kakwani indices), 2007[1]



Notes: [1)] Data for Canada and the United States refer to 2004. Countries are ranked from high to low values of Kakwani index of progressivity of total of cash and in-kind.

Source: Authors' calculations from EU-SILC (2007), HILDA (2007) and LIS (2004).

69. Whereas the Vertical Equity and Kakwani coefficient present distributive results overall, *i.e.* for the entire population, it is also worth looking at the lowest incomes separately, using poverty indicators. In

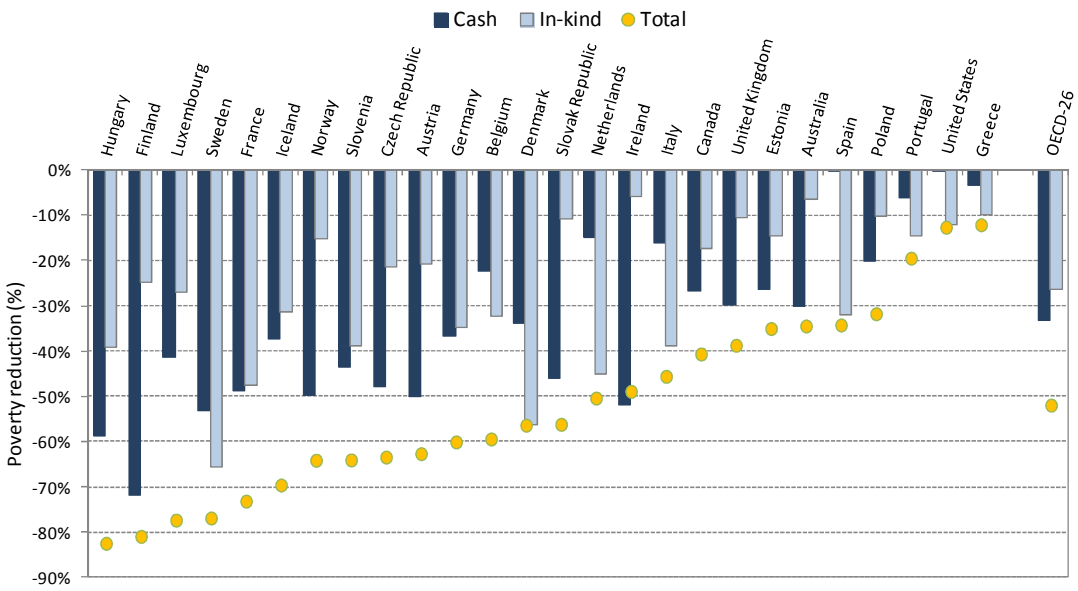
14 This may be linked, on the one hand, to the fact that cash transfers in many countries are means tested while in-kind benefits usually accrue to all households with young children and, on the other, that the childcare part of ECEC services is used disproportionally by higher incomes in some countries (see section 5.3).

15 ECEC services are actually most progressive in Mexico (Kakwani index of 0.59). Mexico is, however, not included in the comparative analysis in this section because cash transfers are not available from the micro data.

the following, poverty is calculated as falling below half of the median of equivalised household income. It turns out that poverty among young children is halved by cash and in-kind benefits taken together: without those two instruments, on average 18% of young children would be poor, compared with 9% after including both cash and in-kind benefits (Annex Table A.4). Pre-child transfer (cash and in-kind) child poverty is highest in the United States (24%) and Hungary (32%) and lowest in Denmark and the Netherlands (below 10%). Post-transfer child poverty is lowest in Finland, Sweden and France (below 4%) and remains highest in the United States.

70. Figure 16 shows young children's poverty reduction rates. In interpreting the results, the limitations of the explorative analysis need to be highlighted. In particular, the poverty reduction rates below show hypothetical first-order distributive effects if cash and/or ECEC in-kind benefits were withdrawn from extended household income and do not take into account any indirect effects nor behavioural responses. Overall, poverty reduction through cash and in-kind child benefits is very high (above 70%) in the Nordic countries, Hungary, Luxembourg and France and comparatively low (20% and below) in Portugal, the United States and Greece. The reduction through cash benefits is somewhat more important than through in-kind on average, though this pattern is more pronounced in Austria, the Czech and Slovak Republics, Finland, Ireland, Norway and the United Kingdom. In Southern Europe, however, in-kind benefits have a higher poverty reducing effect than cash transfers. Also in Belgium, Denmark, the Netherlands, Sweden, and the United States in-kind benefits perform stronger in terms of poverty reduction.

Figure 16: Reduction in young children's poverty due to cash and ECEC in-kind benefits for young children, 2007[1]



Notes: [1)] Data for Canada and the United States refer to 2004. Poverty defined as proportion of young children in households with less than 50% of median equivalised household income of the corresponding income concept (*i.e.* a so-called 'floating' poverty threshold is used, see also OECD 2011b). For calculating poverty reduction, poverty rates are compared to those of pre-transfer household incomes.

Source: Authors' calculations from EU-SILC (2007), HILDA (2007) and LIS (2004).

7. MOVING FROM IN-KIND TO CASH BENEFITS AND VICE VERSA: SIMULATION RESULTS

71. What would be the first-order distributive consequences of moving from in-kind benefits to cash transfers or vice versa? In this chapter we simulate a selection of scenarios, which will help to gain more insight in the distributive and poverty impact of these measures by changing the structure of the two policy instruments, while holding the total budget constant. It is important to stress that these scenarios are hypothetical and consist basically of shifting from one instrument to another, making abstraction of potential second-order effects in terms of demand or supply for childcare services as well as labour supply decisions. The basic scenarios are budgetary neutral.[16,17]

7.1 More money: switching from services to cash

72. This first set of simulations supposes that the current spending on ECEC services would be converted into cash transfers. What would be the distributive consequences of such a switch? Two budgetary neutral scenarios are presented: one in which the value of ECEC services is imputed into incomes of households with young children receiving cash benefits and another in which it is imputed into incomes of all households with young children. The first simulation (**CASH1**) replaces the current budget spent on ECEC services for children younger than 6 by a cash benefit, which is designed as an uprating of the current cash transfer going to young children. This means that the current structure of cash transfers is maintained, but at a higher level.[18] In the second scenario (**CASH2**) in-kind benefits are replaced by a lump-sum cash transfer for young children. Instead of uprating current cash transfers, each young child receives the same amount. This can be seen as a basic income supplement for children, the level depending on current national spending on services. These two scenarios represent extreme cases which can be seen as benchmarks when simulating shifting resources from in-kind to cash benefits. Note that re-investing in-kind spending into cash could be undertaken in many different ways, the two scenarios proposed here are illustrative. Most importantly, these simulations do not consider the potential loss in earnings of those parents who would chose to stay at home for child caring.

73. As simulations CASH1 and CASH2 are budgetary neutral (*i.e.* total spending on cash and in-kind in the baseline is equal to the amount spent in these scenarios), both vertical equity and the Kakwani progressivity coefficient will give a similar picture. Hence, below we only discuss the changes in the progressivity index, and, in a next step further below, the effect on young child poverty rates. Shifting from in-kind to cash benefits and imputing the total value of ECEC into incomes of benefit recipients, as is done in CASH1, strengthens the pro-poorness of young child policies: on average, the Kakwani increases with 13%, from 0.48 to 0.54. The magnitude of this effect may, however, appear modest given the extreme underlying assumption of the simulation (the totality of services being transformed into cash benefits). In almost all countries, the system becomes more progressive (in the sense of becoming more pro-poor), and this is especially the case in Finland and Poland (increases of the Kakwani by almost half). In only two

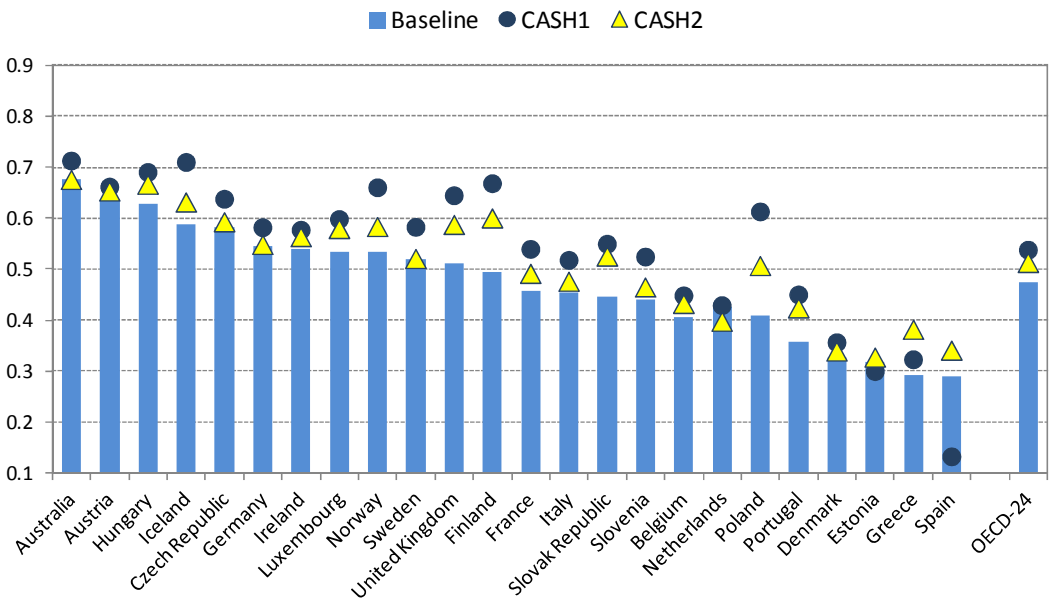
16 Budget neutrality here takes the meaning of a scenario which would not entail an increase (or cut) in spending.

17 Unfortunately, three countries could not be included into the simulation analyses: Canada, as some child care spending is not sufficiently covered in the data; and Mexico and the United States, as there are no or hardly any cash transfers in the datasets of these countries.

18 Technically this means that, first the average value of the cash transfer per young child (non-equivalised amount) is calculated. In a second step, current cash transfers are uprated by a country-specific factor which is the average of total in-kind and cash benefits over the average cash transfer.

countries the system becomes less progressive, notably in Spain, where the Kakwani actually falls by half, and also in Estonia, though to a much lesser extent.

Figure 17: Progressivity (Kakwani coefficient) for the baseline scenario and two simulated alternatives when moving from in-kind to cash benefits (CASH1 and CASH2), 2007



Note: Countries are ranked from high to low values of the Kakwani index of progressivity of the baseline. The Kakwani index measures the deviation from proportionality of an income component, *i.e.* when the Kakwani index is zero, an income component is distributed in a proportional way, while values greater than zero correspond to a pro-poor orientation.

Source: Authors' calculations from EU-SILC (2007) and HILDA (2007).

74. The second scenario, when moving from services to cash benefits by adding an income supplement lump-sum for all young children (CASH2) implies somewhat lower effects. On average, progressivity is increased by just 8% and in only one country would this scenario be more progressive than CASH1 where cash recipients benefits were uprated (Greece). In as much as one third of the countries such a radical move would practically have no first-order effect on measured progressivity.

7.2 More Kindergarten: converting cash to services

75. What would be the first-order distributive consequences of an inverse move, *i.e.* when cash transfers are replaced by services? In simulation **IK1**, each young child that is currently *not* using ECEC services is assumed to receive an extra in-kind benefit. The amount is derived by dividing the total budget of cash transfers for young children by the number of children currently not using ECEC. This can be interpreted as making services entirely universal. In many countries, not the entirety of cash transfers will therefore have to be converted into services. Therefore, also a non-budgetary neutral variant of this scenario (**IK2**) is simulated: it abolishes child cash transfers altogether, and then makes the use of services universal for all children 1 to 5 year old. [19] In the Netherlands, Spain, Italy and Portugal, this would imply

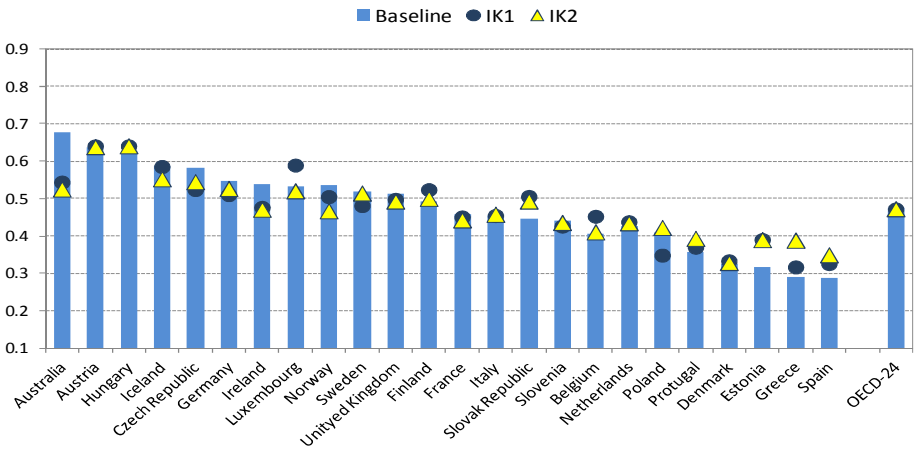
[19] Technically this means that all 1-2 year olds are allocated the value of the childcare subsidy, and all 3-5 year old the value of the subsidy for pre-primary education (if there is no value for childcare subsidies, then the value for pre-primary education is also allocated to 0-2 year olds); for those using subsidised services but not full-time, the amount is increased in order to arrive at full-time usage.

an increase of spending in the order of 20 to 40%, and in Greece and Poland spending needs to be quasi doubled to make this scenario possible; these are all countries with low cash spending. In the United Kingdom and Slovenia the operation would be almost budgetary neutral, in the sense that it would not entail an increase in spending, whereas in the remaining countries this would entail a cut in spending on young children. In Australia and Estonia spending would even be reduced to 40% and 45% of its current level, respectively. In Austria, the Czech Republic, Ireland and Norway, the budget would reduce to around 60 to 66%, whereas for the other countries spending would be reduced to 74 to 86%; these are in general countries where there is already extensive use of ECEC and/or cash transfers are at a high level.

76. Simulation IK1 has, on average across countries, no impact in terms of progressivity, but this hides some cross-country variation. On the one hand, this scenario – *i.e.* introducing universal services at the expense of cash benefits – would increase progressivity by at least 10% in Slovakia, Luxembourg, Belgium, Spain and, in particular Estonia (+ 23%). These are in general countries where those who do not benefit from services are overrepresented in the bottom of the income distribution (see Table 8 above on cash – in-kind overlap). On the other hand, progressivity would decrease in Australia, Ireland and Norway.

77. Also in simulation IK2, progressivity remains unchanged on average. For most countries, the Kakwani index in scenario IK2 is close to that of IK1. Exceptions are on the one hand Luxembourg, Norway and Belgium with scenario IK1 being more progressive than IK2, and Poland and Greece on the other with the reverse pattern (note, however, that these are the two countries which would need to almost double the overall spending to achieve the conditions in this non budgetary neutral scenario).

Figure 18: Progressivity (Kakwani coefficient) for the baseline scenario and two simulated alternatives when moving from cash to in-kind benefits (IK1 and IK2), 2007



Note: Countries are ranked from high to low values of the Kakwani index of progressivity of the baseline. The Kakwani index measures the deviation from proportionality of an income component, *i.e.* when the Kakwani index is zero, an income component is distributed in a proportional way, while values greater than zero correspond to a pro-poor orientation.

Source: Authors' calculations from EU-SILC (2007) and HILDA (2007).

7.3 Effects on poverty

78. The effect of services and cash benefits on poverty can be more pronounced than those suggested by overall redistribution and progressivity indicators. Mirroring the calculated progressivity effects above, poverty among young children drops for most countries (and on average) following a switch from in-kind to cash benefits. Contrary to progressivity estimates, however, poverty reduction is in most – but not all –

countries greater under the CASH2 scenario (i.e. providing a lump-sum to all children) than under the CASH1 scenario (i.e. an uprating of child benefit recipients with the in-kind equivalent). Decreases under this scenario are strongest (one third or more reduction) in Belgium, Finland, France, Hungary, Sweden and Slovenia. Poverty reduction under the CASH2 scenario is also strong in the United Kingdom. At the same time, the conversion of cash into in-kind benefits under a 'universal services' scenario (IK1) also leads to sizeable poverty reductions in five countries.

Table 9: Effect of simulated alternatives on young child poverty, poverty rates under different scenarios, 2007

	Baseline	CASH1	CASH2	IK1	IK2
Australia	13.0%	11.7%	12.6%	13.9%	16.9%
Austria	8.6%	8.8%	8.6%	8.8%	13.0%
Belgium	7.3%	5.9%	4.9%	4.6%	9.1%
Czech Republic	6.7%	5.6%	5.9%	7.6%	11.2%
Denmark	4.1%	3.8%	3.1%	3.0%	3.5%
Estonia	9.9%	9.0%	8.2%	8.1%	11.8%
Finland	3.3%	2.0%	1.0%	3.3%	4.9%
France	3.4%	3.8%	1.7%	3.0%	4.0%
Germany	6.5%	6.3%	6.3%	6.9%	8.8%
Greece	13.8%	14.0%	11.5%	12.6%	8.3%
Hungary	5.6%	5.4%	2.7%	3.8%	6.4%
Iceland	5.6%	5.7%	5.3%	6.1%	9.5%
Ireland	11.5%	9.6%	9.6%	11.8%	14.9%
Italy	10.2%	12.7%	9.4%	9.8%	7.2%
Luxembourg	4.5%	7.6%	6.1%	4.4%	7.4%
Netherlands	4.2%	3.4%	3.6%	3.9%	2.7%
Norway	7.4%	6.6%	6.2%	9.5%	12.4%
Poland	12.6%	11.2%	10.6%	13.7%	7.2%
Portugal	9.8%	9.1%	7.9%	9.0%	7.2%
Slovak Republic	8.6%	8.0%	7.0%	7.4%	9.6%
Slovenia	4.5%	2.9%	1.9%	3.2%	3.4%
Spain	9.5%	13.2%	7.7%	8.4%	7.6%
Sweden	3.3%	3.6%	1.9%	2.1%	2.7%
United Kingdom	13.9%	9.6%	10.3%	13.2%	13.8%
OECD-24	7.8%	7.5%	6.4%	7.4%	8.5%

Note: Poverty defined in terms of incomes below half the median equivalent extended income.

Source: Authors' calculations from EU-SILC (2007) and HILDA (2007).

79. Looking at results country by country, it turns out that, in terms of poverty reduction effects, the 'preferred' option would be CASH2 in ten countries (Estonia, Finland, France, Hungary, Iceland, Norway, Slovak Republic, Slovenia, Spain, Sweden,); it would be CASH1 in five countries (Australia, Czech Republic, Germany, Ireland, United Kingdom); and it would be IK1 in three countries (Belgium, Denmark and Luxembourg). IK2 would be the preferred option in five countries (Greece, Italy, Netherlands, Poland, Portugal) – but this scenario is not budgetary neutral and in all these countries it implies spending increases (and CASH2 is preferable in this sense). Finally, in one country (Austria), the preferred option is the baseline situation, meaning that any of the simulation scenarios (moving cash versus in-kind or vice versa) would imply higher child poverty than the current allocation.

80. Again, the limitations of such simulation analyses need to be born in mind when interpreting those results. In particular, the hypothetical effect of switching between instruments on poverty rates are based on first-order distributive effects if cash and/or ECEC in-kind benefits were withdrawn from extended household income and do not take into account any indirect effects nor behavioural responses. The results above underline the crucial importance of country-specific pre-simulation distributive features

and the difficulty to draw more "generalised" conclusions (such as, that a move from in-kind to cash benefits, or vice versa would generally be "preferable" in terms of poverty outcomes), even when the analysis is limited to first-order effects.

8. SUMMARY AND CONCLUSION

81. Past studies that investigate the distributive impact of family policies directed at pre-school children have been limited to the effects of family cash transfers. However, some countries rely more than others on public services in this policy domain and, as has recently been demonstrated, public services also play a redistributive role (*e.g.* OECD 2011b). All OECD countries provide a mix of cash and in-kind child transfers but this mix varies greatly, from 10/90 to 80/20. Countries relying more heavily on cash transfers than on services may appear as more redistributive in the traditional analysis which focuses only on cash benefits. It is therefore important to include both spending streams – cash and in-kind – in the analysis.

82. How redistributive are these two strands of family policies across OECD countries separately, and taken together? And, under the aspect of redistribution and poverty reduction, do cash benefits or in-kind transfers work "better"? In the theoretical and empirical literature, many arguments are put forward either in favour or against the use of cash transfers versus in-kind benefits. These arguments refer to employment effects (more specifically to short-term and long-term effects on labour supply), utility considerations, freedom of choice, human capital formation, fertility, or child well-being and child development. Distributional considerations in terms of poverty and inequality are, however, rarely invoked. This paper seeks to fill this gap, using recent data from household surveys for 27 OECD countries and focusing on cash transfers and services accruing to children younger than 6 years.

83. The paper uses the methodology of "extended income", *i.e.* the value of public child care and early education services is imputed into household income. A number of caveats need to be made when interpreting the results from the analyses. First, public services are valued on the basis of the average cost of providing or producing them. This implies assuming a one-to-one relationship in that one Euro spent on services equals one Euro worth to households or individuals (or one Euro spent on cash transfers). Second, differences in the quality of services within or across countries cannot be accounted for in these analyses. Third, the results shown here refer to the first-order distributive impact of cash and in-kind transfers but neglect second-order and indirect effects on labour supply, fertility or child development.

84. Consistent with related earlier studies, cash transfers to young children have been found to reduce inequality and poverty. The magnitude of the effect depends on the size of the benefits, as well as on the system characteristics (*e.g.* means-tested or not; variation in function of age and number of children), and the position of families with young children in the income distribution. Overall, and on average across the countries included in the analysis, family cash benefits account for about 7% of the income of families with young children but this share is 15% for the poorest 20% of the population and only 3% for the richest quintile. In terms of reduction of poverty among young children, there is a strong and positive correlation between the size of cash benefits (expressed as shares of disposable income) and the extent of poverty reduction. On average across countries, cash transfers reduce child poverty by one third, with larger reductions in Austria, Ireland, Sweden, Hungary and Finland.

85. But in-kind benefits in form of Early Childhood Education and Childcare services (ECEC) also reduce inequality and poverty. On average, ECEC services account for some 8% of income, but 17% for the lowest quintile and 5% for the richest quintile. For countries where a distinction within ECEC services could be made between childcare and pre-primary education, spending in the latter category appeared to be

more favourable to lower income households than childcare spending. In the 12 countries for which results on childcare services are available separately, it appears that the bottom quintile receives on average less than 20% of the total benefit, with the richest 40% benefiting more. This pattern is particularly pronounced in Belgium, France and Poland.

86. When ECEC services are accounted for (and imputed into "extended" income), poverty among young children falls by one quarter and poverty among young children enrolled in childcare is more than halved. Child poverty reduction is highest in Belgium, France, Hungary, Iceland and Sweden.

87. A direct comparison of both instruments reveals that in most countries, cash and in-kind benefits contribute to a similar extent to overall *inequality* reduction (as measured by the Vertical Equity coefficient[20]). However, in some countries – Austria, Ireland and the Slovak Republic – cash transfers are clearly more important for redistribution, whereas in others – Denmark, Spain, Greece, Italy, the Netherlands and the United States – in-kind benefits deliver higher contributions to vertical equity.

88. Cash transfers appear to be more progressive than in-kind benefits in all countries, with the notable exceptions of Spain and Estonia. Consequently, cash transfers for young children tend in general to be more *poverty* reducing than services, particularly in Austria, the Czech and Slovak Republics, Finland, Ireland, Norway and the United Kingdom. However, in as much as one third of the OECD countries studied in this report, in-kind benefits perform better in terms of poverty reduction (Southern European countries, Belgium, Denmark, the Netherlands, Sweden, and the United States). Of course, inequality and poverty reduction are only two of the multiple objectives that governments pursue in the frame of their family policies, in particular in the area of childcare.

89. How would progressivity patterns and child poverty change if the current mix of cash and in-kind child benefits were altered? This paper provides various simulation analyses: one set in which the value of in-kind ECEC services is replaced by cash incomes ("more money"), either as an up-rating of current child benefits to current beneficiaries, or as a lump-sum to all young children, similar in concept to a basic income supplement for children; and another set in which current cash transfers are replaced by in-kind services ("more kindergarten"), making services universal. Except for one case, the calculated scenarios are budgetary neutral and the distributive impact is limited to first-order effects.

90. The results from these simulations illustrate that no "generalised" conclusions can be drawn which would hold for all OECD countries and that countries' individual current mix of cash and in-kind benefits as well as coverage and distributive features of recipients play a key role. In terms of first-order poverty reduction effects, if a country were to transform all in-kind spending on childcare into cash benefits, using a lump-sum approach (*i.e.* a basic income supplement to all children) would be more effective in reducing poverty than an up-rating of present child benefits in a majority of countries. In a few countries, initial poverty would be reduced most when current cash benefits are transformed into services for children which are currently not using ECEC services. And in one country the existing income distribution yields lower child poverty than any of the simulation scenarios studied (moving cash versus in-kind or vice versa).

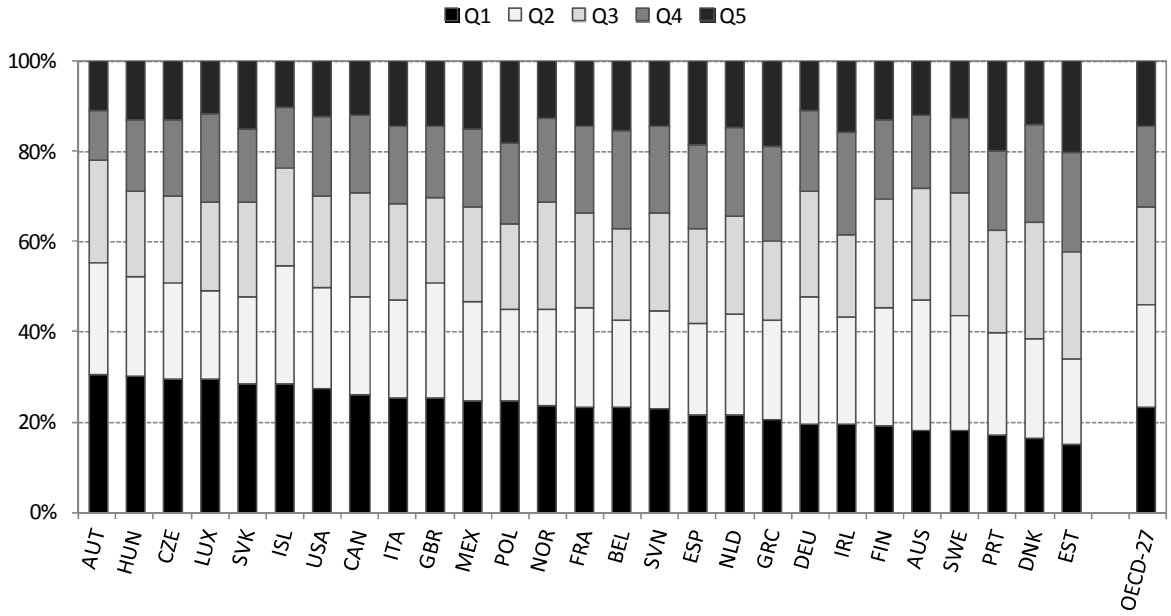
91. These simulations are hypothetical and constitute extreme cases in that all ECEC services are replaced by cash transfers, and vice versa. They only look at first-order effects, thus ignoring issues of behavioural reactions, as well as take-up and quality of the services. They provide, however, useful benchmarks for estimating the potential loss or gain in redistribution when elements of the early childhood

[20] The Vertical Equity coefficient (*VE*) is an appropriate indicator for the redistributive effect of a tax or benefit instrument and measures the change in inequality when moving from income before inclusion of a tax or benefit to after inclusion of it.

policy mix are to be changed. Currently, many OECD countries have embarked on a path of fiscal consolidation in the aftermath of the financial and economic crisis. Some of the planned and discussed measures refer to the balance and the efficiency of in-kind versus cash child transfers. In terms of short-term distributive outcomes of possible spending shifts between services and cash benefits, the results presented and discussed in this paper may provide new and useful input to this debate though they need to be complemented by more detailed analysis of second-order effects, especially on labour supply decisions.

ANNEX 1: ADDITIONAL TABLES AND FIGURES

Figure A.1: Distribution of children aged younger than 6 over quintiles, 2007[1]



Notes: [1)] Data for Canada, Mexico and the United States refer to 2004. Quintiles are built on the basis of disposable equivalent income.

Source: Authors' calculations from EU-SILC (2007), HILDA (2007) and LIS (2004).

Table A.1: Overview of care arrangements for pre-school children in OECD countries

Age	0	1	2	3	4	5	6	7
Australia	*FDC, centre-based*				Reception / pre-school classes		Compulsory school	
Austria	*FDC, centre-based*			Kindergarten			Compulsory school	
Belgium	FDC, centre-based			Pre-school			Compulsory school	
Canada	*FDC, centre-based*				Pre-school		Compulsory school	
Czech Rep.	*Centre-based*			Pre-school			Compulsory school	
Denmark	FDC, crèche and age-integrated facility			Kindergarten and age-integrated facility				Compulsory school
Estonia	Pre-school and nursery				Pre-school			Compulsory school
Finland	FDC and day care centres						Pre-school	Compulsory school
France	FDC, centre-based			Pre-school			Compulsory school	
Germany	Centre-based			Kindergarten (Pre-school)			Compulsory school	
Greece	Centre-based			Centre-based and Kindergarten			Compulsory school	
Hungary	Crèche			Kindergarten		Compulsory school		
Iceland	FDC, centre-based			Pre-school			Compulsory school	
Ireland	*FDC and nurseries (centre-based)*				Pre-school and pre-school		Compulsory school	
Italy	Centre-based			Pre-school			Compulsory school	
Luxembourg	FDC and crèche			Pre-school			Compulsory school	
Mexico	Centre-based				Pre-school (compulsory)	Compulsory school		
Netherlands	*FDC, day care centres and play groups*				Pre-school	Compulsory school		
Norway	Kindergarten						Compulsory school	
Poland	*Nurseries*			Pre-school				Compulsory school
Portugal	*Centre-based and FDC*			Pre-school			Compulosry school	
Slovenia	Pre-school						Compulsory school	
Slovak Rep.	Nursery schools			Kindergarten			Compulsory school	
Spain	Centre-based			Pre-school			Compulsory school	
Sweden	Pre-school and FDC						Pre-school	Compulsory school
United Kingdom	*Nurseries, child minders and play groups*			Playgroups, Nurseries and pre-school	Reception class with primary school	Compulsory school		
United States	*Centre-based and FDC*			Pre-school			Compulsory school	

Note: FDC = family day care.

Source: OECD Family Database, www.oecd.org/social/family/database.

Table A.2: Overview of family benefits and tax breaks[1], 2007

	Maximum benefit for one child aged 3-12, as a % of AW aged 3-12	Benefit amount per additional child varies with(2)		Upper age limit for children (student)	Means test on	Observations	Tax breaks for children (based on SOCX), additional to those in [6]
		Age of	Number of				
	[1]	[2]	[3]	[4]	[5]	[6]	
Australia	8	+/-	+ from 4th	20 (24)	Family earned income.	Family tax benefit (FTB) part A to help families with cost of raising children. Can be paid as a benefit or as a tax allowance.	
	6	-	0	15 (18)	Earned income of secondary earner in a couple.	FTB part B to provide extra help for families with one main income. Family based payment which can be paid as a benefit or as a tax allowance.	
Austria	4	+	+	19 (27)	No	For low income families there is an extra supplement for each additional child from the 3rd.	tax credit for lone parent families
	2	0	0			Non-wastable tax credit.	
Belgium	3	+/-	+/-	17 (24)	No	For unemployed, family benefits are increased as from 7th month of unemployment.	tax credit for children
Canada	3	0	+ from 3rd	17	Family taxable income.	Canada child tax benefit (non-wastable tax credit).	additional child tax credit from 2007 onwards
	5	0	-		Family taxable income.	National Child Benefit (NCB) supplement for low income families.	
Czech Republic	3	+	0	14 (25)	Family income relative to minimum living standard.	Three income levels used to define level of benefit: increased, basic or reduced.	tax allowance
Denmark	4	-	0	17	No	--	--
Finland	3	0	+	16	No	Fixed rate of increase for each additional child.	--

Table A.2 (cont.): Overview of family benefits and tax breaks[1], 2007

	Maximum benefit for one child aged 3-12, as a % of AW aged 3-12	Benefit amount per additional child varies with(2)		Upper age limit for children (student)	Means test on	Observations	Tax breaks for children (based on SOCX), additional to those in [6]
		Age of	Number of				
	[1]	[2]	[3]	[4]	[5]	[6]	
France	2	+	+	20	No	Family allowance: zero benefit for first child. For 2 children (under age 11) the amount per child would be EUR 715 (2% of AW).	'quotient familial' tax deduction for students tax reduction for school children
	6	--	--	3	Family taxable income.	*Allocation pour jeune enfant*: for families with young children.	
Germany	5	0	+ from 4th	18 (25)	No	*Kindergeld* is a non-wastable tax credit in the form of a monthly tax refund (deducted from SA if no tax liability).	child component in conjunction with sec.10 e EStG (?) household allowance
Greece	0	0	+/-	17 (21)	No	Employment condition: 50 days of work prior to the claim. In addition, the employer usually grants 5% of gross earnings to each worker for each child and 10% for the wife independently of her income status. The employer benefits are taxable.	child tax allowance part of family benefits are taxable
Hungary	7	0	+	18 (23)	No	After 1st July of 2006, the family support system has changed: the amounts of the family allowance are almost doubled, the regular child protection support dissolved into the family allowance	Family tax credit means-test installed, only for families with at least 3 children
Iceland	5	-	+	17	Basic allowance is reduced by a % of income above limit. Supplement is not means	Basic allowance has an income limit of ISK 2 880 000 for a couple. Reduction is 2, 5 and 7% for 1, 2 and 3 children respectively. There is a supplement for children aged under 7.	--
Ireland	5	0	+ from 3rd	15 (18)	No	--	allowance for incapacitated child

Table A.2 (cont.): Overview of family benefits and tax breaks[1], 2007

	Maximum benefit for one child aged 3-12, as a % of AW aged 3-12	Benefit amount per additional child varies with(2)		Upper age limit for children (student)	Means test on	Observations	Tax breaks for children (based on SOCX), additional to those in [6]
		Age of	Number of				
	[1]	[2]	[3]	[4]	[5]	[6]	
Italy(4)	4	0	+	17	Household taxable income.	Benefit is paid by employers and is only granted if at least 70% of household taxable income is employment income (or earnings replacement benefits including unemployment benefits and employment pension). A spouse is considered a dependant so a couple with no children can receive family allowance. Benefits are reduced in proportion to days not worked.	--
Japan	1	+/-	+ from 3rd	12	Gross income less employment income tax deduction.	Amount per child doubles as from 3rd child and for children under 3.	TBSPs similar to cash benefits: deduction for dependent family (other than spouses)
Luxembourg	6	+	+	17 (26)	No	Maximum amount by age is reached at age 12.	--
Netherlands	3	+	0	17	No	Under the previous system (which still applies for children born before 1 January 1995) the amount per child increased with the number of children.	child credits single parent credits deduction for support expenses for children
New Zealand	10	+	-	18	Family earned income.	Family Support Tax Credit (includes Child Tax Credit available for families not receiving benefits).	child rebate
Norway	3	0	0	17	No	Lone-parents receive a supplement for child aged between 1 and 3.	additional personal allowance for one-parent families
Poland	2	+	0	17 (20)	Gross income per household member relative to net income per capita.	Supplementary benefits available	value of revenue forgone because of including children in the tax unit (in case of lone parent) children allowance
Portugal	3	+/-	-	16 (24)	Income relative to minimum wage.	Higher benefits for children aged under 1. Benefits also vary relative to family income (six levels). Regarding first income level households, benefit amount is doubled in September for schooling expenses for children between 6 and 16.	child tax credits
Slovak Republic	3	0	0	15 (25)	No	The child allowance is provided at a uniform amount	child tax credit (non-wastable)

Table A.2 (cont.): Overview of family benefits and tax breaks[1], 2007

	Maximum benefit for one child aged 3-12, as a % of AW aged 3-12	Benefit amount per additional child varies with(2)		Upper age limit for children (student)	Means test on	Observations	Tax breaks for children (based on SOCX), additional to those in [6]
		Age of	Number of				
	[1]	[2]	[3]	[4]	[5]	[6]	
Spain	1	0	0	17	Gross family income.	Benefit is means-tested on a one-to-one basis on gross family income exceeding EUR 9328,39 (43% of AW) per year (increasing with 15 per cent for every dependent child from the second).	child care benefit exemption child tax credit personal allowance for lone parent families
Sweden	4	0	+	16 (20)	No	Basic allowance remains fixed but there is a supplement from the 2nd child onwards.	no information available
Switzerland (Zurich)	3	+	0	15 (24)	No	Amounts are fixed at the level of the cantons and paid by the employer. Benefits are taxable but not subject to social contributions.	no country sheet present
United Kingdom	3	0	-	15 (18)	No	Fixed rate from 2nd child.	child tax credit (negative tax)
United States[3] (Michigan)	3	0	+	--	Yes	Temporary Assistance for Needy Families (TANF): benefit is not based on number of children but on family size at the time of application; it does not increase thereafter. The benefit amounts and durations vary by State.	child credit (from 1998 onwards) personal allowance for dependents (largely for children)

Notes: 1. Family benefits including non-wastable tax credits. "--" indicates that no information is available or not applicable. In general family benefits are not taxable unless otherwise indicated. 2. "+": increases, "-": decreases, "0": remains the same, "+/-": increases or decreases (some countries give higher rates to the youngest and oldest age groups). 3. Benefit amount for the first child is calculated as the difference in benefit between a 3-member and a 2-member household.

Source: OECD tax benefit models (www.oecd.org/els/social/workincentives)

Table A.3: Progressivity (P) and vertical equity (VE) effect of cash and in-kind benefits for young children, 20071

	Cash transfers			ECEC			Total		
	Level	P	VE	Level	P	VE	Level	P	VE
Australia	0.016	0.714	0.011	0.003	0.503	0.002	0.019	0.677	0.013
Austria	0.019	0.662	0.012	0.008	0.569	0.004	0.026	0.635	0.016
Belgium	0.012	0.449	0.005	0.017	0.377	0.006	0.029	0.406	0.012
Canada	0.005	0.889	0.004	0.010	0.516	0.005	0.014	0.637	0.009
Czech Republic	0.015	0.639	0.009	0.011	0.507	0.006	0.026	0.582	0.015
Denmark	0.008	0.357	0.003	0.031	0.317	0.009	0.039	0.326	0.012
Estonia	0.020	0.300	0.006	0.011	0.349	0.004	0.030	0.318	0.009
Finland	0.022	0.669	0.014	0.024	0.335	0.008	0.046	0.493	0.022
France	0.014	0.540	0.008	0.019	0.396	0.007	0.033	0.458	0.015
Germany	0.011	0.583	0.006	0.011	0.510	0.006	0.022	0.546	0.012
Greece	0.002	0.324	0.001	0.010	0.284	0.003	0.012	0.291	0.003
Hungary	0.032	0.691	0.021	0.029	0.556	0.016	0.060	0.627	0.036
Iceland	0.015	0.711	0.011	0.021	0.498	0.010	0.036	0.587	0.020
Ireland	0.023	0.578	0.013	0.004	0.280	0.001	0.027	0.538	0.014
Italy	0.003	0.519	0.002	0.015	0.441	0.007	0.018	0.454	0.008
Luxembourg	0.019	0.599	0.011	0.017	0.463	0.008	0.036	0.534	0.018
Netherlands	0.004	0.430	0.002	0.014	0.425	0.006	0.018	0.426	0.008
Norway	0.023	0.661	0.015	0.020	0.383	0.007	0.043	0.535	0.022
Poland	0.007	0.614	0.004	0.009	0.259	0.002	0.016	0.407	0.006
Portugal	0.005	0.451	0.002	0.010	0.313	0.003	0.014	0.357	0.005
Slovak Republic	0.011	0.550	0.006	0.008	0.289	0.002	0.019	0.447	0.008
Slovenia	0.014	0.525	0.007	0.022	0.386	0.008	0.035	0.440	0.015
Spain	0.003	0.133	0.000	0.019	0.310	0.006	0.021	0.289	0.006
Sweden	0.022	0.583	0.012	0.049	0.491	0.023	0.070	0.519	0.034
United Kingdom	0.011	0.646	0.007	0.011	0.372	0.004	0.022	0.512	0.011
United States	0.000	0.627	0.000	0.008	0.529	0.004	0.008	0.530	0.004
OECD-26	0.012	0.535	0.007	0.016	0.416	0.006	0.028	0.487	0.013

Notes: [1)] Data for Canada and the United States refer to 2004.

Source: Authors' calculations from EU-SILC (2007), HILDA (2007) and LIS (2004).

Table A.4: Poverty rates for young children, before and after cash and in-kind child benefits, 2007[1]

	Before cash and in-kind transfers	Plus cash transfers	Plus in-kind transfers	Plus cash and in-kind transfers
Australia	19.8%	13.8%	18.5%	13.0%
Austria	22.9%	11.4%	18.1%	8.6%
Belgium	17.9%	13.9%	12.1%	7.3%
Canada	21.8%	15.9%	18.0%	12.9%
Czech Republic	18.4%	9.6%	14.4%	6.7%
Denmark	9.4%	6.2%	4.1%	4.1%
Estonia	15.2%	11.2%	13.0%	9.9%
Finland	17.2%	4.9%	12.9%	3.3%
France	12.6%	6.5%	6.6%	3.4%
Germany	16.3%	10.3%	10.6%	6.5%
Greece	15.7%	15.2%	14.2%	13.8%
Hungary	31.9%	13.1%	19.4%	5.6%
Iceland	18.5%	11.6%	12.7%	5.6%
Ireland	22.4%	10.8%	21.1%	11.5%
Italy	18.7%	15.7%	11.4%	10.2%
Luxembourg	19.9%	11.7%	14.5%	4.5%
Netherlands	8.5%	7.3%	4.7%	4.2%
Norway	20.7%	10.4%	17.5%	7.4%
Poland	18.4%	14.7%	16.5%	12.6%
Portugal	12.1%	11.4%	10.3%	9.8%
Slovak Republic	19.6%	10.5%	17.5%	8.6%
Slovenia	12.5%	7.0%	7.6%	4.5%
Spain	14.4%	14.4%	9.8%	9.5%
Sweden	14.3%	6.7%	4.9%	3.3%
United Kingdom	22.6%	15.9%	20.3%	13.9%
United States	24.2%	24.2%	21.3%	21.2%
OECD-26	17.9%	11.7%	13.5%	8.5%

Notes: [1)] Data for Canada and the United States refer to 2004. Quintiles are built on the basis of disposable equivalent income.

Source: Authors' calculations from EU-SILC (2007), HILDA (2007) and LIS (2004).

REFERENCES

Aaberge, R., M. Bhuller, A. Langørgen, M. Mogstad (2010), "The Distributional Impact of Public Services when Needs Differ", Journal of Public Economics, 94, pp.549-562.

Adema, W., P. Fron and M. Ladaique (2011), "Is the European Welfare State Really More Expensive?: Indicators on Social Spending, 1980-2012; and a Manual to the OECD Social Expenditure Database (SOCX)", OECD Social, Employment and Migration Working Papers 124, OECD Publishing, Paris.

Bassanini, A. and R. Duval (2006), "Employment Patterns in OECD Countries - Reassessing the Role of Policies and Institutions", OECD Social, Employment and Migration Working Papers 35, OECD Publishing, Paris.

Blau, D. and J. Currie (2006), "Who's minding the kids? Preschool, Day Care and After School Care", in F.R. Welch and E.A. Hanushek (ed.), Handbook of Education Economics, New York, North Holland, pp.1163-1278.

Cleveland, G. and M. Krashinsky (2003) Financing ECEC Services in OECD Countries. Paris:OECD.

Currie J. and F. Gahvary (2008), "Transfers in Cash and In-Kind; Theory Meets the Data"in Journal of Economic Literature, 46:2, pp.333-383.

D'Addio, A. C. and M. Mira d'Ercole (2005). "Trends and determinants of fertility rates in OECD countries: the role of policies." OECD Social Employment and Migration Working Papers 27, OECD Publishing, Paris.

Esping-Andersen, G. (2005) Education and Equal Life-Chances: Investing in Children. Pp. 147–163 in O. Kangas ad J. Palme (eds.) Social Policy and Economic Development in the Nordic Countries. New York: Palgrave Macmillan.

European Commission (2009), The provision of childcare services - A comparative review of 30 European countries. Luxembourg.

Figari, F., A. Paulus and H. Sutherland, (2009), Measuring the size and impact of public cash support for children in cross-national perspective, EUROMOD Working Paper EM6/09.

Förster, M.F. and I.G. Toth (2001), "Child poverty and family transfers in the Czech Republic, Hungary and Poland", Journal of European Social Policy, Vol. 11 (4), pp.324-341.

Garfinkel, I., L. Rainwater and T. Smeeding (2006), "A Re-examination of Welfare State and Inequality in Rich Nations: How In-Kind Transfers and Indirect Taxes Change the Story", Journal of Policy Analysis and Management 25, pp. 855-919.

Gelbach J.B. (2002), "Public Schooling for Young Children and maternal Labour Supply", American Economic Review, 92(1), pp.307-322.

Immervoll, H. and L. Richardson (2011), "Redistribution Policy and Inequality Reduction in OECD Countries: What Has Changed in Two Decades?", OECD Social, Employment and Migration Working Papers 122, OECD Publishing.

Immervoll, H., H. Sutherland and K. De Vos (2001)'Reducing child poverty in the European Union: the role of child benefits', Chapter 16 in Vleminckx K, T M Smeeding (eds.) Child Poverty, Child Well-being and Child Policy in Modern Nations: What Do We Know?, The Policy Press, Bristol, 2001.

Kakwani, N. (1977), "Measurement of tax progressivity: an international comparison", in Economic Journal, vol. 87, pp.71-80.

Kakwani, N. (1984), "On the Measurement of Tax Progressivity and Redistributive Effect with Applications to Horizontal and Vertical Equity" in Advances in Econometrics, vol. 3, pp.149-168.

Kamerman S.B. and A.J. Kahn (1989), "Child care and privatization under Reagan" in S.B. Kamerman and A.J. Kahn Privatization and the Welfare State, Princeton, NJ: Princeton university Press, pp.235-59.

Kamerman, S.B., M. Neuman, J. Waldfogel and J. Brooks-Gunn (2003), "Social Policies, Family Types and Child Outcomes in Selected OECD Countries", OECD Social, Employment and Migration Working Paper, 6, OECD Publishing.

Kamerman S.B. and J. Waldfogel (2005), "Market and non-market institutions in early childhood education and care" in R. Nelson (ed.) Market and Non-Market Institutions, New York, Russel Sage Foundation, pp.185-212.

Kamerman S.B. and S. Gatenio-Gabel (2010), "Cash vs. care: a child and family policy issue" in J. Sipilä, K. Repo, T. Rissanen (eds.), Cash-for-Childcare, The Consequences for Caring Mothers, Edward Elgar, pp.6-20.

Lambert, P. (2001), The Distribution and Redistribution of Income, Third Edition, Manchester University Press.

Levy, H., C. Lietz and H. Sutherland (2007) "Swapping Policies: Alternative Tax-Benefit Strategies to Support Children in Austria, Spain and the UK", Journal of Social Policy, 2007, 36 (4).

Marical, F., M. Mira d'Ercole, M. Vaalavuo and G. Verbist (2008), "Publicly-provided Services and the Distribution of Households' Economics Resources", OECD Economic Studies, 44(1), pp. 9-47.

Matsaganis, M., C. O'Donoghue, H. Levy, M. Coromaldi, M. Mercader-Prats, C. Rodrigues, S. Toso and P. Tsakloglou (2007) "Family transfers and child poverty in Greece, Italy, Spain and Portugal" in O. Bargain (ed.), Micro-simulation in action: Policy analysis in Europe using EUROMOD, Research in Labor Economics, 25, Elsevier, pp. 101-124.

Matsaganis, M. and G. Verbist (2009), "Distributional Effects of Publicly Funded Childcare", in Ward, T., Lelkes O., Sutherland H. & Toth, I. (eds.), European Inequalities. Social Inclusion and Income Distribution in the European Union, Budapest, Tarki, pp. 177-185.

OECD (2007), Benefits and Wages, Paris: OECD Publishing.

OECD (2008), Growing Unequal? Income Distribution and Poverty in OECD Countries, Paris: OECD Publishing.

OECD (2009), Doing Better for Children. Paris: OECD Publishing.

OECD (2011a), Doing Better for Families. Paris: OECD Publishing.

OECD (2011b), Divided we stand. Why Inequality keeps rising, Paris: OECD Publishing.

OECD (2012), Starting Strong III - A Quality Toolbox for Early Childhood Education and Care, Paris: OECD Publishing.

Paulus, A., H. Sutherland, P. Tsakloglou (2010), "The Distributional Impact of In-Kind Public Benefits in European Countries", Journal of Policy Analysis and Management, 29(2), pp. 243-266.

Reynolds, M. and E. Smolensky (1977). Public Expenditures, Taxes, and the Distribution of Income: The United States, 1950, 1961, 1970, New York, Academic Press.

Sutherland, H. (2001), EUROMOD: An Integrated European Benefit Tax Model, EUROMOD Working Paper EM9/01.

UNICEF (2010), The Children Left Behind. A league table of inequality in child well-being in the world's rich countries, Innocenti Report Card 9, UNICEF Innocenti Research Centre, Florence.

Vaalavuo, M. (2011), Towards an Improved Measure of Income Inequality. The Impact of Public Services in Income Distribution. An International Comparison, PhD Thesis. European University Institute, Florence, Italy.

Van Lancker W. and J. Ghysels (2012), "Who benefits? The social distribution of subsidized childcare in Sweden and Flanders, *Acta Sociologica*, vol.55, pp. 125-142.

Verbist, G., M. Förster and M. Vaalavuo (2012), "The impact of Publicly Provided Services on the Distribution of Resources: Review of New Results and Methods", OECD Social, Employment and Migration Working Paper, 130, OECD Publishing.

OECD SOCIAL, EMPLOYMENT AND MIGRATION WORKING PAPERS

Most recent releases are:

No. 133 *CAPITAL'S GRABBING HAND? A CROSS-COUNTRY/CROSS-INDUSTRY ANALYSIS OF THE DECLINE OF THE LABOUR SHARE* Andrea Bassanini and Thomas Manfredi (2012)

No. 132 *INCOME DISTRIBUTION AND POVERTY IN RUSSIA* Irinia Denisova (2012)

No. 131 *ELIGIBILITY CRITERIA FOR UNEMPLOYMENT BENEFITS* Danielle Venn (2012)

No. 130 *THE IMPACT OF PUBLICLY PROVIDED SERVICES ON THE DISTRIBUTION OF RESOURCES: REVIEW OF NEW RESULTS AND METHODS* Gerlinde Verbist, Michael Förster and Maria Vaalavuo (2012)

No. 127 *THE LABOUR MARKET INTEGRATION OF IMMIGRANTS AND THEIR CHILDREN IN AUSTRIA* Karolin Krause and Thomas Liebig (2011)

No. 126 *ARE RECENT IMMIGRANTS DIFFERENT? A NEW PROFILE OF IMMIGRANTS IN THE OECD BASED ON DIOC 2005/06* Sarah Widmaier and Jean-Christophe Dumont (2011)

No. 125 *EARNINGS VOLATILITY AND ITS CONSEQUENCES FOR HOUSEHOLDS* Danielle Venn (2011)

No. 124 *CRISIS, RECESSION AND THE WELFARE STATE* Willem Adema, Pauline Fron and Maxime Ladaique (2011)

No. 123 *AGGREGATE EARNINGS AND MACROECONOMIC SHOCKS* Andrea Bassanini (2011)

No. 122 *REDISTRIBUTION POLICY AND INEQUALITY REDUCTION IN OECD COUNTRIES: WHAT HAS CHANGED IN TWO DECADES?* Herwig Immervoll, Linda Richardson (2011)

No. 121 *OVER-QUALIFIED OR UNDER-SKILLED* Glenda Quintini (2011)

No. 120 *RIGHT FOR THE JOB* Glenda Quintini (2011)

No.119 *THE LABOUR MARKET EFFECTS OF UNEMPLOYMENT COMPENSATION IN BRAZIL* Alexander Hijzen (2011)

No. 118 *EARLY MATERNAL EMPLOYMENT AND CHILD DEVELOPMENT IN FIVE OECD COUNTRIES* Maria del Carmen Huerta, Willem Adema, Jennifer Baxter, Miles Corak, Mette Deding, Matthew C. Gray, Wen-Jui Han, Jane Waldfogel (2011)

No. 117 *WHAT DRIVES INFLOWS INTO DISABILITY?EVIDENCE FROM THREE OECD COUNTRIES* Ana Llena-Nozal and Theodora Xenogiani (2011)

No. 116 *COOKING, CARING AND VOLUNTEERING: UNPAID WORK AROUND THE WORLD* Veerle Miranda (2011)

No. 115 *THE ROLE OF SHORT-TIME WORK SCHEMES DURING THE 2008-09 RECESSION* Alexander Hijzen and Danielle Venn (2010)

No. 114 *INTERNATIONAL MIGRANTS IN DEVELOPED, EMERGING AND DEVELOPING COUNTRIES: AN EXTENDED PROFILE* Jean-Christophe Dumont, Gilles Spielvogel and Sarah Widmaier (2010)

No. 113 *ACTIVATION POLICIES IN JAPAN* Nicola Duell, David Grubb, Shruti Singh and Peter Tergeist (2010)

No. 112 *ACTIVATION POLICIES IN SWITZERLAND*
Nicola Duell and Peter Tergeist with contributions from Ursula Bazant and Sylvie Cimper (2010)

No. 111 *ECONOMIC DETERMINANTS AND CONSEQUENCES OF CHILD MALTREATMENT*
Lawrence M. Berger, Jane Waldfogel (forthcoming)

No. 110 *DISTRIBUTIONAL CONSEQUENCES OF LABOR DEMAND ADJUSTMENTS TO A DOWNTURN: A MODEL-BASED APPROACH WITH APPLICATION TO GERMANY 2008-09*
Herwig Immervoll, Olivier Bargain, Andreas Peichl, Sebastian Siegloch (2010)

No. 109 *DECOMPOSING NOTIONAL DEFINED-CONTRIBUTION PENSIONS: EXPERIENCE OF OECD COUNTRIES' REFORMS*
Edward Whitehouse (2010)

No. 108 *EARNINGS OF MEN AND WOMEN WORKING IN THE PRIVATE SECTOR: ENRICHED DATA FOR PENSIONS AND TAX-BENEFIT MODELING*
Anna Cristina D'Addio and Herwig Immervoll (2010)

No. 107 *INSTITUTIONAL DETERMINANTS OF WORKER FLOWS: A CROSS-COUNTRY/CROSS-INDUSTRY APPROACH*
Andrea Bassanini, Andrea Garnero, Pascal Marianna, Sebastien Martin (2010)

No. 106 *RISING YOUTH UNEMPLOYMENT DURING THE CRISIS: HOW TO PREVENT NEGATIVE LONG-TERM CONSEQUENCES ON A GENERATION?*
Stefano Scarpetta, Anne Sonnet and Thomas Manfredi (2010)

No. 105 *TRENDS IN PENSION ELIGIBILITY AGES AND LIVE EXPECTANCY, 1950-2050*
Rafal Chomik and Edward Whitehouse (2010)

No. 104 *ISRAELI CHILD POLICY AND OUTCOMES*
John Gal, Mimi Ajzenstadt, Asher Ben-Arieh, Roni Holler and Nadine Zielinsky (2010)

No. 103 *REFORMING POLICIES ON FOREIGN WORKERS IN ISRAEL*
Adriana Kemp (2010)

No. 102 *LABOUR MARKET AND SOCIO-ECONOMIC OUTCOMES OF THE ARAB-ISRAELI POPULATION*
Jack Habib, Judith King, Asaf Ben Shoham, Abraham Wolde-Tsadick and Karen Lasky (2010)

No. 101 *TRENDS IN SOUTH AFRICAN INCOME DISTRIBUTION AND POVERTY SINCE THE FALL OF APARTHEID*
Murray Leibbrandt, Ingrid Woolard, Arden Finn and Jonathan Argent (2010)

No. 100 *MINIMUM-INCOME BENEFITS IN OECD COUNTRIES: POLICY DESIGN, EFFECTIVENESS AND CHALLENGES*
Herwig Immervoll (2009)

No. 99 *HAPPINESS AND AGE CYCLES – RETURN TO START…? ON THE FUNCTIONAL RELATIONSHIP BETWEEN SUBJECTIVE WELL-BEING AND AGE*
Justina A.V. Fischer (2009)

No. 98 *ACTIVATION POLICIES IN FINLAND*
Nicola Duell, David Grubb and Shruti Singh (2009)

No. 97 *CHILDREN OF IMMIGRANTS IN THE LABOUR MARKETS OF EU AND OECD COUNTRIES: AN OVERVIEW*
Thomas Liebig and Sarah Widmaier (2009)

A full list of Social, Employment and Migration Working Papers is available at *www.oecd.org/els/workingpapers*.

Other series of working papers available from the OECD include: *OECD Health Working Papers*.

RECENT RELATED OECD PUBLICATIONS:

OECD PENSIONS OUTLOOK 2012, www.oecd.org/finance/privatepensions/

*INTERNATIONAL MIGRATION OUTLOOK 2012,*www.oecd.org/els/internationalmigrationpoliciesanddata/

OECD EMPLOYMENT OUTLOOK 2012, www.oecd.org/employment/employmentpoliciesanddata

SICK ON THE JOB: Myths and Realities about Mental Health and Work (2011), www.oecd.org/els/disability

DIVIDED WE STAND: Why Inequality Keeps Rising (2011), www.oecd.org/els/social/inequality

EQUAL OPPORTUNITIES? The Labour Market Integration of the Children of Immigrants (2010), *via* OECD Bookshop

OECD REVIEWS OF LABOUR MARKET AND SOCIAL POLICIES: ESTONIA (2010), www.oecd.org/els/estonia2010

JOBS FOR YOUTH: GREECE (2010), www.oecd.org/employment/youth

JOBS FOR YOUTH: DENMARK (2010), www.oecd.org/employment/youth

OECD REVIEWS OF LABOUR MARKET AND SOCIAL POLICIES: ISRAEL (2010), www.oecd.org/els/israel2010

JOBS FOR YOUTH: UNITED STATES (2009), www.oecd.org/employment/youth

JOBS FOR YOUTH: POLAND (2009), www.oecd.org/employment/youth

OECD EMPLOYMENT OUTLOOK: Tackling the Jobs Crisis (2009), www.oecd.org/els/employmentpoliciesanddata/

DOING BETTER FOR CHILDREN (2009), www.oecd.org/els/social/childwellbeing

SOCIETY AT A GLANCE – ASIA/PACIFIC EDITION (2009), www.oecd.org/els/social/indicators/asia

OECD REVIEWS OF LABOUR MARKET AND SOCIAL POLICIES: SLOVENIA (2009), www.oecd.org/els/slovenia2009

INTERNATIONAL MIGRATION OUTLOOK: SOPEMI (2010) www.oecd.org/els/migration/imo

PENSIONS AT A GLANCE 2009: Retirement-Income Systems in OECD Countries (2009), www.oecd.org/els/social/pensions/PAG

JOBS FOR YOUTH: FRANCE (2009), www.oecd.org/employment/youth

SOCIETY AT A GLANCE 2009 – OECD Social Indicators (2009), www.oecd.org/els/social/indicators/SAG

JOBS FOR YOUTH: AUSTRALIA (2009), www.oecd.org/employment/youth

OECD REVIEWS OF LABOUR MARKET AND SOCIAL POLICIES: CHILE (2009), www.oecd.org/els/chile2009

PENSIONS AT A GLANCE – SPECIAL EDITION: ASIA/PACIFIC (2009), www.oecd.org/els/social/pensions/PAG

SICKNESS, DISABILITY AND WORK: BREAKING THE BARRIERS (VOL. 3) – DENMARK, FINLAND, IRELAND AND THE NETHERLANDS (2008), www.oecd.org/els/disability

GROWING UNEQUAL? Income Distribution and Poverty in OECD Countries (2008), www.oecd.org/els/social/inequality

JOBS FOR YOUTH: JAPAN (2008), www.oecd.org/employment/youth

JOBS FOR YOUTH: NORWAY (2008), www.oecd.org/employment/youth

JOBS FOR YOUTH: UNITED KINGDOM (2008), *www.oecd.org/employment/youth*

JOBS FOR YOUTH: CANADA (2008), *www.oecd.org/employment/youth*

JOBS FOR YOUTH: NEW ZEALAND (2008), *www.oecd.org/employment/youth*

JOBS FOR YOUTH: NETHERLANDS (2008), *www.oecd.org/employment/youth*

For a full list, consult the OECD online Bookshop at *www.oecd.org/bookshop*.