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Doing Better for Children
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Chapter 3

Social Spending across the Child's Life Cycle

This chapter looks at how governments distribute social spending amongst children of different ages, the first time such comparison has been undertaken across the OECD. The first section of this chapter examines the distribution of spending through cash transfers and services across the child life cycle in 28 OECD countries. The second section explores variations in the cash transfers made to families with children, modelling and comparing tax-benefit systems as children age in eight OECD countries in 2003: Denmark, France, Germany, Hungary, Italy, Japan, the United Kingdom, and the United States. The results are presented in terms of relative levels of support across the child life cycle for different family types.

Introduction

Social spending through family benefits and child and family services aims to influence child well-being. This chapter explores how different OECD countries distribute government social spending and transfers for children across the child's life cycle. The composition of government spending and transfers through the child's life cycle is also examined.

Little is currently known about the comparative composition and amount of government spending and transfers through the child's life cycle. For policy makers, it is important to observe the big policy picture of current spending and not focus exclusively on the smaller issues of marginal spending increments in annual national budget rounds, or even specific programme additions. The main action in terms of enhancing child outcomes may be improving the quality of current spending.

The first section of this chapter examines the distribution of spending through cash transfers and services across the child's life cycle in 28 out of 30 OECD member countries. This is the first time such an exercise has been undertaken in a comparative fashion across the OECD. The second section goes into greater detail to explore variations in the cash transfers made to families with children and uses OECD tax-benefit models for eight member countries. The results are presented in terms of relative levels of support across the child life cycle for different family types.[1]

The distribution of public spending on children varies across OECD countries. Overall on average across the OECD in 2003, about USD 126 000 is cumulatively spent on children up to age 18. Twenty-four per cent of child spending occurs during the first third of childhood, rising to 36% during the middle third and rising again to nearly 41% during the last third. Hungary is the only country to spend the highest share in early childhood, while Iceland, Japan, Mexico, Poland and Spain are those who spend most in middle childhood. All 22 other countries spend most in late childhood.

Notably, most of the variation in spending is during early childhood. This variation reflects different country values on the role of the state during early childhood and the complex tradeoffs faced by early childhood policies between parental labour supply and children's outcomes.

Why consider social spending on children by age?

Childhood is a time of heavy investment for the future. The principal decision-making institutions in this process are families and governments. In terms of provision of time and resources, there are good, rational reasons for heavy investment at this stage of the life cycle. The future payoff is maximised, since childhood is the point in the life cycle where life expectancy is longest.

There is a need to go beyond simple analyses that treat children as a single, undifferentiated group – a "lump of childhood" approach – to consider social spending on children within a developmental and life cycle perspective. Much child poverty research

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considers children as a single group – numbers of children are aggregated to see whether equivalised family incomes fall under some poverty threshold, for example. Other data analysis on spending on children also takes the "lump of childhood" approach (Gabel and Kamerman, 2006; OECD, 2007a). So too does the child well-being study of UNICEF (2007) and indeed some of the indicators presented in Chapter 2, primarily because of data constraints (see Box 2.1).

Recent theoretical and empirical research consequently stresses that social spending on children early in the life cycle can be more effective in enhancing children's long-term outcomes (see Box 3.1 for an influential line of argument in this area). There is good theory and empirical evidence that the social profitability of investment is likely to differ significantly across the child's life course (Brim and Phillips, 1988; Duncan and Magnuson, 2004). Specifically in terms of timing and differential rates of return on investments across the life cycle, there is evidence on higher rates of return from micro-studies of early intervention and from schooling (Heckman, 1999). Additionally, there is compelling evidence of sensitive periods for child development, which may differ according to the child outcome (Cunha and Heckman, 2007). For example, cognitive ability (IQ) stabilises between 8 and 10 years of age, while behaviour on the other hand remains modifiable into late childhood.

There have been strong arguments developed suggesting that the earliest part of the child's life cycle should be treated as a distinct period in terms of policy development (Duncan and Magnuson, 2003, 2004). This literature concludes that, "it appears that we are spending too little on children, and in particular on younger children relative to older children" (Duncan and Magnuson, 2003, p. 2). In addition, there is empirical evidence that differences in experiences during early childhood are much more predictive of outcomes in late childhood than those of middle childhood. Magnuson *et al.* (2003) find that middle childhood contexts add little to early childhood contexts in term of explaining outcomes at ages 13-14. They conclude that "the most powerful associations with teen outcomes were found for the experiences, abilities, and behaviours that children bring to middle childhood. So while middle childhood context may constitute independent sources of risk and resilience for children, and be amenable to cost effective interventions, the key to understanding their eventual achievements and behaviours involves the nature and nurture taking place prior to middle childhood" (Magnuson *et al.*, 2003, p. 13).[2] Further evidence for the importance of the point in the child's life cycle for policy are several studies which show that the impact of family income and income transfers on a child's development depends on the stage in the child's life cycle at which that income accrues (Duncan and Brooks-Gunn, 1997; Morris *et al.,* 2004; see also citations in Dahl and Lochner, 2005, p. 5).

An infant has different needs from an 18-year-old. Children's verbal and cognitive skills build cumulatively through the child life cycle, as does their awareness of the needs of others (Fabes and Eisenberg, 1996). Evidence of accruing socialisation and the development of altruism from kindergarten age to the teen years can be found in experimental data which shows that children in early childhood are more likely to act as selfish maximisers than children during middle and late childhood or adults (see Murnigham and Saxon, 1998; Harbaugh *et al.,* 2001; and Benenson *et al.,* 2007). Experiences also accrue as a child ages, improving judgment and allowing more responsibility to be delegated from parents. Relatedly, the ability to make independent decisions about the future develops, based on a growing ability to defer gratification. Finally, the ability to communicate wants and needs also develops as the child ages.

Box 3.1. **Age-spending profiles and Heckman's model of child investment**

James Heckman proposes a developmental model of investment during childhood. A main conclusion is that investment in children should be most intensive during early childhood and should taper off as children age (*e.g.* Heckman 1999, 2007; Heckman and Masterov, 2007; Cunha and Heckman, 2007; Knudsen *et al.*, 2006). Rather than treating childhood as an undifferentiated "lump", Heckman's model of adult skill formation recognises the importance of different childhood stages. It also acknowledges three credit market imperfections: 1) the inability of a child to choose its parents, 2) the inability of a parent to borrow against their child's future income, and 3) the inability of a parent to borrow against their own future income.

The formal model of skills formation is consistent with six stylised facts:

1. Skills gaps between individuals and social groups emerge early in the child's life cycle.
2. Critical and sensitive periods exist during the child's life cycle where skills must be acquired or are more easily acquired.
3. Returns to investing are high for young disadvantaged children and low for disadvantaged adolescents.
4. Investment at different ages is complementary. If early investment is not followed up by later investment, its effect is lessened.
5. The effect of credit constraints on a child's adult outcomes depends on the age at which they bind.
6. Socio-emotional skills foster cognitive skills and are an important outcome to promote.

The formal model for the ratio of early to late investment has three critical parameters: the skill multiplier (incorporating the notions of self-productivity and dynamic complementarity of investment), the interest rate, and the ease of compensating a failure in early investment later in the life cycle. The higher the skill multiplier and lower the ease of compensation of early investment failure, the higher the ratio of early to late investment. On the other hand, the higher the interest rate, the more advantageous is later investment.

The formal model does not predict that early investment should exceed later investment. Rather, this policy conclusion is a function of deduction and evidence that the skill multiplier is high and that the ability to remediate a failure of early investment later in the child's life cycle is low.

The model ignores the well-being of the child as a child. Consideration of child well-being for children as children may amend the policy recommendations regarding age-spending profiles.

Possibly the most contentious stylised fact is the low return to investing in disadvantaged adolescents. However, highly targeted interventions for troubled teens can show very high rates of return (Aos *et al.*, 2004). For policy it is important to remember that there may be programmes at any point in the child life cycle that have high social rates of return.

Patterns of spending by child age are also important if the costs of children differ by age. If children of different ages impose different costs on families, social resources might be allocated across the child life cycle to reflect that differential cost. There is a longstanding view in many OECD countries that older children cost more in terms of family monetary expenditures on food, clothing and leisure. The modified OECD equivalence

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scale gives a higher weight to children over 13 years of age. Empirical research shows that family expenditures on children do increase with age (see for example Henman *et al.*, 2007). In a number of OECD countries, child benefits also increase with age, reflecting these and similar results. However, this research neglects non-monetary costs, including the costs of foregone parental leisure time. Observation suggests that young children demand considerably more parental care time, which in turn reduces leisure. Typically these opportunity costs of leisure are not included in monetary-focused estimates of the costs of children.[3] Recent research has tried to account for the full opportunity costs of children, including valuing reductions in parental leisure. Despite finding that the monetary expenditures on children increase with age, Bradbury (2008) concludes that in Australia the full cost of children actually declines with age. He finds that foregone parental leisure for a family with a youngest child under age 3 amounts to 26 hours per week, falling to 19 hours for a 3-4 year-old, and 14 hours for a 5-11 year-old. A similar pattern of greater time-intensity of young children for the United States is found by Folbre *et al.* (2005, Table 2). They report children under age 3 taking up 42 hours of parental active care time per week, compared to 34 hours for 3-5 year-olds, 24 hours for 6-8 year-olds and 20 hours for 9-12 year-olds.

Child rights also have an age dimension. Particular articles of the UNCRC state that all children should have a right to benefit from health services, including pre- and post-natal health care, preventive health care as well as responsive health care (art. 24), and a basic education (art. 28).

Child well-being means different things at different ages. Some empirical work also shows remarkable divergences in child well-being trends through time by child age groups. Land *et al.* (2007, Figure 3a, p. 119) considers child well-being in the United States for three groups – early, middle and late childhood – between 1975 and 2001. Well-being rises strongly for children in early childhood over time, is stable for late childhood and strongly decreases in middle childhood. If child well-being for different child age groups can trend in such different directions, there is value in looking at social interventions by different age groups.

The profiling method and data sources

Age-spending profiles record public spending on children by age. Spending figures are national amounts, and do not include spending at a local or regional level since this data is not readily available. This limitation needs to be borne most strongly in mind for more decentralised federal member countries like Switzerland. The second part of this chapter, which builds tax-benefit analysis for eight OECD countries, brings in an individual distributional dimension to the analysis, rather than simply focusing on population averages.

The age-spending profiles, including both welfare spending and education spending, cover 28 out of 30 OECD counties. Canada and Turkey are missing due to data problems. The profiles extend well beyond the age of majority in most countries, and certainly beyond age 18, the cut-off for the United Nations definition of a child. The reason for this age extension is that many countries continue to pay what are described as "child benefits" when people are still in full-time post-compulsory education and may still be dependent on their parents for resources. Additionally, a significant amount of education investment takes place over age 18.

The main data source for the age-spending profiles is the *OECD Social Expenditure database* (SOCX), which lists family programmes and information on active labour market policies for youth.[4] Profiles are presented using expenditure after direct tax. Data on direct taxes are published as part of SOCX. The adjusted figures are disaggregated using the rules for each benefit (age-related eligibility, payment amounts and so on) into child age-cohorts. The sizes of child age-cohorts are defined by population figures by age of children and are taken from OECD official data sources. So if parental leave payments stop when the child reaches 18 months the SOCX figure is split between two-thirds in the first year and one-third in the second year. Or if the policy allows mothers to take three of these 18 months before the birth of their child, then one-sixth of the money is allotted to before birth and the remainder to the time following birth.

The second source used for profiling expenditure is the *OECD Education database*. Spending in pre-primary years (where not included in SOCX), by primary school, secondary and post-secondary non-tertiary education, and tertiary expenditure are used. Enrolment figures by level of education are used to allot spending to each year of age.

A range of sources was used to identify the age-related eligibility rules, conditions and amounts of the family benefits, including country chapters for OECD tax-benefit models in 2003 (available via the benefits and wages website in OECD, 2007b), country notes for SOCX, MISSOC (2003), international reviews of social security and family policies (*Social Policies throughout the World 2008*), Bradshaw and Finch (2002), as well as other national government and academic sources. Enrolment rates in child care were derived from government-reported statistics in the *OECD Family database* (2008).

Limitations

The models provide only approximate spending patterns by age in the countries, developed as they are from aggregate data and spending rules. National experts in each country will have access to more detailed information in terms of population, spending and programme rules, and so could produce better individual country profiles. The advantage of the approach taken here is cross-OECD comparability. The major components of spending are, comparatively speaking, accurately allocated. Nevertheless, there is likely to be some scope for improvement in the accuracy of the year-by-year profiles. It is hoped that this first analysis stimulates further consideration and refinement at a country level.

There are some important issues regarding the aggregation of cash transfers with in-kind benefits that impose limitations. Cash transfers are provided to the family. Typically adults in these families make decisions on how the money is spent, and spending may or may not be on the child. On the other hand, in-kind benefits, such as education, accrue directly to the child (if they are taken up).

Additionally, there are issues of aggregation between different sorts of cash transfers. Some child-related transfers simply provide money – for example, child benefits – but impose no other requirements. On the other hand, parental leave benefits require a reduction in market time worked which is then available as a further input to child well-being. The approach taken here makes no distinction in value between the two forms of cash transfer. Conditions, in this case on formal human capital accumulation, are also made for paying child benefits in some countries beyond a certain age. Yet such transfers are also aggregated together, dollar for dollar, with unconditional benefits.

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Equal cost assumptions are also applied where spending by age is estimated. The equal cost assumption is particularly sensitive to spending patterns where there are clear differences in the approaches to providing the same service for children of different ages. For example, older children in child care will require fewer carers per head, and as such costs for this group are likely to be lower. The exact differences between countries cannot be clearly identified, and so no attempt has been made to account for such difference. It is important to note, however, that these variations in age-sensitive costs per child are minimised, and in the cases of some countries nullified, when data is aggregated into the three major childhood stages.

The approach provides an average age-spending profile. The countries included in this study will vary in terms of what is being spent on high or low-risk groups at each point in the child life cycle. For example, average spending per child is likely to be lower on high-risk children past the end of compulsory schooling, as those children disproportionately drop out of the education system. Averaging conceals these individual country contexts and relative policy responses to social risk.

In assessing the impact of transfer income on children, family income is typically equivalised to adjust for the fact that children are in families, and the families differ in size. There can be no equivalisation of transfer income undertaken here, because of the aggregative nature of the study. The lack of equivalisation on the income side over-emphasises the role of transfer income for children compared to in-kind services in the profiles.

In this approach, government services in-kind are valued at the cost of their provision to government. This approach to valuation is common, but ideally valuation would be at the value of the services to families and children, which may well be less than their cost.

Finally, public social expenditure is not the only input to child well-being. Private determinants include a nurturing family environment, access to informal support in the community for families, opportunity for participation in the community and society for children, and the quality of the living environment, such as safety and access to outdoor spaces. The quantity and quality of parental time invested in children, considered for example in Dalman and Bremberg's (1999) approach for Sweden (see Box 3.2), are obviously important omissions from consideration of investment in children (but see Box 6.1 below).

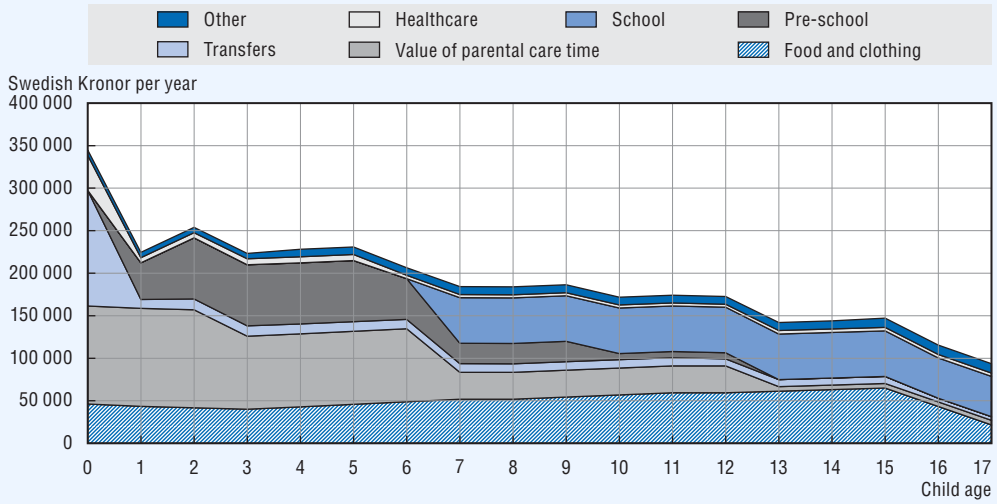
Among the social programmes excluded from the age-spending profiles are mandatory and voluntary private social spending. Quality of coverage in the database for voluntary private expenditures varies across countries. Including such measures might give a misleading impression of comprehensiveness without improving comparability. In any case, spending detail by programme is not readily available, so any attempt to allocate expenditures by age would be arbitrary. Mandatory private spending could in theory be included more easily than voluntary private spending. However, mandatory private expenditures on children are trivial in size. Their absence from the following calculations would make very little difference to the age-spending profiles.

In four country cases, payments made to single parents as part of "family benefits" in public social expenditure are excluded. The Parenting Payment in Australia, Income Support in the United Kingdom, the Lone Parents' allowance in Ireland and Domestic Purposes Benefit in New Zealand are single parent payments that would otherwise be aggregated into broader income support payments in other countries. In other countries these support payments are categorised outside of family payments. To include these for

Box 3.2. **A Swedish child age-expenditure profile**

Part of the motivation for the comparative work on child age spending profiles was a Swedish report with a broader remit than this chapter (Dalman and Bremberg, 1999).[1] Dalman and Bremberg's study is a comprehensive assessment of all resources available to children by year of age from birth to age 18, as provided by both family and government. The figures for government inputs are based on figures from local as well as from central government. The estimates are for Stockholm county, which has a population of around 1.8 million out of a total Swedish population of about 9 million. The detail of the profile is shown below, for the year 1995.

Formal and informal expenditures for children aged 0-17 years, Sweden, 1995, by age



Source: Based on original data used by Dalman and Bremberg (1999) kindly provided to the OECD by Professor Sven Bremberg.

StatLink http://dx.doi.org/10.1787/711433604283

Expenditures include family spending on children. Family expenditure is divided into monetary spending on food, clothing and so on, plus an estimation of the value of parental care time for children, based on time use studies and average salaries. Particularly striking is the decline in parental time inputs as children age, a finding consistent with Bradbury (2008) and Folbre (2008). Monetary expenditures rise moderately as children age, reflecting what is known about the monetary costs of children. Overall, the total family contribution declines with age.

The pattern of transfers in the early years is dominated by paid parental leave. Transfers thereafter decline to insignificance, as pre-school and school spending comes to the fore. Health spending and sports/leisure spending appears comparatively unimportant overall. Health spending is notably higher in the first year of life, presumably because of the comparatively high costs of childbirth, involving medical specialists and hospital beds.

A conceptual issue with Dalman and Bremberg's approach is double counting. Government monetary transfers are counted as such, but also function as finance for family spending on "food, clothes, etc.". Equally, government parental leave transfers are counted, which could be considered to cover the cost of parental time in early child care, yet this parental time is also additionally valued and counted in the family parental care component.

1. Thanks to Sven Bremberg, Associate Professor, Department of Public Health Sciences, Karolinska Institute and National Institute of Public Health, for his help in accessing this research.

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Australia, Ireland, New Zealand and the United Kingdom would compromise international comparability.

An omission from the consideration of spending by child age is public health spending. Health spending cannot be readily broken down by child age. Health spending includes pre-natal services, hospital service costs at birth, and post-natal services. It is an important consideration for child well-being, as health is integral for good schooling, play and relationship-building. The major component of health spending for children in most countries is likely to be during the few weeks surrounding birth. Most of these costs are typically delivery costs. By international convention, delivery costs are equally shared between the mother and child. Birth costs are likely to be primarily hospitalisation costs and delivery costs for normal births. There is likely to be a significant difference between median health costs at birth and average health costs, with averages pushed up by very expensive but comparatively rare cases of prematurity or post-birth complications, which often require long periods of hospitalisation and expert care. After the peri-natal period, health costs for children are typically low, since they are usually one of the healthiest age groups in the population. In fact, the Swedish profile, including health care, demonstrates exactly this pattern (see Box 3.2).

In presenting the profiles, 2003 social expenditure data is used (2005 data became available too late to be used here. The broad overall shape of profiles is likely to be fairly similar to 2005, with some changes at the margin for some countries). The 2003 data is sliced into different age groups, giving the expenditure by age in that year. Thus, if there were no policy changes since 2003, this approach would show the average spending that a child born in 2003 would be exposed to over every single year of their life cycle from birth until when the final child benefit is paid (sometimes well into their 20s). An alternative approach would be to look at a single cohort of children, rather than a cross-section of data. For example, average spending data for 18-year-olds in 2003 could be presented alongside similar data for 17-year-olds in 2002, 16-year-olds in 2001, etc., showing the age-related expenditure over the child life cycle for a single cohort of children. Such an approach would allow for policy change over the life cycles of different cohorts of children, but the data demands for replicating this approach internationally would be very high indeed.

There are a number of caveats to consider in interpreting the results. But notwithstanding the range of limitations discussed above, certain strengths of the analysis remain. Firstly, the profiles are easily understood, and they clearly identify social spending and education effort in OECD countries by age. The profiles also identify where and how investment in children is made by public bodies, and simply summarise a range of complicated material. This work provides a first start in the analysis of life cycle investment that may be matched up to child well-being outcomes.

Discussion of the child age-spending profiles

This section summarises the results of the age-spending profiles in several different formats. To begin with, spending on children is divided by three stages of equal temporal duration. These three stages are early childhood (from birth until age 5 inclusive), middle childhood (age 6-11 inclusive), and late childhood (age 12-17 inclusive). Spending by stage of childhood is considered both as the share of total spending on children and as the ratio of spending during one period to spending during another period. Following that, a breakdown of spending by type in different stages and detailed year-by-year profiles are

considered for each of the countries. In the latter analysis spending is normalised by the median net working-age household income of each country, enabling a relative comparison between countries. That is to say, it indicates how much each country spends on children, conditional on their average income. Spending is also compared in United States dollars, using purchasing power parity exchange rates.

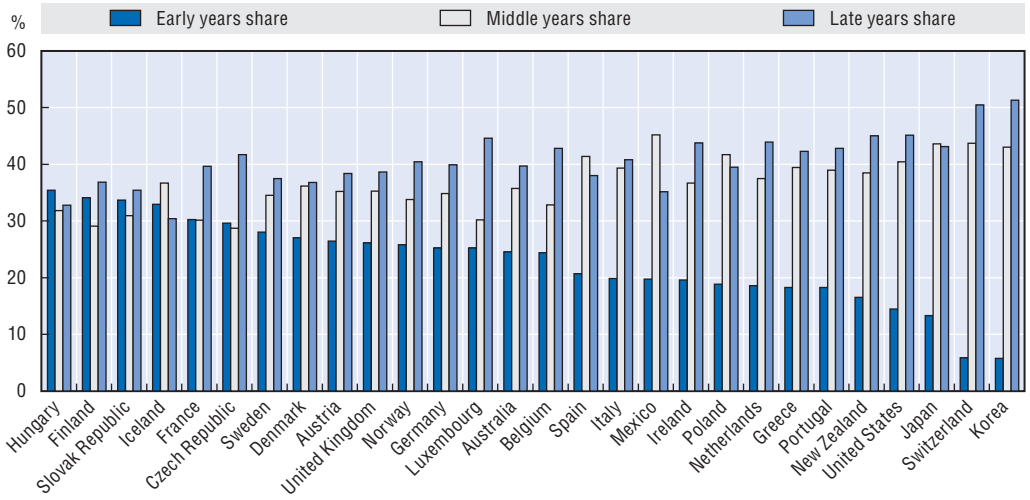
The cut-off point at age 18 conforms to the United Nations definition of children. However, since in many OECD countries child benefits continue to accrue to people after age 18, year-by-year spending profiles were extended to age 27, the age at which the last OECD country – Germany – ceased to pay a child benefit in 2003.

Social expenditure by three major stages of childhood

Figure 3.1 and Table 3.1 provide a broad brush overview of total public social expenditure per child in each of three major stages of childhood in all 28 countries. Out of 28 OECD countries, 23 spend more on middle childhood than on early childhood. Only the Czech Republic, Finland, Hungary, and the Slovak Republic spend more on early than middle childhood. Even more countries – 26 in total out of 28 – spend greater amounts on late childhood than early childhood. The exceptions, those who spend more or the same on early childhood, are Hungary and Iceland. Only five countries spend more on middle than on late childhood (Iceland, Japan, Mexico, Poland and Spain). Only Hungary spends most overall on early childhood. No OECD country incrementally decreases public social expenditure by stage of childhood.

Figure 3.1. **Public social expenditure per capita by stage of childhood, 2003**

Proportion of total spending on children and families



Source: OECD Social Expenditure database and *OECD Education database.*

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On average, across all 28 countries shown in Table 3.1, spending during middle childhood is twice that during early childhood, while spending on late childhood averages 2.3 times that during early childhood. It is worth noting that spending during middle childhood, while lower, is more similar to spending during late childhood. There is considerable similarity in relative spending strategies between countries in terms of the

Table 3.1. **Spending inequalities by age, 2003**

	Ratios of spending by life cycle stage		
	Middle/early childhood	Late/middle childhood	Late/early childhood
Australia	1.46	1.11	1.62
Austria	1.33	1.09	1.45
Belgium	1.35	1.30	1.76
Czech Republic	0.97	1.45	1.41
Denmark	1.34	1.02	1.36
Finland	0.85	1.27	1.08
France	1.00	1.31	1.31
Germany	1.38	1.15	1.58
Greece	2.16	1.07	2.31
Hungary	0.90	1.03	0.92
Iceland	1.11	0.83	0.92
Ireland	1.87	1.19	2.24
Italy	1.98	1.04	2.06
Japan	3.28	0.99	3.24
Korea	7.50	1.19	8.94
Luxembourg	1.19	1.48	1.77
Mexico	2.29	0.78	1.78
Netherlands	2.02	1.17	2.36
New Zealand	2.33	1.17	2.72
Norway	1.31	1.20	1.57
Poland	2.22	0.95	2.10
Portugal	2.13	1.10	2.35
Slovak Republic	0.92	1.14	1.05
Spain	2.00	0.92	1.84
Sweden	1.23	1.09	1.34
Switzerland	7.46	1.15	8.62
United Kingdom	1.35	1.09	1.48
United States	2.80	1.12	3.13
OECD average	**2.06**	**1.12**	**2.30**
Standard deviation	1.65	0.16	1.93

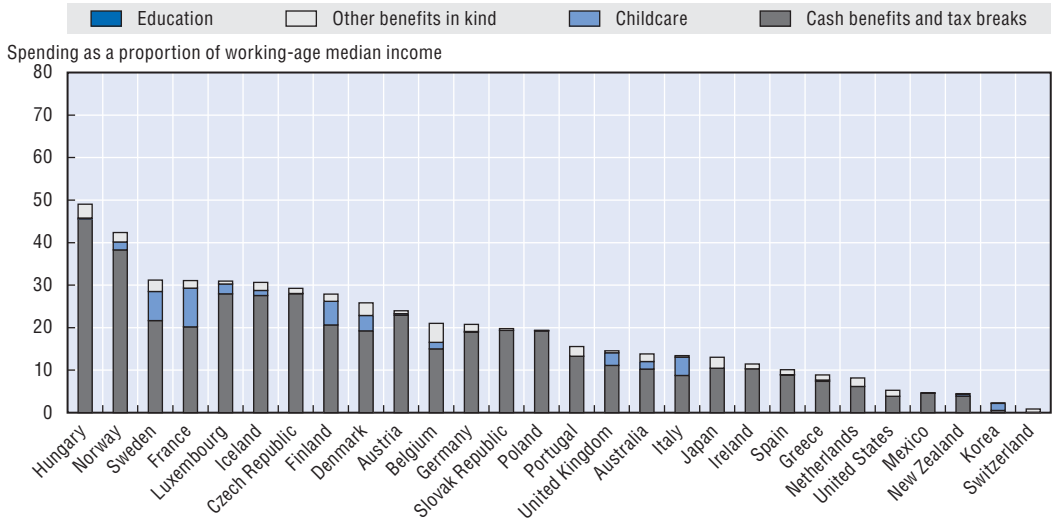
Source: OECD Social Expenditure database and *OECD Education database.*

StatLink http://dx.doi.org/10.1787/711507816442

middle and late childhood balance but more differences in approaches to early childhood (evidenced by the standard deviations in Table 3.1).

Consideration now turns to the composition of spending across stages of the child life cycle in terms of education, other benefits in kind, child care, and cash benefits and tax breaks invested in each country. Figure 3.2 below shows the per capita spending on children during infancy (less than two years of age) relative to median net working-age household income. For the majority of countries, cash benefits make up most of the non-health expenditure in infancy. With the exception of Australia and the United States, each country pays a maternity benefit, involving both pre- and post-natal leave, which replaces mothers' earnings at varying rates. Parental leave cash benefits, baby bonuses and child benefits paid in cash are also included. Benefits in-kind are rarely focused specifically on infancy. In the majority of countries, a range of programmes from home help, accommodation, food supplementation, and family support services contribute equally across the families with children aged 0-17. For this reason all countries have some in-kind spending registered. Reflecting the early stage in the life cycle, child care is relatively unimportant, as most children are in some sort of family care.

Figure 3.2. **Cash dominates social expenditure on children during infancy (< 2-years old), 2003**



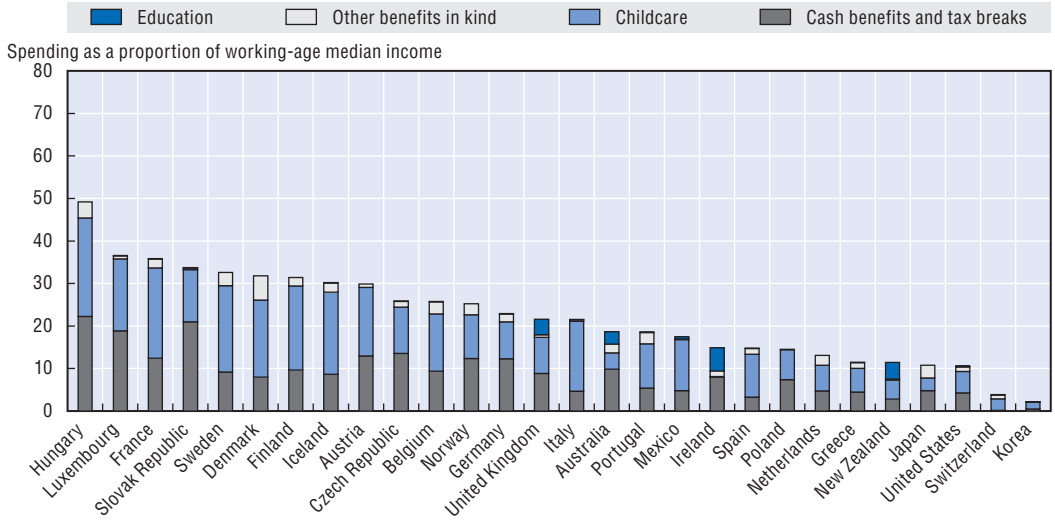
Source: OECD Social Expenditure database and *OECD Education database.*

StatLink http://dx.doi.org/10.1787/711533057301

Figure 3.3 considers the totality of early childhood spending (< age 6) as a proportion of median income (data is per child/year, so data are directly comparable with Figure 3.2). While cash dominates strategies in infancy, benefits in-kind, in particular child care and early childhood education become considerably more important in the early childhood expenditure strategies. Compulsory education spending is also beginning to appear in the Anglophone countries.

In terms of relative investment, the amount of variation across countries is large. However, Hungary stands out as a low (by OECD standards) income country with high

Figure 3.3. **Child care is important in per capita social expenditure on children in early childhood, 2003**



Source: OECD Social Expenditure database and *OECD Education database.*

StatLink http://dx.doi.org/10.1787/711551376181

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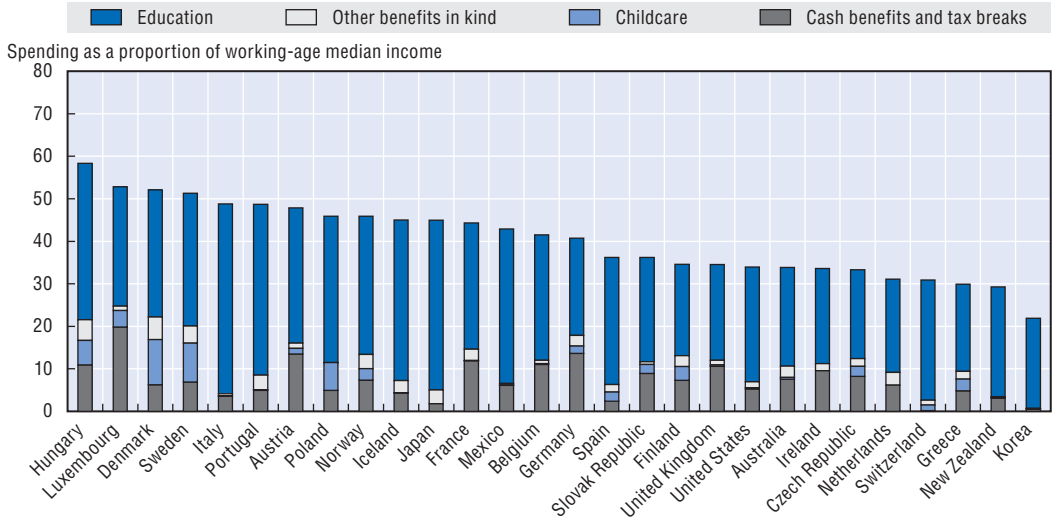
relative spending. The United States and Japan stand out as high-income countries that spend relatively little on public services in early childhood. Switzerland's poor performance, given its high level of per capita GDP, reflects the significant amount of child spending undertaken at the cantonal level, which is not included in the OECD Social Expenditure data base. One other general point can be made by comparing Figure 3.2 with Figure 3.3: per child spending slightly increases from the amount spent during infancy.

Public social expenditure in middle childhood (age 6-11) relative to median household income is shown in Figure 3.4. Compulsory education spending strongly dominates the expenditure picture in these years, and cash transfers diminish in importance. Relative spending levels continue to increase.

Figure 3.4. **Education spending dominates during middle childhood, 2003**



Source: OECD Social Expenditure database and *OECD Education database.*

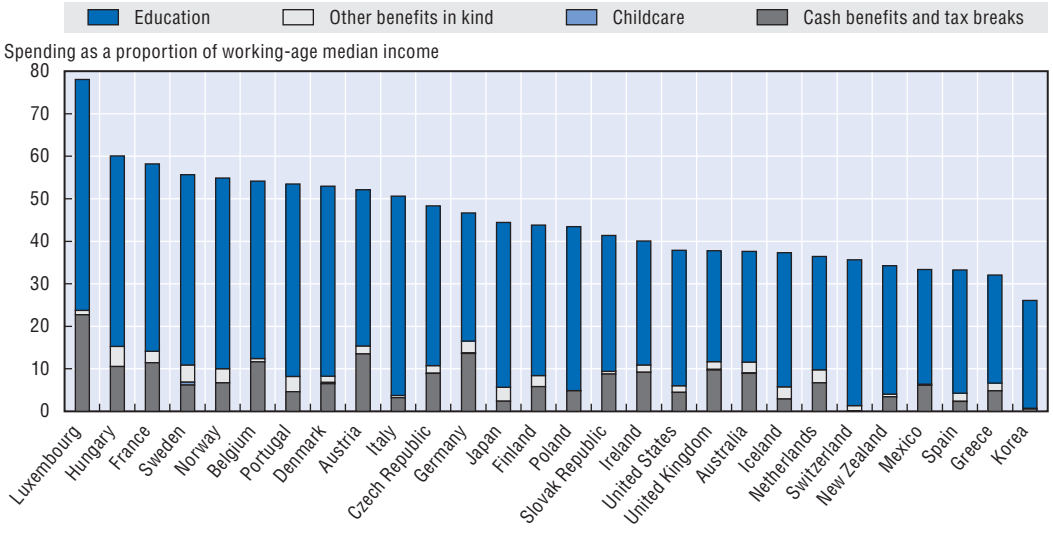
StatLink http://dx.doi.org/10.1787/711565334645

Figure 3.5 summarises spending in the final stage of childhood from ages 12 to 17 inclusive. Children in this bracket are generally in secondary education, and consequently education strongly dominates total spending composition.

The 28 detailed country profiles by individual year of age are shown below in Figure 3.6. Countries that place a stronger emphasis on spending early in the child life cycle "front-load" their spending, giving them a stylised left-to-right sloping triangular shape. Several countries place a stronger relative weight on early childhood than the majority of the OECD. The Finnish and Hungarian profiles are much more heavily front-loaded in comparison to most other OECD countries, as they spend relatively more money on benefits and early childhood education and care. The Czech, Icelandic and Norwegian profiles have elements of front-loading as well.

A more common stylised profile is what may be described as the "inverted-U", with social spending peaking during the mid-teens. The Italian and United States profiles are good examples of the "inverted U" profile. In addition, the vast majority of other countries have absolute spending peaking during the teen years (in addition to those already mentioned, this includes Belgium, Denmark, France, Germany, Ireland, Japan, Korea,

Figure 3.5. **Education spending dominates during late childhood, 2003**



Source: OECD Social Expenditure database and *OECD Education database.*

StatLink http://dx.doi.org/10.1787/711600032080

Luxembourg, Netherlands, New Zealand, Poland, Portugal, Spain, Sweden, Switzerland, and the United Kingdom). Much of this peak in spending, which is dominated by compulsory education, is ostensibly universal, but the money spent is most likely to benefit those who have already succeeded through early and middle childhood. Consequently, spending at this stage of the life cycle is likely to reinforce inequality, at least in qualitative terms.

There are several countries where spending peaks neither in the first year nor during the teens. The Slovak Republic peaks at age 3, Austria at age 5, and Greece at age 6. Despite these pre-teen peaks, overall there is a heavy preponderance of late childhood spending.

In terms of spending composition, profiles typically show a "kick" in cash benefits early on, which reflects various forms of maternal and parental leave. The period where child-care spending occurs and fades out is shown, including the out-of-school component. The strong Nordic investment in child care, for example, is clearly shown.

The large number of countries with long-duration child benefits, lasting beyond age 18 – Australia, Austria, Belgium, Czech Republic, France, Germany, Greece, Hungary, Japan, Luxembourg, Portugal, Slovak Republic – are evident. Much like universal education spending during the teen years, such spending accrues primarily to those children who have already successfully reaped the benefits of past social spending (spending before age 18) and who are already well set up to succeed in life. Consequently, though there are incentives for further investment on education for children on the margins, such policy approaches are likely to reinforce inter-generational inequality.

Korea stands out as having the least spending at most points in the child life cycle, with 30% of median household income or less spent at all points. On the other hand, Denmark, Hungary, Iceland, Luxembourg and Sweden spend around half or more of median household income.

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Figure 3.6. **Average social expenditure by child age by intervention as a proportion of median working-age household income, 2003**

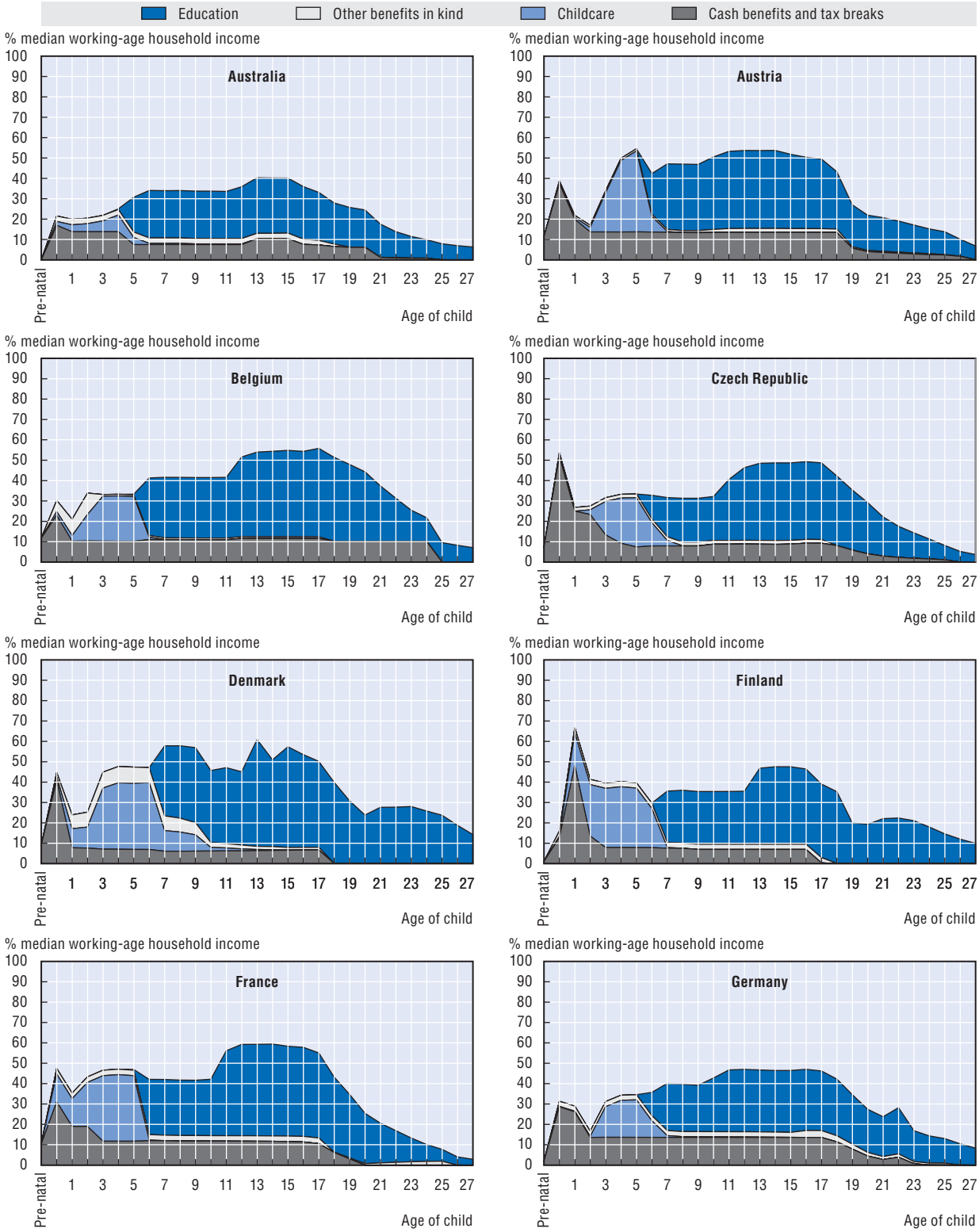

Figure 3.6. **Average social expenditure by child age by intervention as a proportion of median working-age household income, 2003** *(cont.)*

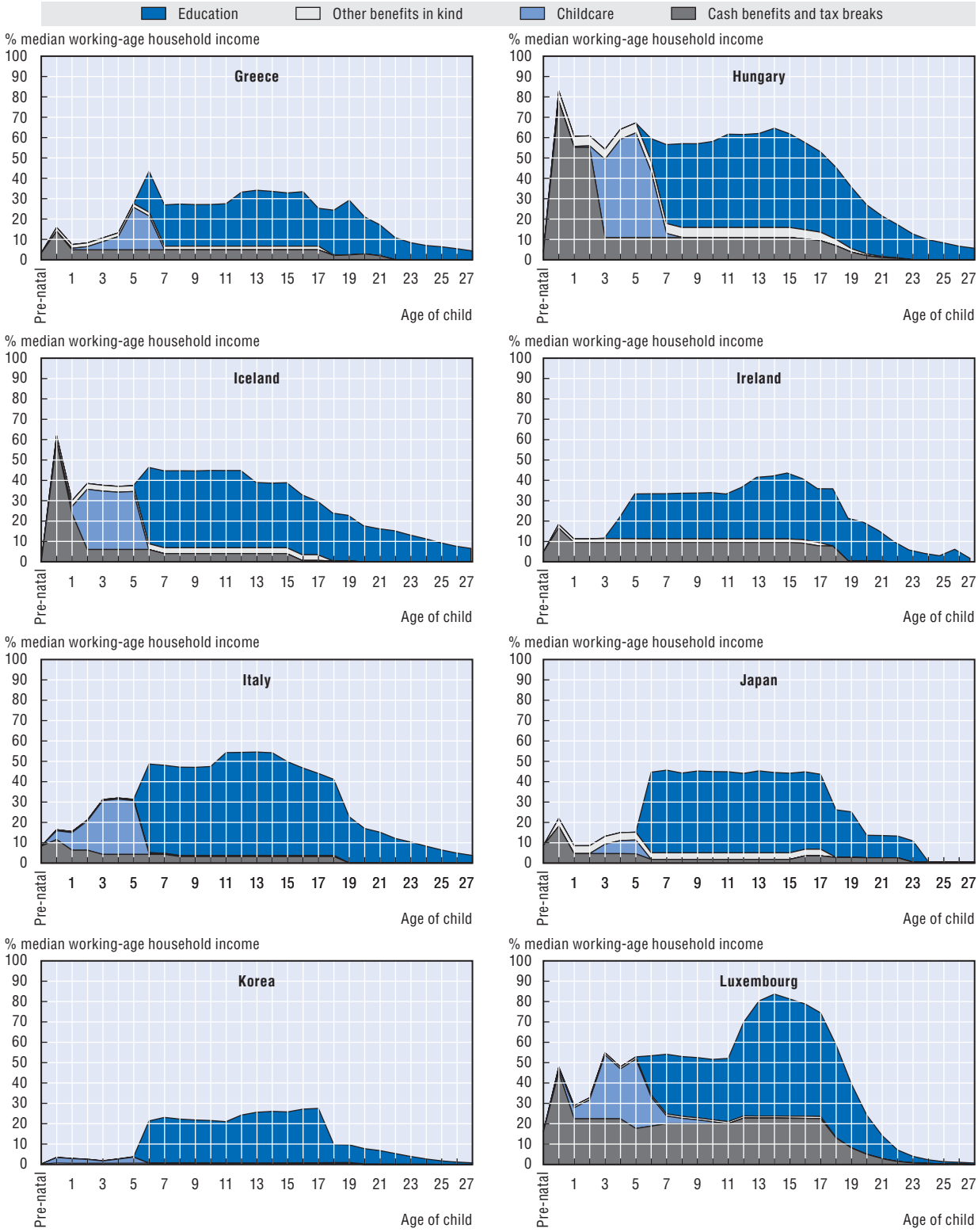

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Figure 3.6. **Average social expenditure by child age by intervention as a proportion of median working-age household income, 2003** *(cont.)*

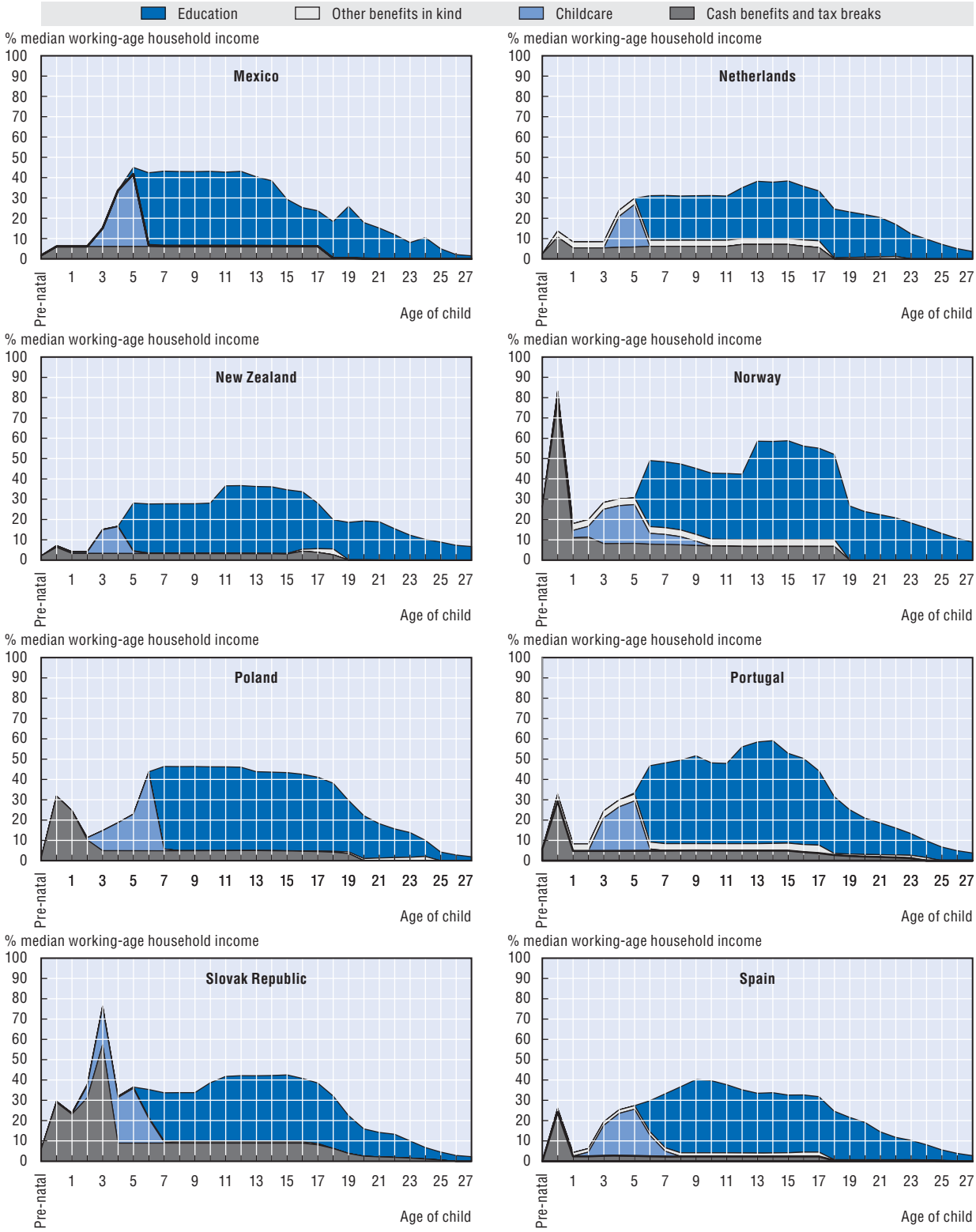
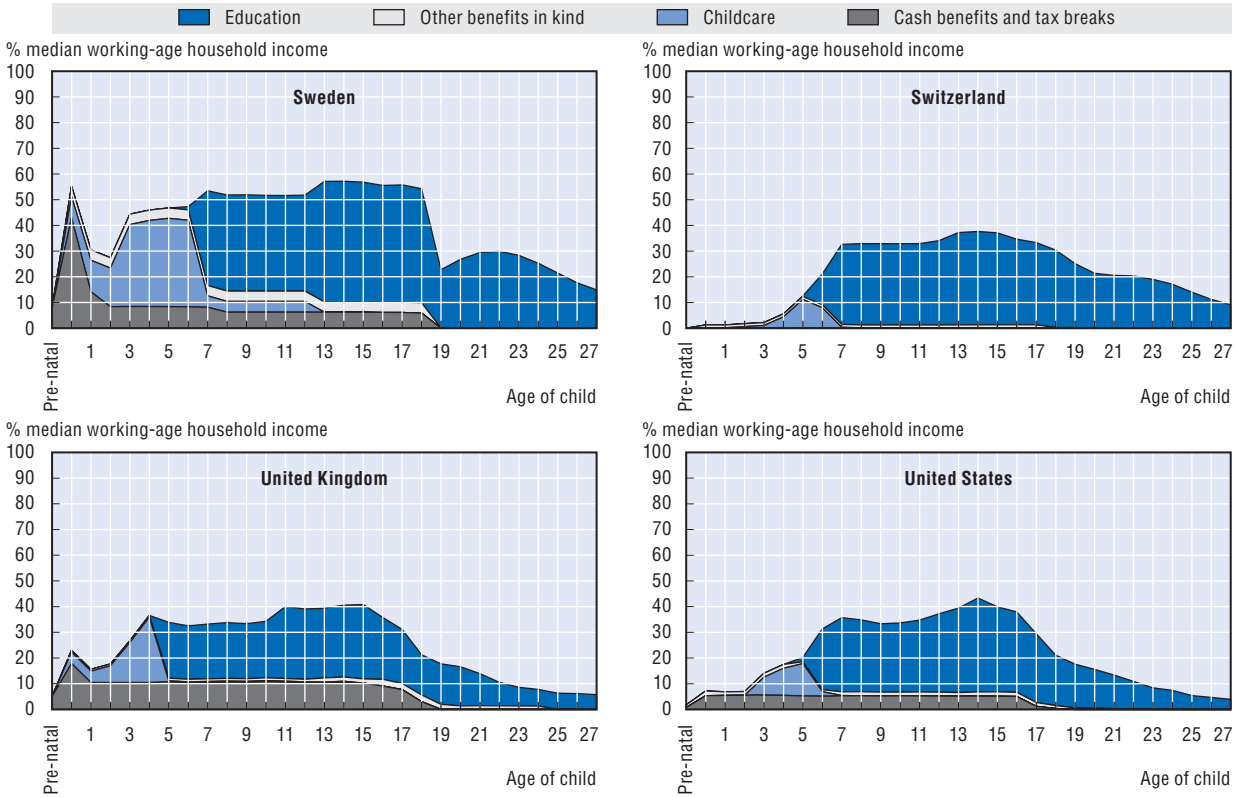


Figure 3.6. **Average social expenditure by child age by intervention as a proportion of median working-age household income, 2003** *(cont.)*



Source: OECD Social Expenditure database and *OECD Education database.*

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Distributional aspects of tax-benefit policy across the child's life cycle

The previous section considered average spending, in cash and in kind, by child age. As already observed, considering average spending by year of the child misses the distributional dimension across different child risk profiles. The question that this section addresses is the relationship between three important cross-sectional dimensions of risk and child age. These three risk dimensions are *i)* family structure (single-parent family compared with a two-parent family), *ii)* family income (low family income *versus* middle and high family income), and *iii)* family size (numbers of children). The impact of the tax-benefit system in relation to child age for families with different risks is examined by dynamically ageing children. How the tax-benefit system changes the relative disposable incomes of children at high and low-risk can then be observed. These spending patterns can then also be compared across member countries. This work is undertaken by adapting the OECD tax-benefit models to allow for child ageing.

In terms of net family transfers, how do tax-benefit systems respond to the birth and ageing of a child in terms of both the temporal profile and changing the distribution of income across this temporal profile? How do tax-benefit systems respond to a child being born into a single-parent family, as opposed to a two-parent family? And how do tax-benefit systems respond over time to children being born into a larger family compared to a smaller family?

The analysis undertaken here differs from the age spending profiles in several ways. First, this section focuses solely on the tax-benefit system and its operation over the child's life cycle across a number of selected OECD countries, while the profiles include in-kind benefits as well as cash transfers. Second, the average child experience analysed in the age-spending profiles is unpacked in the following analysis, as the experiences of children in different income brackets, and different family types are compared. A large number of cash benefits and taxes in many countries are dependent on both the age and number of children. Some benefits are also income-dependent, including baby bonuses, maternal and parental leave, and child benefits. Finally, in the following models, evidence of the impact on family income of age-related events such as childbirth, parental re-entry into the labour market and school exit, can be tracked more precisely. The analysis therefore allows inferences to be drawn about how the benefits treatment of different families during transitions can influence choices, such as whether to take leave or return to work.

While narrower in the sense of not examining the incidence of receipt of benefits in-kind, this section moves beyond the simple averaging approach of the previous section to incorporate a distributional or risk dimension to the picture. In addition, this section deals with transfers to the family, not average transfers per child.

Method

The approach taken to examine net transfers to families of different types as their children age is to dynamically adapt the OECD Social Policy Division's 2003 static tax-benefit models to allow the birth and ageing of children, and to examine the consequent evolution of net family income.

The dynamic model can be run for several dimensions, allowing a consideration of how tax-benefit systems respond to risk at different stages of the child life cycle. The modelling approach allows risk to be defined by different levels of gross earned income, family size, or family structure. These distributional elements could not be examined by the approach taken in the previous section.

The first risk dimension is a comparison of high earned family income (150% of the average workers' wage, or AW) with a middle level (100% of AW) and a low level (50% of AW). The second risk dimension is a comparison of single-parent family income profiles with those of two-parent families, assuming in the latter case that both parents work. The third risk dimension is variation in the numbers of children in the family (comparing families with two and four children). All these risk dimensions can be interacted. So, for example, the profile of a single-parent family earning 150% of the average wage with four children can be compared to that of a two-parent family where each parent earns 100% of the average wage.

Various assumptions need to be made to generate the net transfer profiles. At birth of the focal child, the second child in a two-child family is assumed to be a 2-year old. In a four-child family, at birth of the focal child the second child is a 2-year old, the third child is 7-years old and the fourth child is aged 12. The same assumptions are made about the allocation of maternal leave to the pre-natal and post-natal periods as are made for the spending profiles above. Regarding post-compulsory school participation, for those countries that continue to pay a child benefit conditional on educational participation it is assumed that children remain in school. Furthermore, in each case it is assumed that all

parents are working, that the maximum legal entitlement to leave is taken up, and, where minimum work requirements are involved, that parents are eligible to take leave.

Additionally, net income for a family can differ according to whether parental leave is taken within the fiscal year, or is spread across several fiscal years. In other words, the calendar timing of the baby's birth can influence family disposable income, and hence the profiles. The reason for this is the potential progressivity of the tax-benefit system over the range of income variation represented by gross income when parents are on leave, compared with when parents are not on leave. With a progressive tax system over this range, the month of timing of the child's birth could affect the initial level of net family income in the profile. The assumption here is that calculations are made as if all children were born on the first day of the fiscal year. In all likelihood the net income difference as a consequence of this assumption is small.

Countries considered

The approach was to model and compare tax-benefit systems as children age in eight OECD countries in 2003. The countries chosen for comparison are Denmark, France, Germany, Hungary, Italy, Japan, the United Kingdom, and the United States. The countries were chosen based on the need to cover a broad geographic and systemic range, and to illustrate a variety of tax-benefits approaches for children. Denmark was chosen as a representative of a high-spending Nordic-style welfare state, of additional interest because it is one of a minority of OECD countries to pay a higher rate of child benefit for younger children. France was chosen because it is one of the larger OECD countries by population, and as an example of a continental European-style welfare system. In addition, the French welfare system for children has a number of interesting aspects related to its historic commitment to promoting high fertility rates. Germany was also chosen as a sizeable continental European welfare state, and also because it has a number of interesting features, including paying a child benefit in some cases to age 27.[5] Hungary was chosen as a representative of eastern European welfare states and also because of its interesting "triangular" average social spending profile that concentrates on early spending, whilst Italy was chosen as the largest southern European country. Italy is also an archetypal "inverted U" overall spending profile, by way of contrast to the Hungarian profile and, to a lesser degree, to the French profile. As the larger of the OECD's two Asian member states, Japan was an obvious choice. Population size was also a strong reason to select the United Kingdom and the United States to represent the Anglophone member states. Again, all these latter three countries have the more common "U-shaped" spending profile. The most obvious missing member country from this group is Mexico, with its substantial population. However, as their profile suggests, tax-benefit programmes for Mexican children are comparatively small, and spending is not likely to vary greatly with child age.

Several issues arise regarding how best to present the results. There are two family types, three income levels, and three different numbers of children for eight countries, making 144 potential profiles in total. Here the most interesting comparisons are presented. Family income is presented monthly to allow consideration of patterns occasioned by entitlements to parental leave (pre- and post-natal), which are measured in months rather than years. A further issue is that the monetary amounts in each case emerge from the models in the national currency. For reasons of readier comparison, all amounts are converted into United States dollars using purchasing power parity exchange rates.

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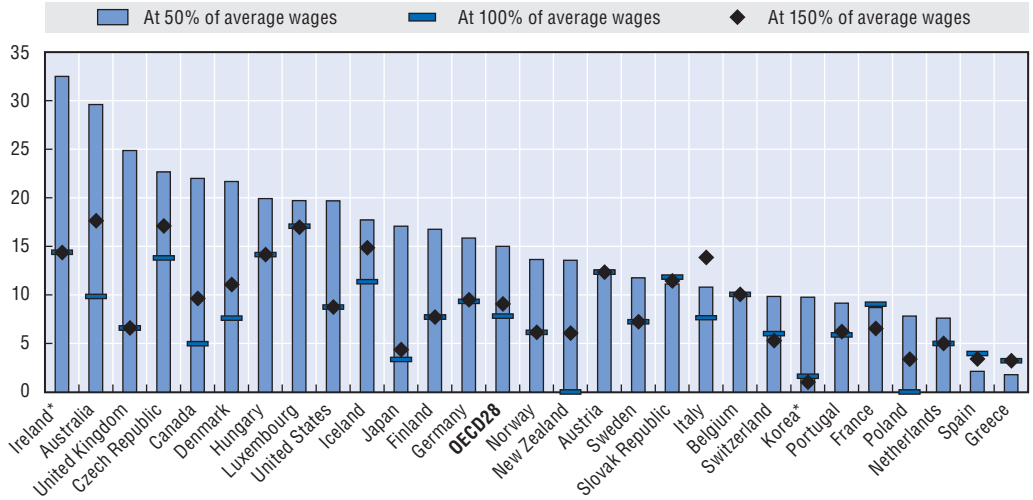
While only eight countries are covered in the detailed analysis of the response of the tax-benefit system across the child life cycle, it is worthwhile considering the static degree of redistribution towards families with two children aged 4 and 6 across 28 OECD countries in 2005. Figure 3.7 below shows considerable variation in the degree of income-targeting towards families with children, depending on their position in the income distribution by country. Most countries have a mild tilt in their distribution towards low-earning families over those in the middle. There is less of an income difference between families with average earnings and families well in excess of the average. Some countries, such as Austria, Belgium, France, Greece, the Slovak Republic and Spain, have little or no taper as family income increases, while the Anglophone countries have a strong taper, reflecting greater income-targeting.

Figure 3.7. **Financial support for families with children varies with income level**

Financial assistance to families with children as a percentage of earnings of an average worker



Note: Assistance for children is calculated as the difference between the net income of a single-income couple without children and a single-income couple with two children (4 and 6-years-old), at different levels of earnings, expressed as a percentage of the average wage (AW).

"*" indicates a measure as a percentage of the average production worker's wage, the OECD's previous measure of average workers' earnings. Mexico and Turkey are missing.

Source: OECD 2005 tax-benefit models; see *www.oecd.org/els/social/workincentives*.

StatLink http://dx.doi.org/10.1787/711630162278

Eight-country comparison of net income and net transfers by family earned income level

The profiles of net family income are compared below for two-parent families and for the three income levels, as the focal child is born and ages through childhood. If there were no child-age-related payments or parental leave taken (resulting in labour market withdrawal), the profiles would be flat lines, with simple upward steps following the birth of a child, and downward steps as a child moved beyond the age of final payment of child benefits. The profiles follow the birth of the second child and family income as the child progresses through its life cycle. The profiles are presented in terms of 2003 United States dollars at purchasing power parity. The horizontal axis is compressed post-age 8 of the focal child, to better illustrate variation across the life cycle below this age. The figures illustrate a considerable variation in tax-benefit policy over the child life cycle.

Denmark, France and Italy have very similar monthly net family incomes for the family at the bottom of the distribution of roughly USD 2 000 per month. Interestingly, the distribution across the three gross earnings family types is more compressed for Italy than for both Denmark and France. Hungary shows up as the least well-off country on a purchasing power parity basis (unsurprising on the basis of its relative per capita GDP), but the most relatively equal, with the net family income of those earning 150% of AW only twice that of the family with gross earnings of 50% of AW. For all other countries, this ratio is often well in excess of two.

An obvious feature of all country profiles is that government net transfers are frontloaded to the early part of the child life cycle. That is to say, the net transfers are highest early in the child's life cycle. To a significant degree, this apparent concentration of net transfers is a straight-forward consequence of labour market withdrawal early in the child life cycle to access maternal and parental leave time entitlements, also reducing taxes paid due to the concomitant decline in market income.

The durations of this frontloading vary according to the duration of maternal and parental leave systems (the assumption is that the full leave entitlement is taken). This leave has a considerable duration (2-3 years) in France, Germany and Hungary by virtue of their child-raising allowances, a moderate duration in Denmark and Italy, and shorter durations in the United Kingdom and the United States (the latter being unpaid).

Despite this apparent frontloading in net transfers by all eight governments, in many cases net family income dips during the period of maternal and parental leave, in most cases considerably. Thus benefits paid for maternal and parental leave are not sufficient to fully compensate for the loss of earnings during the period of withdrawal from the labour force, let alone to create a "front-loaded" overall family income profile during this earliest period of the child life cycle.

The exception to this income dip are those countries who, during the relatively short period of a few months of maternal leave, replicate their earnings inequalities in their maternal leave payments (France, Germany, Hungary) and/or who pay birth or birth-style payments at or around the time of birth (France, Hungary and Japan). While such payments do give a degree of frontloading to family income profiles, the payment amount is fairly small in both the French and Hungarian cases. Whilst the Japanese birth payment is somewhat more substantial, it is misleading in its treatment of family income over the child life cycle. Unlike most countries, the government in Japan does not pay hospital birth costs, and the birth payment is intended to at least partially compensate for the fact that parents must pay such costs. Japanese women typically stay in hospital for over seven days following birth, and this very rapidly exhausts a birth grant. Including the Japanese birth grant makes the health and social welfare system look more supportive than the actuality.

Two countries – France and Hungary – provide transfers to families conditional on a parent exiting the workforce for a period of up to three years. Shorter periods of parental leave are available in Denmark, Germany and Japan. Child-raising allowances have been criticised for their negative effects on gender equity and female labour-force participation. The supposed positive impact of long duration conditional payments on child development provides one rationale for such policies.

After the expiry of parental leave entitlements, there is little in the way of net transfer frontloading. Denmark does pay a higher child benefit for younger children. But the difference is fairly small, and insufficient to make a great difference to the family income profile over the child's life cycle. On the other hand, France actually pays slightly more for older children, whilst Italy, the United Kingdom and the United States are age-neutral in their child benefit or child tax rebate regimes.[6] Social assistance rules in Japan mean that social assistance payments to the very poorest single-parent family (50% of the average wage) rise with child age.

It is worth remarking on a second sharp peak in Japanese net income following the end of maternal leave. This peak is the parental leave lump sum paid to parents six months following their return to work. A similar return-to-work incentive is not evident in the profiles of other countries.

The eight countries phase out their child payments or tax breaks at different ages. Hungary and the United Kingdom cut out their benefits at age 16. Denmark and Italy stop their benefits at age 18. France ends child benefits at age 21 and Japan at age 23. Germany pays a child benefit until age 27 if the child is participating in education. To allow for the likelihood that children from well-to-do families are more likely to be participating in higher education, in the German case the situation is modeled where *only* families with gross earnings of 150% of the average wage are assumed to have their child in higher education. The consequent reinforcement of pre-existing social advantage is evident, as a drop in net income is seen almost seven years earlier for middle- and low-income families (Figure 3.8).

How do countries respond for single-parent families compared to two-parent families?

The next risk dimension of interest is how the tax-benefit system treats single-parent families compared to two-parent families, and the extent to which the treatment of the two family types alters across the child life cycle. This section treats single parenthood as a risk factor, without drawing conclusions on whether single parenthood itself influences child well-being. The causal issue is addressed in Chapter 5.

The two family types are compared by measuring the ratio of net family income of a two-parent family to net family income of a single-parent family at the three different levels of average earnings. In this analysis, the magic number is two. Two is the ratio of gross earnings of the two-parent family to the single-parent family in each case, excepting the period of parental leave where a single-parent family has zero earnings. Ratios in excess of two indicate that the tax-benefit system exacerbates market inequality and makes things more unequal for the higher-risk group of single-parent families. Ratios below two indicate that the tax-benefit system redistributes disproportionately more to single-parent families, thus compressing the distribution.

The relative proportion of children exposed to this risk factor varies across the eight countries. Obtaining consistent data on rates of single parenthood across all the countries concerned in this section is difficult. However the 2005/06 *Health Behaviour in School-aged Children Survey* (HBSC) suggests some significant country-variation in children living in single-parent families across seven of the eight countries under consideration here. Italy had the lowest rate of children in single-parent families at ages 11, 13 and 15 (with 9% of children). France (14%), Germany (15%), Hungary (16%) and the United Kingdom (16%) had very similar single-parent rates. United States rates of children in single-parent families, at

Figure 3.8. **Net family income over the child life cycle for different levels of family income, families with two parents and two children, 2003**

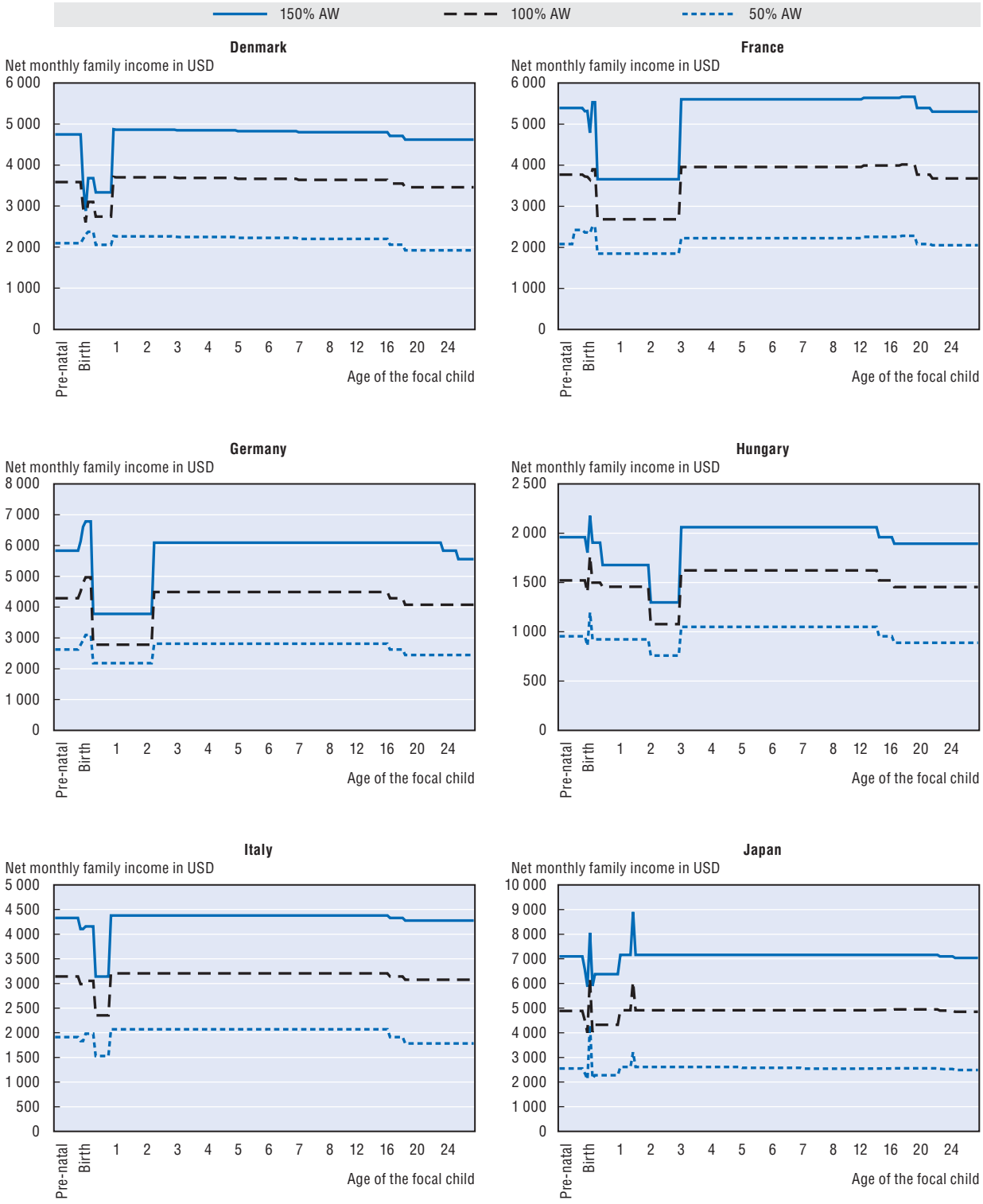


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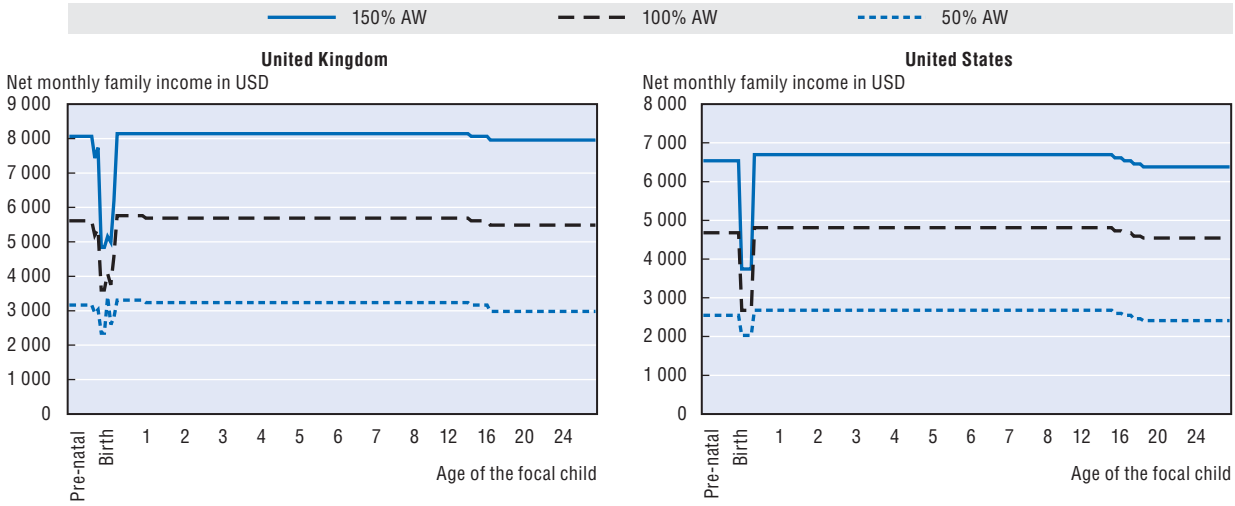
Figure 3.8. **Net family income over the child life cycle for different levels of family income, families with two parents and two children, 2003** *(cont.)*



Source: OECD 2005 tax-benefit models; see *www.oecd.org/els/social/workincentives*.

StatLink http://dx.doi.org/10.1787/711632437617

24%, were easily the highest (Currie *et al.*, 2008). Japan is not in the HBSC but single-parent rates are likely to be relatively low.

Overall, compression of net income between single- and two-parent families is the most common result over the child life cycle. The major exception is around the period of parental leave. Inequalities for single-parent families are typically, but not always, exacerbated at this period. The explanation for the early rise in family income inequality at this point in the child's life cycle is because single-parent families have a 100% reduction in their labour supply at this point, whereas two-parent families only have a 50% reduction.

With the exception of the case of high-earning single parents around birth, the Germans, Danes and British compress income inequality between single- and two-parent families across the child's life cycle. This compression is most marked for the poorest groups in the United Kingdom and Denmark, where low income two-parent families receive only about 1.3 times single-parent net income. In Germany, a similar compression is evident only during the parental leave period for the first 24 months of the child's life when parental leave is means-tested.

France compresses income differentials for all single-parent families until children reach adulthood. For low-income French single-parent families, income is almost equal to income in two-parent families between birth and age 3.

Hungary, Italy and the United States all have peaks in inequality between single-parent and two-parent families at the time of leave. Following leave periods in early childhood, these countries do help single parents, as each of the lines runs below the ratio of 2. For Hungary, however, the inequality is highest between 24 and 36 months, when the child-care payments make way for the universal parental leave payments; inequality is greatest for the high-income group. For Italy, inequality in income lasts less time and is earlier in the child life cycle, mainly due to the shorter period of parental leave (six months as opposed to three years in Hungary). Moreover, Italy's inequality is more severe for low-income groups, as payments replace earnings at 30% for insured

parents. Universal parental leave in Hungary protects low-income groups from income inequalities based on family type, while in Italy the insurance and earnings replacement scheme favours high-income single parents. In the United States the unpaid employment-protected 12 weeks of leave penalises single parents whose income is based on earnings.

Low-income single parents in Japan benefit from social assistance payments in the form of livelihood aid. Livelihood aid is tested against gross income, and paid to those who cannot meet minimum living standards. This form of social assistance increases every three-year period (except for a two-year period aged 1-2), compressing the income differences in stages over the child's life cycle, before dropping again following age 17. Other income groups in Japan receive very little additional help to compress income differentials (Figure 3.9).

How do countries respond for large families compared to small ones?

Being raised in a large family is also associated with poorer well-being outcomes for children. How do tax-benefit systems treat large families (taken here to mean a family with four children) compared to smaller ones (taken here to mean a family with two children) as the focal child ages?

It is worth bearing in mind that a major reason for supporting larger families compared to smaller ones in many countries across the OECD may be for reasons of fertility. Policy makers may judge that families who have children are more readily persuaded to have an additional child than other families. Therefore, efforts to sustain the fertility rate are considered to be more effectively directed at enlarging existing families. At the same time, such policies deliver a windfall income gain to those who have already decided to have large families, and thus a potential boost to child well-being in large families.

Figure 3.10 presents the ratios of large to small family income at the same gross earnings levels. In both cases, two-parent families are considered. Thus the crucial ratio is unity. For ratios in excess of one, four-child families have higher net income than two-child families and for ratios below one they have less net income. The vertical axis presents the ratio in each case, so relative country approaches to large families are directly comparable.

There is little direct information on the proportion of four-child families in each country considered. Qualitatively, the relative importance of four-child families in each country is likely to correlate positively with their total fertility rate. This would produce a qualitative ranking in 2003 of the United States (2.1 total fertility rate) with the highest number of large families, followed by France (1.9), Denmark (1.7), the United Kingdom (1.6), and Japan (1.4). Hungary, Italy and Germany (all 1.3) would be likely to be at the lower end.

There is a considerable variation in approaches to this risk factor across the countries considered. The United States and Japan provide the least additional support for large families. The lack of support in Japan is somewhat surprising. Given their low below-replacement fertility rate, it might have been anticipated that they would offer more support for larger families for fertility reasons. The United Kingdom and Denmark also provide little additional support. In all the country-cases additional support is provided early in the life cycle.

The continental European examples – France, Germany, Hungary, and Italy – provide much stronger amounts of support, especially early in the life cycle of the fourth child.

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Figure 3.9. **Ratio of two-parent to single-parent net income over the child life cycle, 2003**

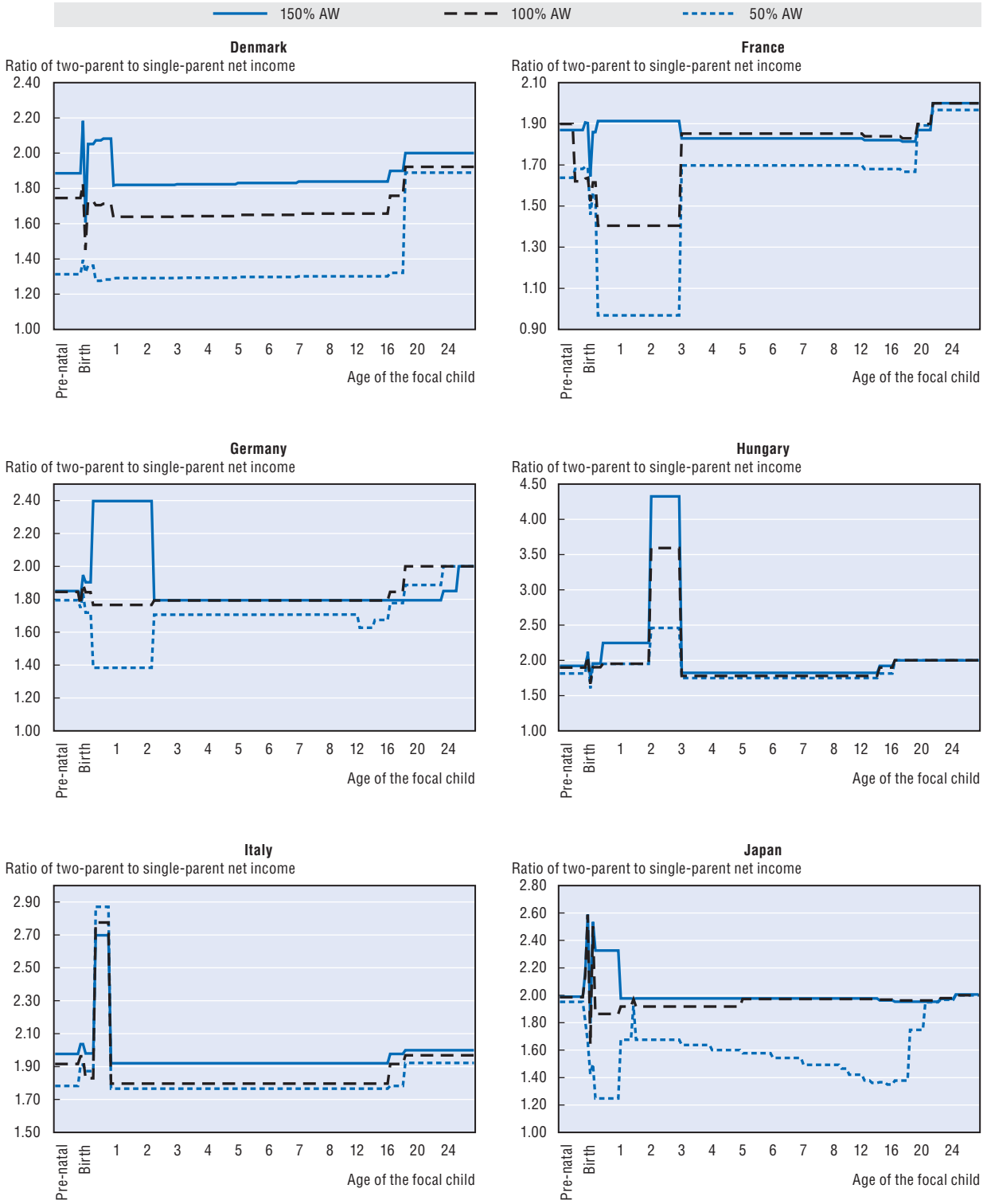
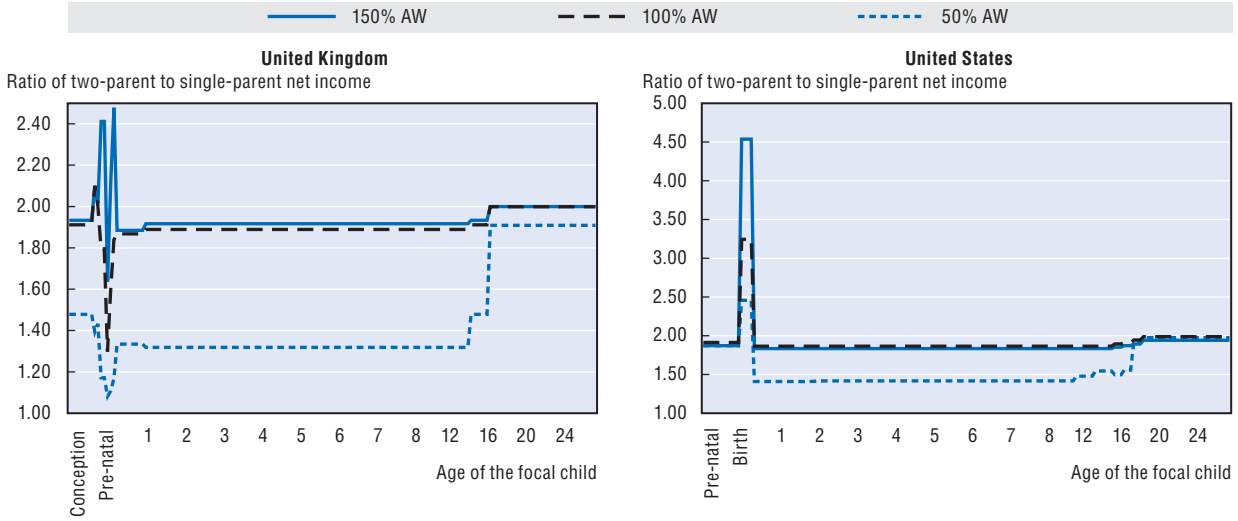


Figure 3.9. **Ratio of two-parent to single-parent net income over the child life cycle, 2003** *(cont.)*



Source: OECD 2005 tax-benefit models; see *www.oecd.org/els/social/workincentives*.

StatLink http://dx.doi.org/10.1787/711637074876

Certainly in the case of France, support for large families exists for pro-natalist purposes. The very strong spike early in the life cycle as the relative income of larger families is boosted considerably due to longer duration maternal leave is a noteworthy feature. Equally, poorer large families are boosted in a more sustained fashion over the life cycle.

The Hungarian profile is particularly interesting and indeed unique, as the four-child family ends up with less income than the two-child family over a proportion of the life cycle. Hungary has both a child home care allowance and a child-raising allowance. The child home care allowance is paid until the child is aged 3. A further child-raising allowance is paid when the youngest child is aged between 3 and 8, but only for families with three or more children. This child-raising allowance is assumed to be taken up. In the two-child family, the parent taking leave goes back to work when the child is age 3. In the four-child family the leave-taking parent goes back to work when the youngest child is 8-years-old. Thus the consequent differences in work and thus earned income drive the unusual result (Figure 3.10).

Summary

Chapter 3 has explored the distribution of childhood spending within countries and compared this between countries. For eight OECD members, the exploration was expanded to assess how different families (on the grounds of income, number of parents and family size) were treated by different tax and benefit systems.

OECD governments all spend money on children, at varying levels, but no country does so evenly throughout the child life cycle. The majority of OECD countries spend the most public money in the later stages of childhood. Indeed, in all but six countries (Poland, Spain, Mexico, Denmark, Hungary and Iceland) late childhood captures the highest levels of investment. On average, OECD countries spend 2.3 dollars in the late childhood period on benefits and services with child-related eligibility for every dollar spent in the early childhood period. This disparity is most readily explained by widespread heavy spending on universal compulsory education. The country spending profiles examined are not

Figure 3.10. **Ratio of four-child family to two-child family net income, 2003**

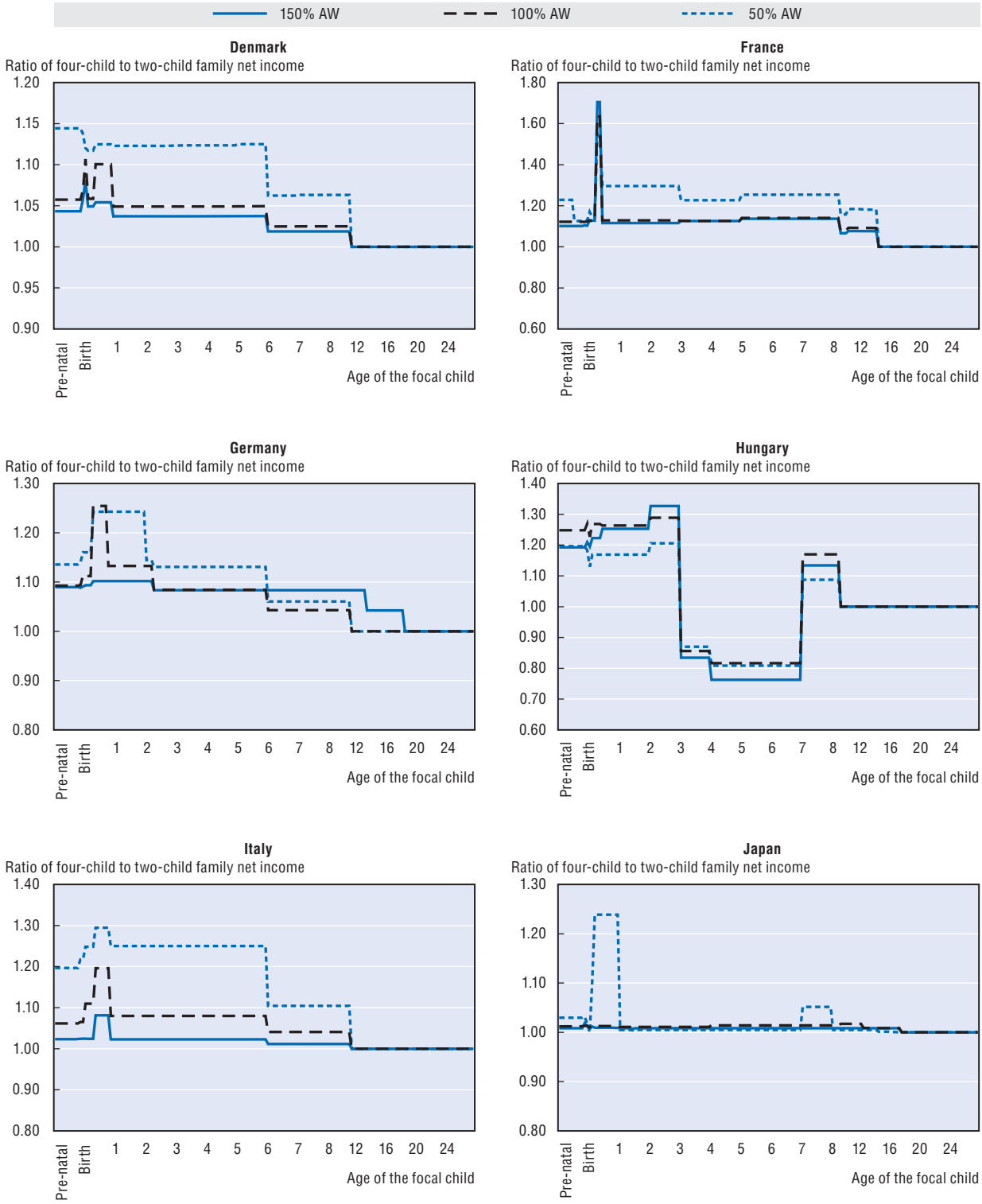
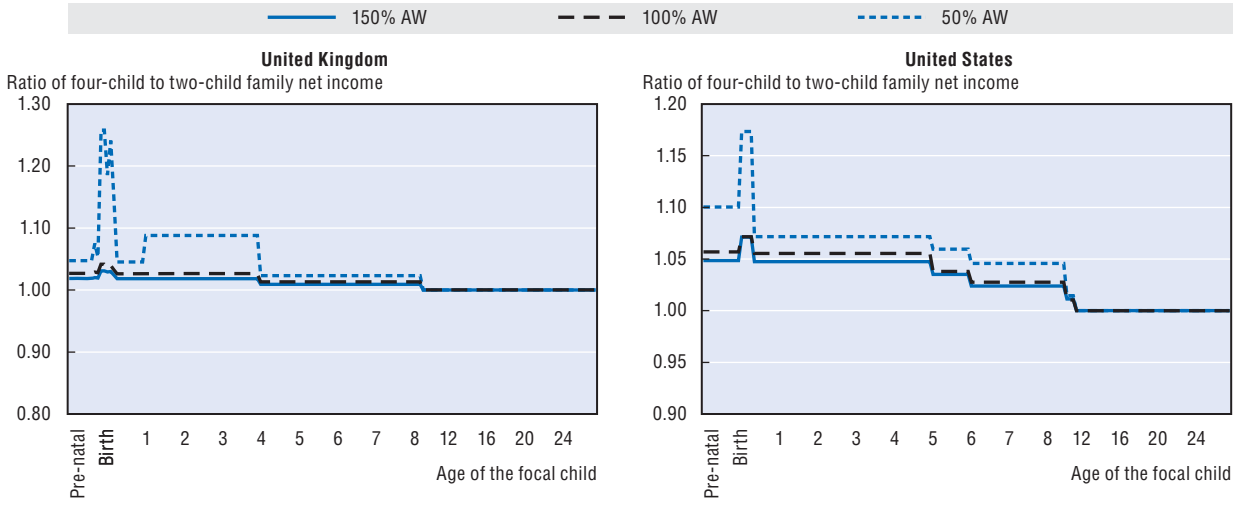


Figure 3.10. **Ratio of four-child family to two-child family net income, 2003** *(cont.)*



Source: OECD 2005 tax-benefit models; see *www.oecd.org/els/social/workincentives*.

StatLink http://dx.doi.org/10.1787/711708153151

consistent with the theory and evidence on child well-being and development. In contrast, there is little or no obvious rationale for why so many governments place the weight of their spending during the period of late childhood. In the absence of any knowledge about the comparative benefits of spending on children by age, a comparatively even spend by child age would be expected.

In terms of the composition of spending across the child life cycle, the typical pattern is for interventions to consist disproportionately of cash transfers during early childhood, with the added element of a conditional parental withdrawal from the labour market. The main factors driving overall differences by year of age are incremental increases in education expenditure and a gradual erosion of entitlement to social security benefits in terms of both cash and kind as children grow.

Chapter 3 gives an idea of what policy choices are being made for children at different times in their lives, but does not attempt to provide answers as to why such choices are made and what good choices might be. Chapter 4, however, will introduce policies for families and children from conception to kindergarten, and discuss research on related policy evaluations. Moreover, a notable omission from Chapter 3 has been health interventions. These interventions are mostly for the youngest children, but because spending cannot be disaggregated cross-nationally by age, these have not been included in Chapter 3 (except for Sweden in Box 3.2). To remedy this omission, health interventions in the early years are explored as part of the policy comparisons in Chapter 4.

Notes

1. Notes for each age-spending profile are available in an online annex. Tax-benefit models have been adjusted using information on policies around childbirth outlined in special tax benefit chapters also available online. Please see *www.oecd.org/els/social/childwellbeing*.
2. This study shows middle childhood environments add only modestly to explained variances of a range of adolescent outcomes, on top of early childhood contexts. When including middle childhood contexts on top of early childhood contexts, the explained variation for externalising

behaviour (outwardly directed behavioural problems) rises from 0.24 to 0.27. Comparable rises include 0.15 to 0.17 for internalising behaviour (inwardly directed behavioural problems), 0.32 to 0.34 for mathematics achievement and 0.34 to 0.35 for reading achievement. The most important middle childhood environmental context is cognitive stimulation in the home, with some evidence that the emotional context was also important. Neither family structure nor family income played any significant role. In terms of out-of-home-environments, school safety and teacher knowledge of their subject matter were the significant factors (Magnuson *et al.*, 2003).

3. In addition, younger children cannot contribute unpaid work to the family, while older children can – for example picking up toys, making their beds, mowing the grass, putting the rubbish out, or cooking dinner.
4. Administrative costs are included in the active labour market policy spending but not in other forms of social expenditure.
5. Since 2003 Germany has begun to reduce the upper-age threshold for child benefit eligibility.
6. A baby element is paid for the child's first year in the United Kingdom Working Tax Credit, but there are no other age-related payments following this one-off increase.

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