

The OECD Family Database: Developing a Cross-National Tool for Assessing Family Policies and Outcomes

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Abstract The OECD Family database has been developed to collate in one central location information and indicators relating to family outcomes, family policies and children in order to address the growing demand for cross-national information on the situation of families and children. The information is taken from different OECD databases, specifically developed questionnaires and non-OECD sources. The OECD Family database now includes 52 indicators across four broad headings: the structure of families, families and children, the labour market position of families, public policies for families and children, and child outcomes. This paper presents the Family database and discusses data and methodological issues as illustrated by selected example indicators.

Keywords Family policy · Indicators of family and child outcomes · Structure of families and parental labour market outcomes

1 Introduction

The family is receiving increased attention in the policy debate. There are very different reasons for this, including concerns about: child well-being and child development, barriers to parents having as many children as they desire, and the

The authors have all contributed to the development of the *OECD Family database*, as they worked in the Social Policy Division of the OECD Directorate of Employment, Labour and Social Affairs. The views expressed in this paper cannot be attributed to the OECD or its Member Countries: as with any remaining errors, they are the responsibility of the authors alone.

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difficulties parents of both sexes face in reconciling work and family commitments. There is much statistical data on these issues in the public domain, but information is diverse, not necessarily cross-nationally comparable on a comprehensive basis, and not coherently tied in across the different issues.

In order to address the growing demand for internationally comparable information on the situation of families, the *OECD Family database* (www.oecd.org/els/social/family/database) has been developed to collate in one central location cross-national information on family and child outcomes, and on public policies supporting families and children.

1.1 Structure of the Database

To address the broad policy issues around child outcomes, family formation and work/life balance the *OECD Family database* has four broad categories that reflect different aspects of family and child outcomes and policies. First, there is a broad grouping of indicators on the structure of families and indicators on family formation. This category is intended to address questions as what do families look like, where do children live, what are fertility trends, and what are common forms of partnerships among adults with children. Second, the “labour market situation of families” addresses the work/family balance issues by providing indicators, by gender, on how the presence of children in households may affect parental labour market outcomes and time for caring. Third, the public policy section aims to provide comprehensive information on the gamut of measures that exist to support families and children. Finally, the child outcomes section aims to illustrate how children are doing at different points in time over the early life course.

The structure of the *OECD Family database* does not include indicators that cover issues related to the position (and care needs) of elderly family members. In view of the many different policy issues involved, the development of such a section would be a large task demanding considerable resources. Therefore, this task has not yet been undertaken, but the database structure could easily be extended to facilitate its development.

Indicators in the database can be re-grouped if that serves the purposes of researchers and policy analysts. For example, Lohmann et al. 2009, group indicators in three broad groupings of context, policy and outcome indicators, and use this categorisation to develop score cards for individual countries for the assessment of national family and child outcomes in an international context. Lohmann et al. 2009 illustrate this “score card-approach” for three countries, Denmark, Germany and the United Kingdom. Adema and Thévenon (2008) and Thévenon (2008a, b) use the database to identify different mixes in policies to support the reconciliation of work and family life across OECD countries.

1.2 Indicators, Data and Sources

Information for the *OECD Family database* is taken from different OECD sources, other readily available international databases, or, for certain issues, specifically developed questionnaires. The OECD Family database builds on past and ongoing OECD work, and in many ways the *OECD Babies and Bosses* reviews on the

reconciliation of work and family life, have triggered its development. These reviews, tied together in cross-national fashion information on, for example, household structures, fertility trends, employment outcomes by in view of children's presence in households, as well as policy indicators on parental leave, day-care and early education services, and family-friendly workplaces supports (OECD 2002, 2003a, 2004, 2005, 2007a). The review developed questionnaires on labour market outcomes of parents by household status and the age of the youngest child, which in future will be included in the regular collection of the *OECD Labour Force Statistics* (OECD 2008a).

Other OECD databases are also being used to update information on families. For example, the *OECD Education database* provides a wealth of information on participation in and spending on early education services, as well as information on educational attainment outcomes by gender and employment by attainment level (OECD 2008b). The *OECD Social Expenditure database* matched with information taken from the *OECD Education database* on early education services makes a comprehensive source of information on public spending on early childhood services (OECD 2008c). Ongoing work on Tax/Benefit systems is an invaluable source of information on policies towards families and children (OECD 2007b), while other work as, for example, OECD (2009a), on social indicators and various ad hoc reports on fertility and childcare costs, have also been used to prepare indicators (D'Addio and Mira d'Ercole 2005; Immervoll and Barber 2005; Sleebos 2003). Extensive work on families and children produced by other international organisations, including Eurostat, ILO, the UN, UNECE and the WHO), are another rich source from which indicators can be derived.

Information taken from OECD and other international databases is already cross-nationally comparable, but in the context of the *OECD Family database* further efforts are undertaken to improve comparability when pulling together information from different sources, or through the development of new questionnaires. For example, information on public expenditure on childcare and early educational services has been taken from national statistics, Eurostat and the annual (OECD/Eurostat) data collection on (pre-primary) education (OECD 2008b). In order to get a better comparison of childcare support, indicators have been adjusted for cross-national differences in the compulsory age of entry into primary school. For example, in some (Nordic) countries children enter primary school at age 7, while attending pre-primary schooling the year beforehand; for these countries, expenditure on these 6 year olds was excluded (sometimes using estimates derived on basis of available data on spending on education and the number of 6 year olds). In some other countries children enter school at age 5 (and are therefore not covered by pre-school data) and expenditure data for Australia, New Zealand and the UK was adjusted by adding an estimated spending on 5 year olds in primary school, based on the number of 5 year olds and overall spending on primary schools in the countries at hand.

Similarly newly developed questionnaires are being used to develop cross-nationally comparable data on: family structure (e.g. on children living in reconstituted families); maternity and parental leave (e.g. information on legislated leave periods and income support payments, MISSOC (2007); and, Moss and Korintus (2008)), but also on Out-of-School-Hours (OSH) care. For example,

countries like Denmark and Sweden have since long developed comprehensive information on the use of OSH-services, while information which is becoming available for Belgium, Finland, France, Hungary, the Netherlands and Norway requires much additional work for collation on a comparable basis.

The remainder of this paper presents the structure of the *OECD Family database* as illustrated by different “example indicators”. The discussion will present and discuss the issues that arose when presenting comparable data for all countries and refer to indicators whose development has been hindered by a lack of sufficient data. Finally, the last section discusses areas for future work.

2 What’s in the OECD Family Database?

The first indicators of the database went on-line in December 2006, and the dataset has been gradually expanded to 52 Indicators in June 2009. Indicators in the database typically present the data on a particular issue as well as relevant definitions and methodology, comparability and data issues, information on sources and, where relevant, include the raw data or descriptive information across countries. Updating of the *OECD Family database* is an ongoing process and release of information is not linked to any particular point in time. Existing indicators will be updated and new indicators published as validated information becomes available.

The content of the family database is *OECD Family database* is categorised under four broad headings. Within each category indicators are organised in to conceptual groups (an overview of each category, group and individual indicator is given in the annex). The *structure of families* includes three indicator groups: Families and children; Fertility indicators; and Marital and partnership status. The *labour market position of families includes*: Families, children and employment status; Employment conditions for men and women; and Workplace hours and time for caring. *Public policies for families and children* records: General tax/benefit support for families with children; Child-related leave; and Formal care and education for young children. And the final section on *child outcomes* focuses upon: Child health; Child poverty; Education and literacy; and societal participation.

2.1 The Structure of Families

This section contains information on family composition, demography and family and partnership formation and dissolution (see Appendix 1, Table 1 for a detailed list of indicators). Family size has been decreasing over the last decades reflecting the ageing of societies and the growing tendency to marry and start a family later on in life. This has led to a larger number of childless households as well as single adults living alone. Data on family composition is available through national and international (Eurostat) household surveys. Information on trends in fertility rates is also available across countries and can be updated on an annual basis. Information on the mean age of the mother at first childbirth and the share of births out of wedlock is also readily available. This section also includes information on (trends in) marital and partnership status, which is presently available for about 25 OECD countries (OECD 2009a).

With completed OECD studies on fertility trends (D'Addio and Mira d'Ercole 2005; Sleebos 2003), indicators on fertility rates and their relationship with employment status were quickly developed. Likewise, information on marriage and divorce rates is commonly available across OECD countries and has also been published on a regular basis in various issues of *OECD Society at a Glance* since 2001. Each of these indicators includes trend data where available. Such data and data on household size and composition is also available from national statistical offices as well as EUROSTAT for European countries.

2.1.1 Example Indicator: Fertility Rates

Fertility rates are an important indicator of the shape of future societies, while at the individual level they reflect on the number of children that parents have, and on the likelihood that children will actually have siblings to play with. Across the PECD fertility rates have been declining in recent history, but the decrease in annual Total Fertility Rates is slowing and in some countries TFRs actually increased (as did the OECD average) in 2006 compared to 2005.

The total fertility rate represents the average number of children that would be born to a woman over her lifetime, if she were to pass through childbearing years experiencing the age specific fertility rates for that period. The total fertility rate (TFR) is a synthetic rate and based upon the age-specific fertility rates of women in their child-bearing years which by convention concerns age 15 to 49 inclusive.¹

To ensure replacement of the previous generation and therefore population stability, a total fertility rate of 2.1 children per woman is required to replace the woman, her partner and allow for 0.1 percentage points to counteract infant mortality. This replacement rate therefore does not take into account either migration flows or changes in present mortality rates.² Figure 1 shows that in 2006, TFRs were well below replacement level in most OECD countries.

TFRs are the most common way of internationally comparing fertility rates in OECD countries (and on a world-wide basis) as these data are widely available. However, a more accurate way of comparing and calculating fertility rates is to use specific age cohorts. In this method, the number of births occurring is profiled by the mother's age. Figure 2 shows cohort fertility rates in selected OECD countries for two birth cohorts of mothers; it compares the number of births that occurred—and at what time in their reproductive cycle—to women born between 1951 and 1955 with women born 20 years later (1970–1975). Figure 2 shows that the 1975 cohort had less births early in the reproductive cycle compared to women from the 1955 cohort, but the younger cohort had a similar or higher number of births from age 30 onwards.

Figure 3 shows that across OECD-countries the relationship between female employment and fertility has clearly changed over the last 25 years. Apart from the

¹ Using the 15–49 age group to calculate total fertility rates is not entirely correct as in many countries there has been an increase in the number of women giving birth in their 50s. However, this number remains small so the resulting error is negligible.

² The replacement value of 2.1 is also a rough estimate of the replacement of a population as infant mortality rates vary between countries; in countries where infant mortality is above average, replacement values would be correspondingly higher.

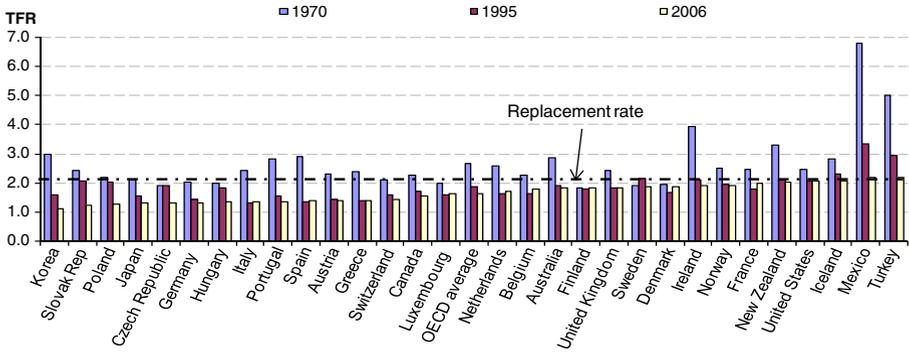


Fig. 1 Total fertility rates in 1970, 1995 and 2006

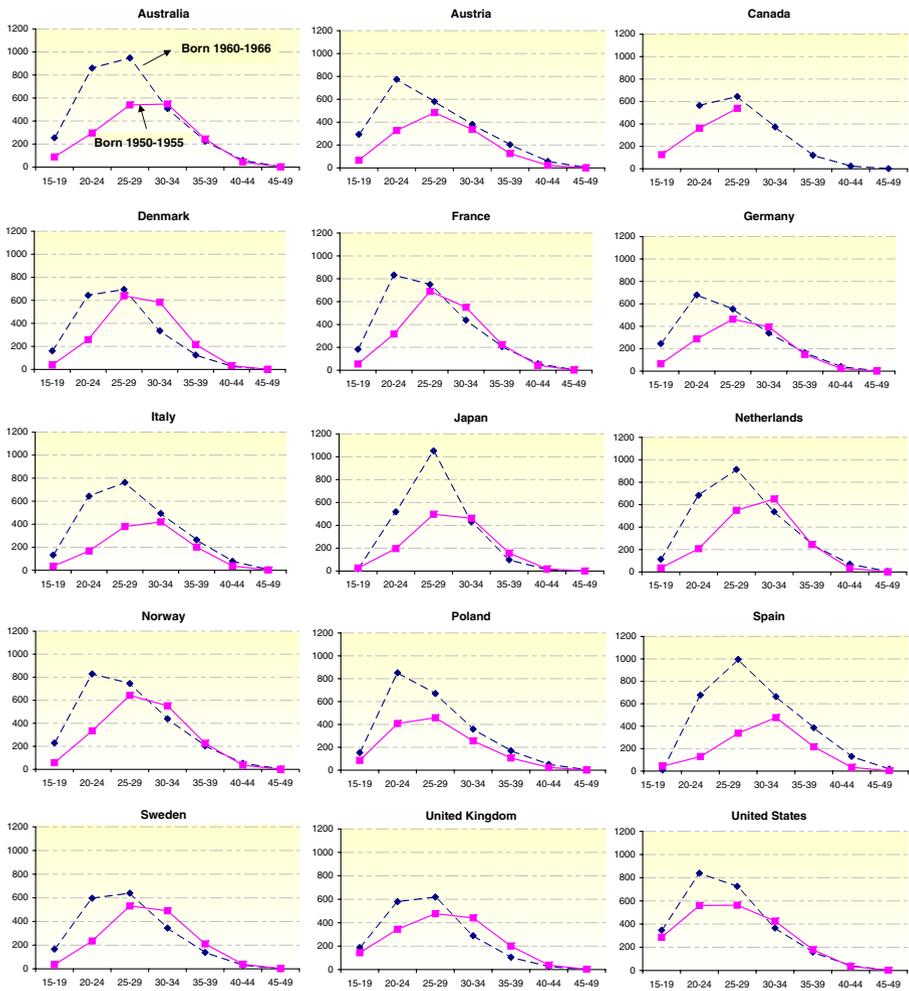


Fig. 2 Profiles of cohort fertility rates in selected OECD countries. Note: data refer to the age-specific fertility rates of different birth cohorts observed at the same age (e.g. 15–19). Birth cohorts are reported on the horizontal axis

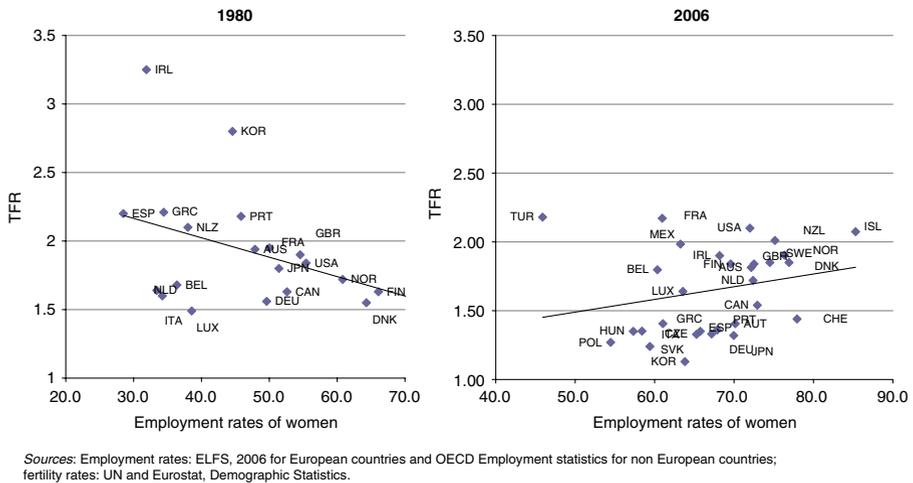


Fig. 3 The relationship between female employment rates and total fertility rates has changed between 1980 and 2006

general increase in female employment, in 1980 there was a clear negative correlation between female employment and fertility rates, while in 2006 OECD countries with higher rates of female employment also had relatively high fertility rates. Clearly, the degree of incompatibility between paid work and providing care has diminished, but there are substantial cross-country differences: combining childrearing and being in employment is most incompatible in the Mediterranean countries and Japan and Korea and seems least incompatible in Nordic countries, New Zealand and the US.

2.2 The Labour Market Position of Families

This section contains information relating to employment status of family members (Appendix Table 2). Indicators provide information on the position of children according to the situation relating to work of their parents. They also include the employment patterns of couples and sole parents as well as an examination of the effect of parenthood upon participation in the workforce. Indicators on labour market outcomes by gender include gender wage gaps and differences regarding various aspects of employment, in terms of working hours and the nature of employment relationship. Outside the EU, cross-nationally comparable information on family-friendly workplace policies is more difficult to find, and comparisons remain limited to just a few indicators.

The OECD *Labour Force Statistics* (OECD 2008a) and OECD *Employment Outlook* (OECD 2008d) hold a wealth of labour market statistics from which many indicators on the employment position of men and women can be drawn with relative ease. The OECD databases on temporary employment and earnings hold indicators on gender differences in employment conditions and remuneration. ILO (2006) holds information on gender concentration in employment sectors and

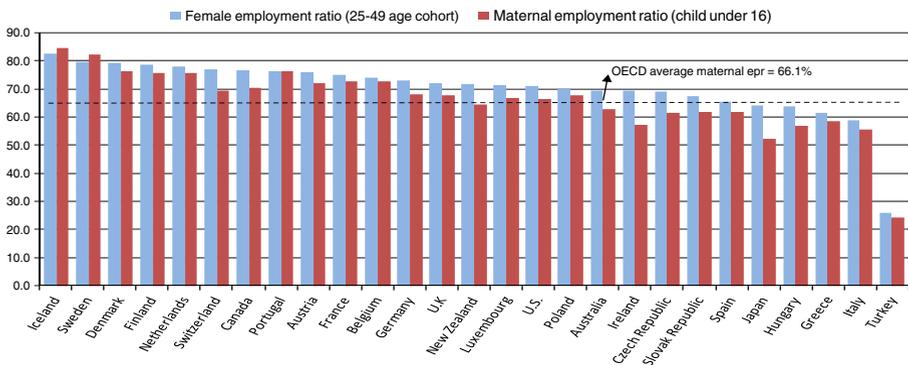
occupations as well as information workers with management and supervisory responsibilities by gender.

2.2.1 Example Indicator: Female Employment Rates by Family Status

The employment-population ratio refers to the number of persons in paid employment as a percentage of the population of given categories of age or given family status. Figure 4 presents data for mothers in employment as a percentage of the population of mothers with at least one child aged under 16 living at home. These employment/population ratios are compared with the employment/population ratio for women aged between 25 and 49, this being the age cohort typically most concerned with rearing of young children. Compared to employment rates of women in this age group, maternal employment rates are lower in all countries except Iceland and Sweden. At over 10 percentage points, the employment gap between women aged 25 to 49 and mothers is highest in Ireland and Japan.

Maternal employment rates are influenced by family status. The presence of a partner is a first key characteristic impacting maternal employment rates, as shown by Fig. 5. The proportion of sole-mothers in paid employment is higher than that of partnered mothers in most countries, particularly in Greece, Italy, Luxembourg, Spain and the Slovak Republic where differences are 20 percentage points or more. In southern European countries, sole parents have to engage in paid work as public benefits for sole parents are low, often relying on informal networks for care support. By contrast, in countries where income support for sole parents is substantial and where (at least until recently) there is little expectation of them being in work, employment rates among sole mothers are much lower than those of partnered mothers, as for example, in Australia, Ireland and the UK.

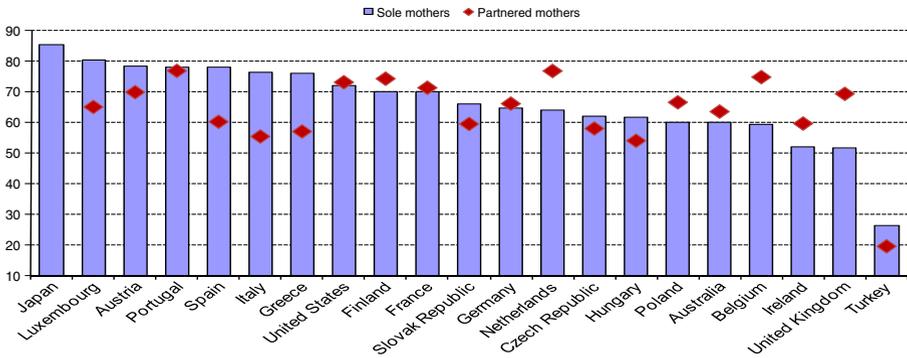
The presence of young children is also one determinant of mothers' labour market participation. However, the impact of the age of the youngest child on employment



Countries are ranked by decreasing female employment rates.

1) Year 2006 for Switzerland; 2005 for Australia, Japan, New Zealand and the US; 2002: Iceland; 2001: Canada; 1999: Denmark. Sources: European Labour Force Surveys (2007) for EU countries; Australia: Australian Bureau of Statistics (2005); Canada: Statistics Canada (2001); Denmark: Statistics Denmark (1999); Iceland: Statistics Iceland (2002 for women age 25-54); Japan: Japanese national census (2005); Switzerland: Swiss LFS (2006); United States: US Current population survey (2005).

Fig. 4 Maternal employment rates compared to female employment rates, 2007

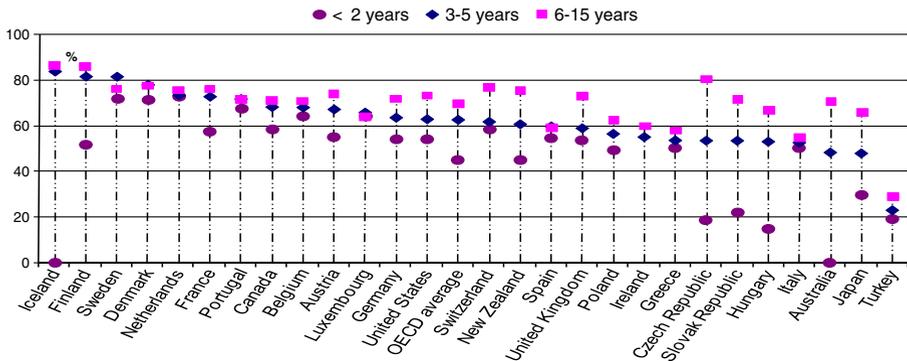


1) Year 2007, except 2006 for Australia.
Sources: Australian Bureau of Statistics; United States Bureau of Labour Statistics; all other EU-countries and Turkey, ELFS.

Fig. 5 Sole mothers and partnered mothers aged 15 to 64 in paid employment, 2007

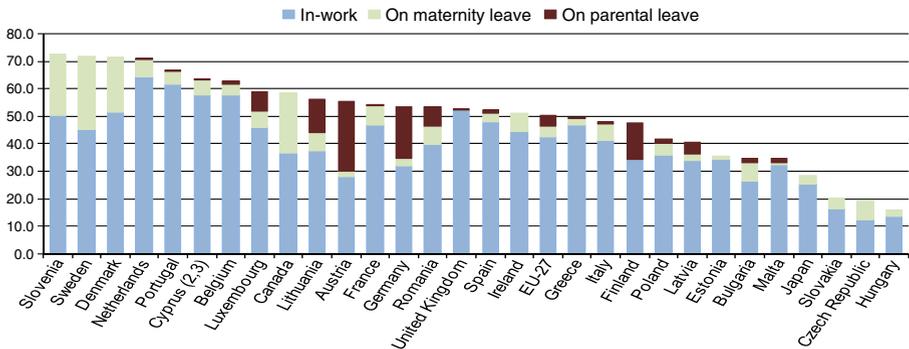
rates varies significantly across OECD countries, as shown in Fig. 6. In most countries, mothers are more likely to be in work when their child reaches the age of compulsory schooling (aged 6 in most countries). Some countries (the Czech Republic, Finland, Germany, Hungary and the Slovak Republic) have markedly low employment rates for mothers with very young children (less than 3 years of age). In these countries, extended “home-care leave” or “childcare leave” is available for up to 3 years and leave takers are not counted as employed during this period.

The lower rates of employment for mothers with very young children is related to different factors including differences in childcare institutions (see below), but also to differences in how women in parental leave are counted (Fig. 7). In principle, all women on maternity or on statutory paid parental leave (legal or contractual) are counted as employed. EU-guidelines stipulate counting parents on parental leave as employees absent for other reasons: they should be counted as employed if the period of absence is less than 3 months or if they continue to receive a significant



Countries are ranked in descending order of maternal employment rates with the youngest child aged between 3 and 5. Data for Australia, Iceland and Ireland refer to mothers with a youngest child aged less than 5.
1) Year 2006 for Switzerland; 2005 for Australia, Japan, New Zealand and the US; 2002: Iceland; 2001: Canada; 1999: Denmark.
Sources: see figure 2.2.1

Fig. 6 Maternal employment rates by age of youngest child, 2007



1) 2003 for Sweden; 2002: Ireland; 2001: Canada and Japan; 1999: Denmark.
 Source: European Labour Force Surveys 2006 and OECD (2007), *Babies and Bosses, Reconciling Work and Family Life: A synthesis of findings for Canada, Denmark, Ireland, and Japan*.

Fig. 7 In-work and on-leave rates for mothers with children under 3 years, 2006

portion of previous earnings (at least 50%). However, national treatment of long or unpaid parental leave varies widely. For example, many parents on parental leave in Austria (up to 2 years) are counted as inactive, while leave is technically unpaid (there is an income support benefit for all parents with a child not yet 30 months old). By contrast, many of the parents in Finland on home-care leave (which is often taken when the child is 1 to 3 years of age) are often included in the employment statistics.

2.3 Public Policies for Families and Children

Over the years the Social Policy Division has amassed a wealth of information on family policies through work on the OECD Social Expenditure database (OECD 2008c), Net Social Expenditure (Adema and Ladaique 2009), the different *Babies and Bosses* reviews, *Taxing Wages* (OECD 2003b), and *Benefits and Wages* work (OECD 2007b). Additional information on pre-school education can be taken from the *OECD Education database* (OECD 2008b).

The indicators in this section are intended to give a cross-national overview of family support policies. Information included should help users to answer questions such as: Is public support for families generous, and is the tax system used to deliver family support? What benefits are available for low-income families and single parents? Is childcare publicly, or private provided? Is income support during parental leave high or low? Can parents afford to work or are childcare fees prohibitively high (Immervoll and Barber 2005)?

Indicators collected so far include public support on family benefits, concerning cash transfers, fiscal measures and the provision of services that is exclusively for families, as for example, child payments and allowances, parental leave benefits and childcare support (public spending on health and housing support also assists families, but not exclusively, and is not included here). Equally important is public spending on primary, secondary and tertiary education which also constitutes significant public support for families.

The next group of indicators describes the public support provisions in terms of employment-protected parental leave. The indicator features duration of maternity,

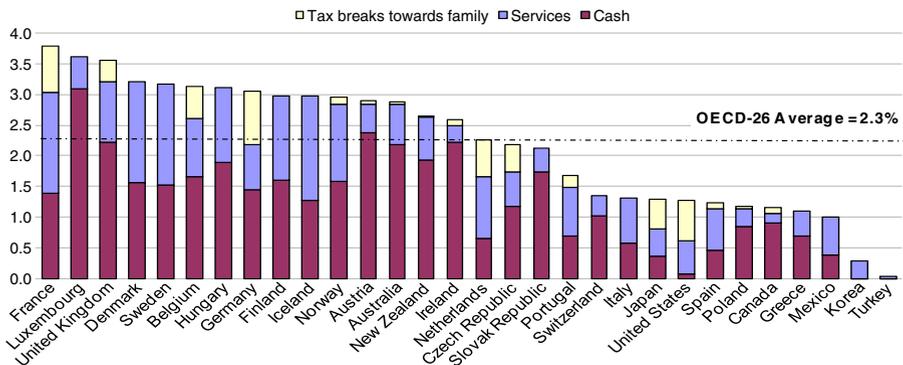
paternity and parental leave entitlements as well as public income support during these periods. To allow better comparison of the generosity of entitlements across countries, a weighted index of payment rates and duration is constructed, while public spending on income support during leave is related to the number of children who are born, to illustrate the coverage of child-related leave payments.

The final set of indicators in the policy section draws together information on childcare and early education from different sources within the OECD. On the basis of these sources, the Secretariat has developed indicators on formal early years' services in terms of public spending and enrolment. Indicators on the quality of early years' care and education services have been developed in the course of the OECD *Starting Strong* reviews.

2.3.1 Example Indicator: Public Spending on Family Benefits

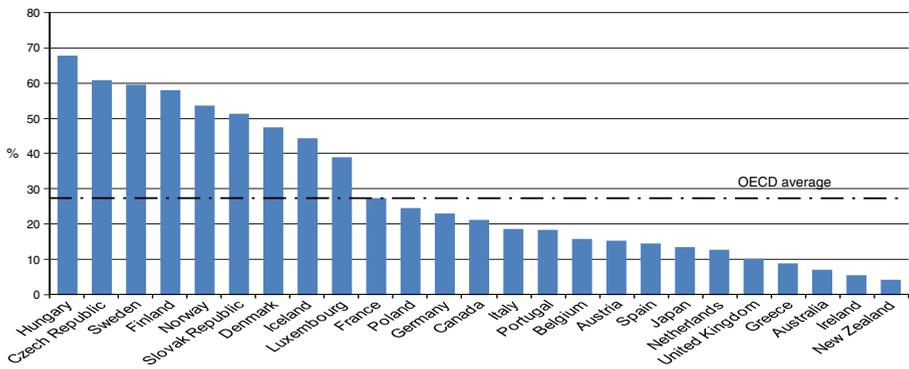
Public spending on family benefits includes financial support that is exclusively for families and children. Spending recorded in other social policy areas such as health and housing also assist families, but not exclusively, and it is not included here. Broadly speaking there are three types of public spending on family benefits: (a) Child-related cash transfers to families with children; (b) public spending on services for families with children; and (c) Financial support for families provided through the tax system. In many OECD countries, including Belgium, Germany, France, Ireland, Portugal, and Switzerland, support for families with children is embedded in the tax unit, so that at a given income level, the larger the family the lower taxable income. These measures may not be tax expenditures (they do not establish a deviation from the national standard tax system), but such policies clearly establish financial support for families with children, and indicators on such support are included in the data.

OECD countries spend on average 2.3% of their GDP on family benefits, with large variations across countries (Fig. 8). Whilst public spending on family benefits is above 3.5 percentage points of GDP in France, Luxembourg and the United Kingdom, public spending in this area is less than 1 percentage points in Mexico and Korea. The proportional total amount spent in cash, services and tax measures is



Source: OECD Social Expenditure database and Education database

Fig. 8 Public spending on family benefits in cash, services and tax measures, in per cent of GDP, 2005



Source: OECD Social Expenditure database

Fig. 9 Spending on maternity and parental leave payments per child born, 2005

variable. The majority of countries spend a higher proportion in cash benefits than in services or tax benefits. Exceptions include France, Denmark, Iceland, Italy, Korea, Mexico and Spain, where spending in services is higher. On the other hand, the proportion spent on tax breaks towards family is of considerable size in Germany, Japan, the Netherlands, and particularly in the United States.

The entitlements to leave periods for working parents after the birth of a child allow parents to provide personal care to their child. The *OECD Family database* presents the key characteristics of maternity, paternity and parental leave in terms of conditions for eligibility, payments rates and duration. Because of the large cross-country variations in entitlements and use of leave, the total amount of maternity and parental leave payments per child varies considerably across OECD countries (Fig. 9).

2.3.2 Example Indicator: Enrolment in Day-Care and Pre-Schools

Child-care provision differs greatly from country to country but in the main enrolment rates presented here for 0–2 year olds concern primarily formal child-care arrangements such as group care in child-care centres, registered childminders based in their own homes looking after one or more children, and, care provided by a carer at home who is not a family member but often lives within the household. Enrolment rates for 3 to 5 year olds concern those enrolled in formal pre-school services, and in some countries 4 and 5 year olds in primary schools (a separate indicator on out-of-school-hours provision will be developed). In this indicator, all children age 3–5 enrolled in day-care facilities and pre-schools are included, regardless of whether these institutions are considered part of the formal education set-up in countries.

For many countries enrolment rates can be calculated by single year of age, for many others enrolment rates for the under threes are only available for the 3-year age cohort. For children aged 3 to 5 a yearly enrolment rate can has been calculated as enrolments are available by single year of age for all OECD countries. Figure 10 presents average participation rates for the age-groups 0–3 and 3–5. On average, across OECD countries for which data is available, around 30% of children under the age of three used childcare facilities in 2006. However, whereas enrolment rates

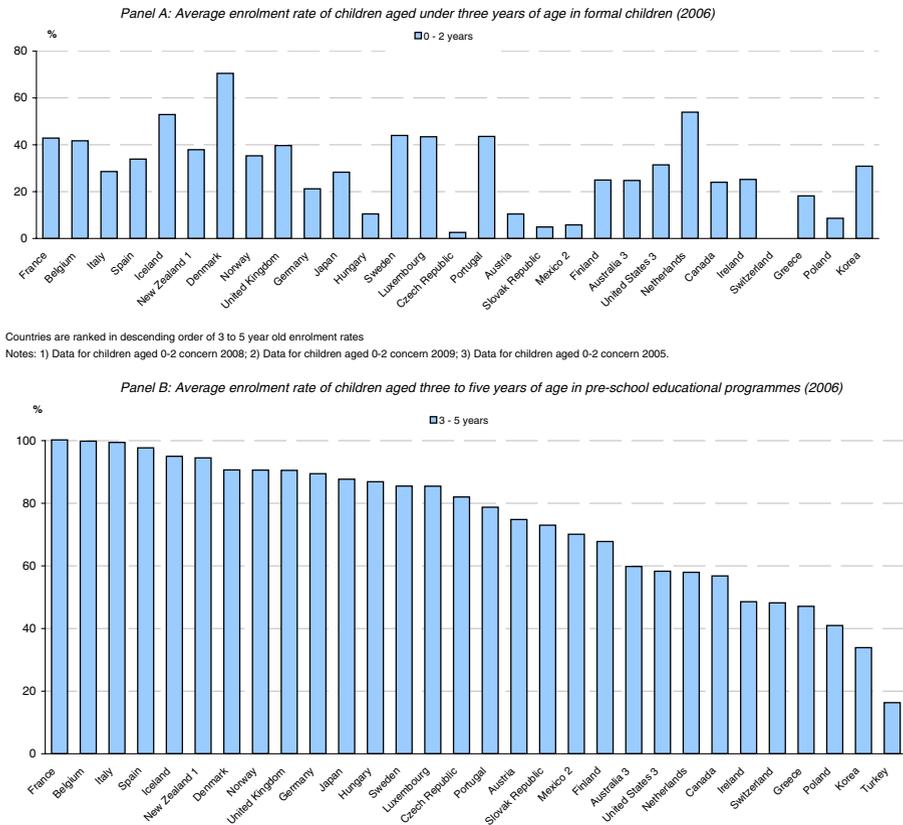


Fig. 10 Enrolment rates of children under six in childcare and early education services, 2006

of young children were less than 10% in the Czech Republic, Poland and the Slovak Republic, more than 50% of children in this age group were enrolled in formal childcare in Denmark, Iceland and the Netherlands.

Data on the participation of very young children (under 3) in formal day-care services come from very different sources: *OECD Babies and Bosses reviews*, *OECD Starting Strong reviews* of early childhood education and care (OECD 2001, 2006), the *OECD Education database*, the Eurydice database, NOSOSCO reviews of social protection in Nordic Countries and various publications by National Statistical Offices and national sources. Where children are enrolled in more than one part-time programme the issue of double counting arises. For example, in some countries, kindergartens are only open for a half a day. It is therefore possible that a child could attend kindergarten in the morning and then family day care in the afternoon. These categories are commonly reported together and so the same child could be counted twice. This leads to an over-estimated participation rate.

In some countries (including Australia, Canada, Ireland, Mexico and the United States) where a significant part of childcare is provided locally, privately or through informal channels, underreporting may lead to a significant underestimation in the participation rate.

Enrolment rates of 3 to 5 year olds are mainly sourced from the UOE Education data collection (an inter-organisational data collection undertaken jointly by UNESCO, OECD and EUROSTAT) based upon head counts. Pre-school programmes in the main are classified as ISCED 0 (ISCED refers to education levels as described by the International Classification of Education) where education programmes must be centre- or school based and designed to meet the educational and developmental needs of children. In some countries however, a significant number of 4 and 5 year olds are enrolled in primary school programmes (ISCED 1), as for example, in the UK. Enrolment rates presented here include all children aged three to five inclusive, irrespective of the ISCED-level under which they are classified. In addition, in some countries (Australia and Korea for example) a significant proportion of children are enrolled in day care programmes that do not meet ISCED 0 requirements, that is, the curriculum does not contain over 50% of pedagogical content or the majority of staff do not hold recognised qualifications (according to ISCED). These enrolled children are included in the participation rates shown above.

The intensity with which childcare is used varies considerably across countries. For example, in Sweden children typically participate for 6 hours per day for 5 days a week, while in the Netherlands participation in formal childcare for only one or 2 days per week is not uncommon. For example, in Sweden very young children typically participate for 6 h per day for 5 days a week, while in the Netherlands participation in formal childcare for only 1 or 2 days per week is not uncommon. The full-time equivalents in Fig. 11 try to capture differences in

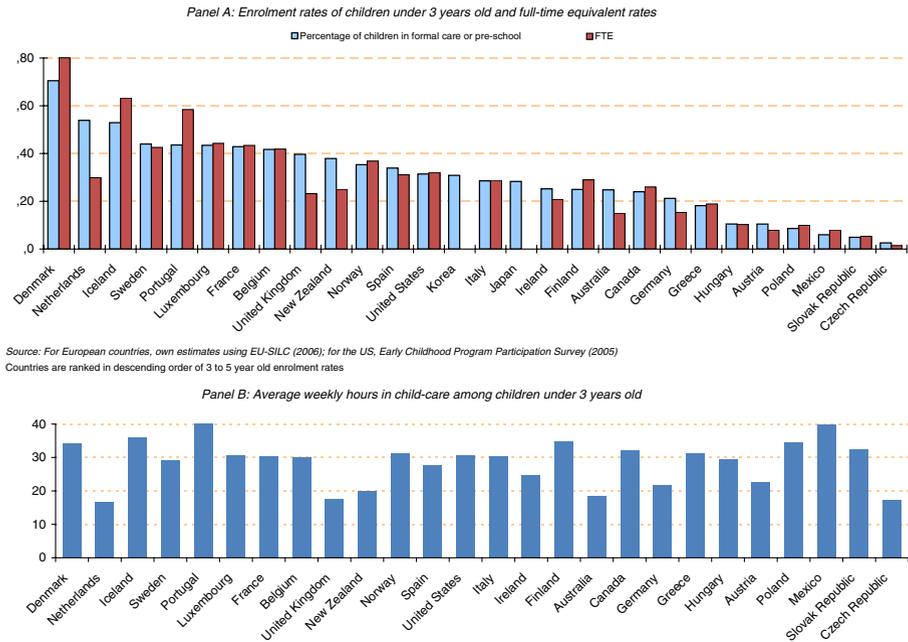


Fig. 11 Participation in formal childcare by children not yet 3 years old, 2006

intensity of childcare use for children not yet 3 year of age for those countries for which data is available.

Participation rates decrease in several countries after adjusting for intensity of use. For instance, in the Netherlands, 54% of children ages 0–2 attend formal childcare services. However, in the Netherlands the average number of hours in childcare is 17 h per week (panel B), which leads to a full-time equivalent enrolment rate of about 30% in the Netherlands. Similarly, in the United Kingdom, while 40% of very young children received formal childcare in 2006, the full-time equivalent rate was 23%. By contrast, in countries like Denmark, Iceland and Portugal, full-time equivalent rates are higher than participation rates as many children use formal childcare for over 30 h per week.

Different sources use different methods of data collection which may further hamper international comparisons. Enrolment in pre-school facilities presented in the *OECD Education database* is based upon actual numbers of students participating in these programmes and a percentage is calculated by using population data as a denominator. The same rule applies to some countries who collect actual enrolments in childcare facilities for the under threes. In other countries, however, data on childcare facilities has been collected through the medium of household surveys and its quality may be affected by sample size, and sample selection issues.

2.4 Child Outcomes

There is growing interest in child outcomes and child well-being and in finding out what works in improving life chances of children, whether public interventions should occur sooner rather than later, and what type of interventions are effective. Information is now available on different aspects of child well-being, including health, material well-being, educational attainment differentiated by gender. Growing up in poverty is a key determinant of child outcomes, and the OECD income distribution study facilitates the presentation of indicators on child poverty, by family and employment status of parents, for about 20 OECD countries with results from the year 2005 (Whiteford and Adema 2007).

Developing indicators on “if and how” children and teenagers grow into young adults who are fully involved in their community and society is much more challenging, although some information is available. For example, available data include information on whether young adults (15–29) participate in voluntary work and belong to non-government organisations. Participation rates for first-time voters can also be estimated.

A first set of indicators concern the health status of children in the early years after their birth. This status is captured by information on infant mortality, the prevalence of low birth weight, vaccination and breastfeeding rates, and by the proportion of children with diabetes or asthma (Appendix Table 4 for a complete list of indicators and sources). Information is also provided for adolescent children on the proportion of children with problems of overweight, obesity, smoking habits and substance abuse.

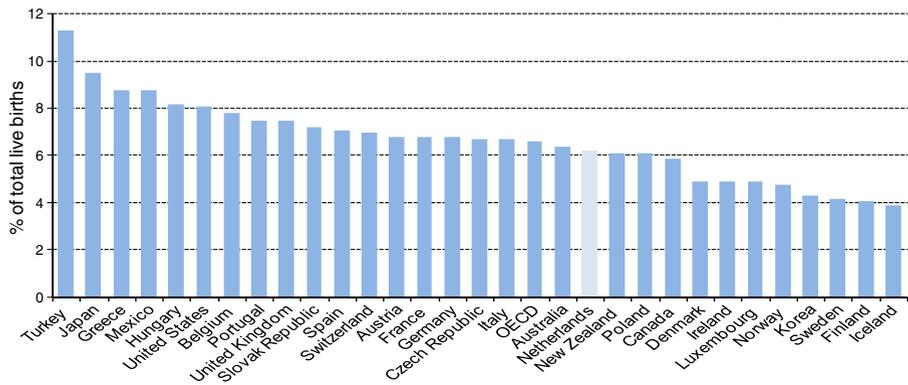
2.4.1 Example Indicator: Low Birth Weight

Low birth weight is an important indicator of infant health because of the close relationship between birth weight and infant morbidity and mortality. Low birth weight infants have a greater risk of poor health or death, require a longer period of hospitalisation after birth, and are more likely to develop significant disabilities (UNICEF & WHO 2004). Risk factors for low birth weight include low parental socio-economic status, increased maternal age and multiple fertility, harmful parental behaviours such as smoking, excessive alcohol consumption and poor nutrition during pregnancy, as well as a poor level of pre-natal care.

As defined by the World Health Organization (WHO), an infant is considered to be of low birth weight if his/her weight at birth is less than 2,500 g (5.5 lbs) irrespective of the gestational age of the infant. This threshold is based on epidemiological observations regarding the increased risk of death to the infant and serves as a benchmark for international comparisons. The proportion of low birth weight infants is then the number of low birth weight births divided by the total number of live births.

Compared with an overall OECD average of 6.6% in 2005, the Nordic countries (Denmark, Finland, Iceland, Norway and Sweden), along with Ireland, Korea and Luxembourg reported the smallest proportions of low birth weight with 5% or less of live births below 2.5 k (Fig. 12). By contrast, Greece, Hungary, Japan, Mexico, Turkey and the United States reported proportions of low birth weight infants above 8%.

Educational achievement is also one important topic for the assessment of adolescent children outcomes. The OECD Programme for International Assessment (PISA) measures student performance in the domains of reading, mathematics and science at age 15. Information is also collected on students education history and family background which allows for the assessment of the impact of pre-school participation (information on participation in childcare and early education is



1) Data refers to 2005, except for Australia, Belgium, Canada, France, Iceland, Italy, New Zealand, Norway, Spain, Sweden and the United States (2004) and Turkey and Luxembourg (2003).

Source: OECD Health Data 2007 and World Health Organization Regional Office for Europe (Health for all database)

Fig. 12 Low birth weight infants, 2005

included in the previous section) as well as controlling for parental educational attainment and employment status.

The levels of educational attainment among 25–34 year olds, by subject of study and by gender, can also be used to illustrate schooling outcomes (OECD 2008a). Distribution of graduates by field of study and gender also gives an idea of the career paths available to men and women and lastly youth inactivity rates indicate the extent to which youngsters have difficulties in securing labour force attachment.

2.4.2 Example Indicator: Literacy Scores by Gender at Age 15

The OECD’s Programme for International Student Assessment (PISA) strives to ascertain how students at age 15 (i.e. when approaching the end of compulsory schooling), are performing in the basic knowledge skill sets of reading, mathematics, and scientific literacy (OECD 2004b). The assessment tests reading, mathematical and scientific literacies in a way that looks at the capacity of students to address real life challenges. For example, reading literacy in PISA tests more than the ability to decode text and grammatical structures by also asking students to identify different types of text and relate them to the contexts in which they appear. Mathematical literacy similarly is defined as a student’s capacity to identify, understand and engage in mathematics. Scientific literacy is defined as a student’s capacity to use scientific knowledge and to draw evidence-based conclusions. The first PISA-assessment took place in 2000 where the main assessment domain was reading literacy; in 2003 the focus was on mathematics (most of the data presented here are based on that year); and, in 2006, the focus of study was on scientific literacy (OECD 2007c).

Figure 13 presents the gender difference in mean scores on the reading, mathematics and science literacy scales. Results show there are considerable gender differences among 15-year olds. In particular, female students perform

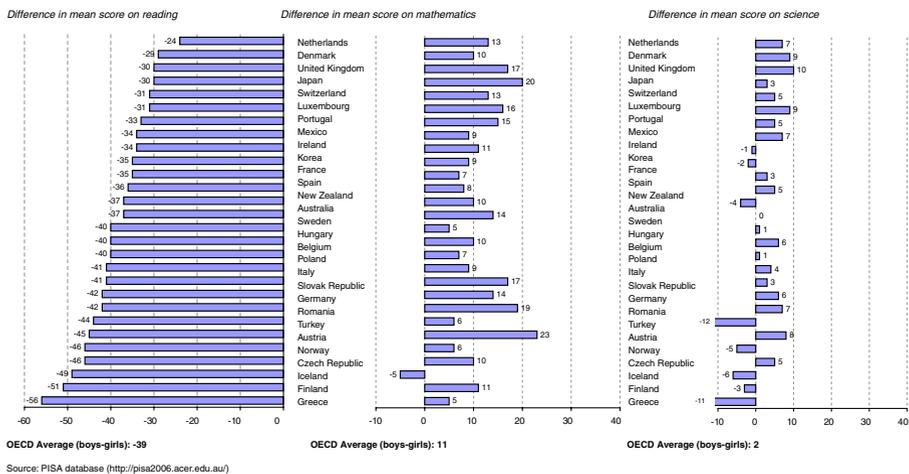


Fig. 13 Gender differences (boys–girls) in student performance in reading, mathematics and science in PISA 2006

better in reading literacy on average across OECD countries. Conversely, males perform better in mathematics.

There are significant gender differences: young female students across OECD countries perform better in reading literacy than their male peers, while boys perform better in mathematics. On average, boys have slightly better science literacy scores than girls, but the difference is relatively small and in 14 out of 19 countries girls score better than boys.

The PISA assessment process devotes substantial efforts and resources to achieving cultural and linguistic breadth and balance in the assessment materials, to provide students with equal chances of successful performance. Stringent quality assurance mechanisms are applied in translation, sampling and data collection. If countries fail to meet sampling size requirements they will be omitted from the published international comparisons. This was the case in the Netherlands in 2000 and subsequently the United Kingdom in 2003 which both failed to achieve sampling size requirements and were therefore excluded from the main results. In 2006, reading tests in the United States were excluded from the report due to a fieldwork error that could have affected student performance.

2.4.3 Example Indicator: Gender Differences in University Graduates by Fields of Study

Gender differences in educational orientations are also an important issue to consider in order to understanding the process of labour market segmentation. Data on graduates by field of study are collected through the joint UNESCO, OECD and EUROSTAT (UOE) annual data collection on education systems. Graduates are classified as having successfully followed and completed a university programme and graduated in the specified year; this is then further disaggregated by gender and subject.

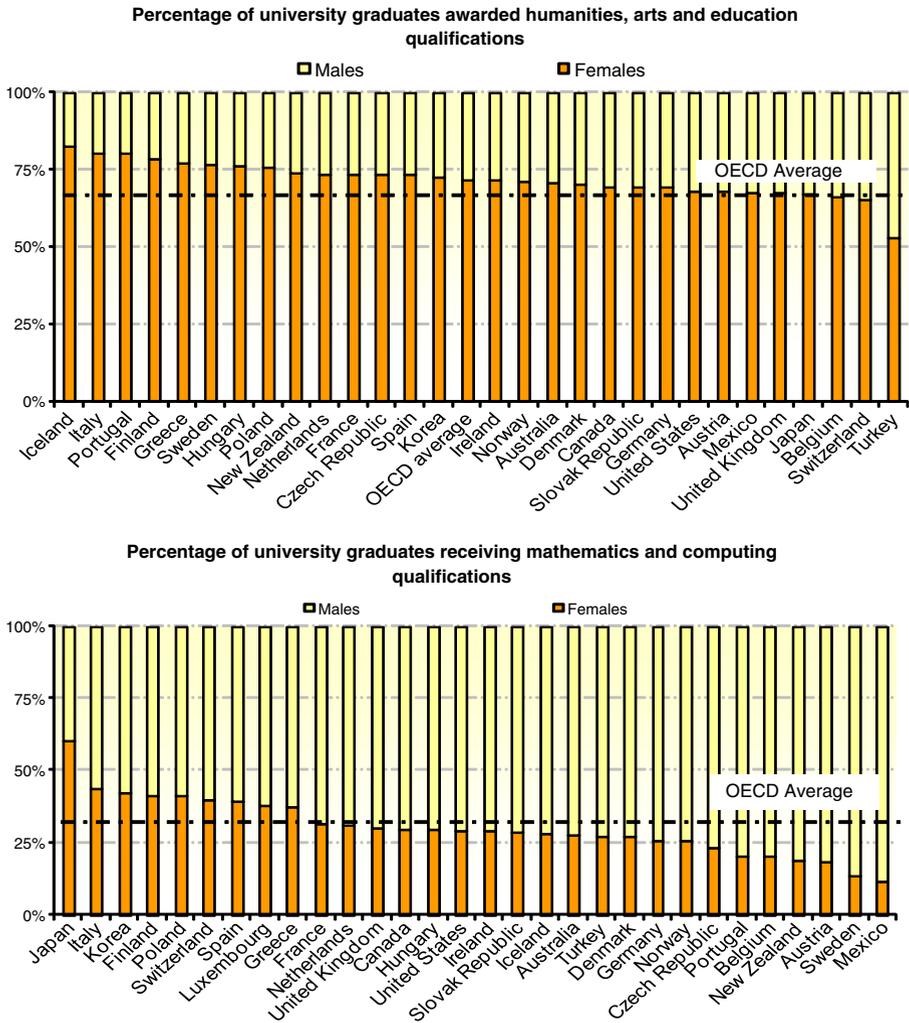
Figure 14 shows the predominance of female graduates in humanities, art and education subjects. Included within this category are courses in fine arts, performing arts, graphic and audio arts e.g. photography, foreign languages, linguistics and literature, history and archaeology. Some prospective careers stemming from these degrees would include schoolteachers, interpreters and archaeologists.

Conversely, mathematics and computing are predominately studied successfully by male students. Courses in this area would include statistics, actuarial science, computer programming, data processing and software development. Prospective careers would be found in hi-tech, the financial sector and insurance.

3 Future Development of the OECD Family Database

Plans for the future development of the database include the inclusion of new indicators as well as the improvement of tools for comparative assessment of policies and outcomes. For example, it is intended to develop indicators in the following areas:

- The provision of informal care for children.
- Family dissolution, and reconstitution and the number of children involved.
- The prevalence of violent behaviour in families.



Source: OECD Education database

Fig. 14 Gender differences in university graduates by fields of study, 2004. Source: OECD Education database

Work is ongoing to expand the information set on parental leave. In particular, historical information on parental leave reform is being developed which can be used to empirically assess the possible effects of reform on, for example, child outcomes and maternal labour force behaviour.

Another strand is to develop information on financial support for older children and assess how public policy supports families across countries as children grow up.

In September 2009, the OECD will release its *Doing Better for Children* (OECD 2009b). This study includes many policy-related well-being indicators that can be included in the database. Follow-up work on this study will facilitate the develop of

the current child outcomes section in the database into a full blown Child Well-being module with indicators covering the different stages of the early life-course.

1 Appendix

Table 1 The structure of families

Indicator	Source
Families and Children	
SF1 <i>Family size and composition</i>	National Censuses and Eurostat
Average household size; families with children as a percentage of all households; share of families with one child, two children, three or more; share of sole parent families; Share of couple families; and share of the population living in different types of households	Population and Dwelling Census and OECD questionnaire
SF2 <i>Children in families</i>	National Censuses and Eurostat
Number of children; share of children living in one-parent households by gender of parent; share of children living in couple families; and, share of children living in extended families	Population and Dwelling Census and the European labour Force survey (ELFS) and OECD questionnaire
SF3 <i>Further information on living arrangements of children</i>	National Censuses and Eurostat
Children without siblings; Children living in re-constituted families; Orphans; Children living in institutions; Adopted children in foster parent families	Population and Dwelling Census, ELFS and <i>Health Behaviour in School-aged Children</i> (HBSC)
Fertility indicators	
SF4 <i>Fertility rates:</i>	UN and Eurostat Demographic Statistics, National Statistical Offices
Total fertility rates; Cohort fertility rates	
SF5 <i>Mean age of mother at first childbirth</i>	UN and Eurostat Demographic Statistics, National Statistical Offices
SF6 <i>Share of births outside marriage and teenage birth</i>	UN and Eurostat Demographic Statistics, National Statistical Offices
SF7 <i>Childlessness:</i>	
Proportion of childless women at age 40 (and/or) 45 by educational attainment	National Demographic Data, various national sources
Marital and partnership status	
SF8 <i>Marriage and Divorce rates</i>	
Marriage rate, Divorce rate mean marriage duration;	UN and Eurostat Demographic Statistics, National Statistical Offices
SF9 <i>Cohabitation rate and prevalence of other forms of partnership</i>	Census, Eurostat

Table 2 Public policies for families and children

Indicator	Source
General tax/benefit support for families with children	
PF1 <i>Public spending on family benefits</i>	OECD Social expenditure database
PF2 <i>Public spending on education</i>	OECD Education database
PF3 <i>Family benefits</i>	OECD Benefits and Wages and OECD Taxing Wages
Typology of financial support for families with children; public support for families at different levels of income; parameters of income support for sole parent families	
PF4 <i>Gender-neutrality of tax/benefits systems</i>	OECD Benefits and Wages and OECD Taxing Wages
PF5 <i>Child Support (maintenance) Systems</i>	LIS survey/administrative records
PF6 <i>Parenting support</i>	National authorities
Child-related leave	
PF7 <i>Key characteristics of parental leave systems</i> Duration of employment-protected pregnancy/maternity, paternity and parental, and where appropriate childcare leave. Income support during leave (at full-time equivalent payment rates) and its coverage across the population	Babies and Bosses, MISSOC, NOSOSCO, ISSA, and Moss and Korintus (2008)
PF8 <i>Use of leave benefits, by mothers and fathers</i>	ELFS and administrative records.
PF9 <i>Additional leave entitlements of working parents</i> Statutory holiday entitlements; leave to care for sick children; termtime leave	Legislation, Babies and Bosses, and Moss and Korintus (2008)
Formal care and education for very young children	
PF10 <i>Public spending on childcare and early education</i>	OECD Social expenditure database
PF11 <i>Enrolment in day-care and pre-school</i>	Babies and Bosses, Starting Strong, OECD Education database
PF12 <i>Childcare support</i> Typology of childcare benefits and net parental fees by family type and income level	OECD Benefits and Wages.
PF13 <i>Typology of childcare and early education services</i>	OECD Babies and Bosses and OECD Starting Strong
PF14 <i>Quality of childcare and early education services</i> Child to staff-ratios and information on training and qualifications of carers and educators	OECD Babies and Bosses and OECD Starting Strong
PF15 <i>Out-of-school-hours care</i>	National authorities

Source: LIS Luxembourg Income Study; OECD Babies and Bosses (various issues), OECD, Benefits and Wages, 2007, OECD Taxing Wages, OECD Starting Strong (2 issues and various country notes), for more detail on ISSA (2006) Social Security, Worldwide; MISSOC (2007), Mutual Information System on Social Protection, Moss and Korintus (2008), International review of leave policies, and related research, and NOSOCO (2007), Social Protection in the Nordic Countries

Table 3 The labour market position of families

	Indicator	Source
Families, children and employment status		
LMF1	<i>Children in families by employment status</i> Share of children in couple families that are jobless, one adult in employment (FT/PT), and both adults in employment (2 FT, FT/PT and 2 PT); and, Children in sole parent families by employment status of the adult, jobless or in part-time or full-time employment	E-LFS, national surveys and questionnaire
LMF2	<i>Maternal employment</i> Maternal employment, by age of children, 0–2, 2–4, 4 and over, and number of children; and Mothers in employment with a child under 3	OECD database on Labour Force Statistics
LMF3	<i>Maternal employment by family status</i> Mothers in couple families and sole mothers in employment (FT/PT) by age of the youngest child	E-LFS and questionnaire
Employment conditions for men and women		
LMF4	<i>Employment profiles over the life-course</i> Cross-cohort comparisons of employment rates by 5-year age groups by gender (synthetic “M”curves)	OECD database on Labour Force Statistics
LMF5	<i>Gender pay gaps for full-time workers and earnings by educational attainment</i>	OECD Earnings database
LMF6	<i>Gender differences in employment outcomes</i>	OECD database on Labour Force Statistics and E-LFS
Workplace hours and time for caring		
LMF7	<i>Usual weekly working hours among men and women by broad hours groups: 1–30, 30–34, 35–39, 40–45, 45 and over</i>	E-LFS, national surveys
LMF8	<i>The distribution of working hours among adults in couple families individually</i> , by broad hour groups (as above), presence of children, and age of youngest child	E-LFS, national surveys and questionnaire
LMF9	<i>The distribution of working hours among single persons</i> by broad hour groups (as above), presence of children, and age of youngest child	E-LFS, national surveys and questionnaire
LMF10	<i>Family-friendly workplace practices</i> Statutory entitlements to regular working-time adjustments; extra-statutory workplace support provisions for parents, flexible working-time practices	Legal provision, European Survey Working Condt. national surveys and national surveys
LMF11	<i>Time used for work, care and daily household chores</i>	Time use surveys (HETUS and other national surveys)
LMF12	<i>Time spent travelling to and from work</i>	Same as LMF11

Source: E-LFS European Labour Force Surveys, Eurostat; Harmonised European Time Use Surveys (HETUS)

Table 4 Child outcomes

	Indicator	Source
Child health		
CO1	<i>Infant mortality</i>	OECD Health Data
CO2	<i>Early health indicators</i>	OECD Health Data, WHO indicators
	CO2a Low birth-weight,	
	CO2b Vaccination rates	
CO3	<i>Breastfeeding</i>	National surveys
CO4	<i>Disease-based indicators</i>	Diabetes Atlas, International Study of Asthma and Allergies in Childhood (ISAAC)
	Prevalence of diabetes and asthma among children	
CO5	<i>Obesity among children aged 10 (and child height for children aged 10)</i>	IOTF
CO6	<i>Regular smokers among 15 year olds, by gender</i>	HBSC
Child poverty		
CO7	<i>Trends in the income position of different household types</i>	OECD database on Income Distribution
CO8	<i>Child poverty,</i> Child poverty by household composition and number of adults in paid work; child poverty rate relative to the overall population.	OECD database on Income Distribution
Education/literacy		
CO9	<i>Educational attainment by gender and average years spent in formal education.</i>	OECD Education database
CO10	<i>Gender differences in university graduates by fields of study</i>	OECD Education database
CO11	<i>Literacy scores, age 9</i>	IEA PIRLS database
CO12	<i>Literacy scores age 15</i>	OECD PISA database
CO13	<i>Youth (15–19) not in employment and not in education</i>	OECD Education database
Societal participation		
CO14	<i>Participation in voluntary work and membership of NGOs for young adults, 15–29</i>	World Values Surveys and 2006 European Social Surveys
CO15	<i>Participation rates of first-time voters</i>	IDEA, Comparative Study of Electoral Systems (CSES) and 2006 European Social Survey
CO17	<i>Substance abuse by young people</i>	HBSC
CO18	<i>Teenage suicides</i>	WHO

Source: International Diabetes Federation (2006/7), Diabetes Atlas, *forthcoming*; International Institute for Democracy and Electoral Assistance (IDEA), United Nations Office for Drugs and Crime; International Association for the Evaluation of Educational Achievement (IEA), Progress in Reading Literacy Study (PIRLS) database 2007; OECD Programme of International Student Assessment (PISA) database 2007; IOTF (2006), International Obesity Task Force

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