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Changes in Family Policies and Outcomes: Is there Convergence?

Willem Adema,
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Changes in family policies and outcomes: is there convergence?

Willem Adema, Nabil Ali and Olivier Thévenon

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ABSTRACT

This paper presents new information on trends in family and child outcomes and policies over the past decades, in order to assess whether there has been any convergence over time across OECD and EU countries. Important drivers of population structure such as life expectancy and fertility rates are becoming more similar across countries as are marriage and divorce rates. Increased educational attainment has contributed to greater female employment participation and convergence therein across countries. Child well-being outcomes show a more mixed pattern with improvements and convergence in infant mortality, but varying trends in child poverty across countries.

Family policy across the OECD is expanding, as spending on family benefits is increasing. However, there is no clear trend in the use of cash, in-kind of fiscal support as delivery channels for support, and the extent to which these three forms of support are used remains very different across countries. The evidence does suggest, however, that there has been a slight shift in spending towards the early years (0-6) in many countries. There is also some convergence in in the design of parental leave benefits as the total child-related leave period that mothers can use after childbirth has increased to almost one year across countries. Participation in formal childcare by children not yet 3 years of age has increased to about one-third. On the whole, it appears that the degree of convergence in family policy over the last decades is noticeably smaller than the convergence in family outcomes across OECD and EU countries.

Using an empirical approach, the analysis relates the policy changes to three important outcome indicators of family well-being: fertility, female employment and infant mortality. The analysis, based on time-series cross-sectional data, shows that childcare participation is positively associated with an increase in fertility rates and female employment and, less significantly, with a decrease in infant mortality. Public spending on family benefits and the duration of paid child-related leave for mothers is significantly associated with an increase in the total fertility rate; tax incentives to work part-time are associated with an increase in female employment; and, public spending on healthcare is found to be strongly associated with a decrease in infant mortality.

RÉSUMÉ

Ce document présente de nouvelles informations sur l'évolution des résultats et des politiques familiales et de l'enfant au cours des dernières décennies, afin d'évaluer s'il y a eu une convergence au fil du temps dans les pays de l'OCDE et de l'UE. Des facteurs importants de la structure de la population tels que l'espérance de vie et les taux de fécondité ont tendance à s'aligner dans les différents pays tout comme les taux de mariage et de divorce. L'augmentation du niveau de scolarité a contribué à une plus grande participation de l'emploi des femmes et une convergence dans plusieurs pays. Les indicateurs relatifs au bien-être des enfants affichent des résultats plus contrastés, avec certaines améliorations dans le domaine de la santé, mais des évolutions disparates en matière de pauvreté.

Avec l'augmentation des dépenses consacrées aux prestations familiales, les politiques à destination des familles prennent de plus en plus d'ampleur dans les pays de l'OCDE. Cependant, le degré d'utilisation des prestations en espèces (allocations familiales et compléments versés pendant le congé parental), des aides fiscales et des aides pour la garde des enfants varie encore d'un pays à l'autre. On observe malgré tout une légère inflexion des dépenses au profit des premières années de l'enfant (0 à 6 ans) dans de nombreux pays. En moyenne, dans la zone OCDE, la durée du congé maternité a augmenté pour passer à près d'un an, et la proportion d'enfants de moins de trois ans confiés à des services de garde organisés est passée à environ un tiers. , De manière générale, il apparaît que pendant la dernière décennie ,le mouvement de convergence a été sensiblement plus limité pour les politiques familiales que pour celle des indicateurs relatifs à la situation des familles dans les pays de l'OCDE et l'UE.

L'analyse présentée part de données empiriques pour déterminer les relations qui existent entre les politiques familiales et trois aspects importants du bien-être des familles et des enfants : fécondité, emploi des femmes et mortalité infantile. L'analyse, basée sur des séries chronologiques de données transversales, montre que la participation de garde d'enfants est positivement associée à une augmentation des taux de fécondité ainsi qu'à l'emploi des femmes et, de façon moins significative, à une diminution de la mortalité infantile. Les dépenses publiques consacrées aux prestations familiales et la durée du congé payé lié aux enfants pour les mères sont significativement associées à une augmentation du taux de fécondité, les incitations fiscales à travailler à temps partiel sont associées à une augmentation de l'emploi féminin enfin, les dépenses publiques de santé se trouvent être fortement associées à une diminution de la mortalité infantile.

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CHANGES IN FAMILY POLICIES AND OUTCOMES: IS THERE CONVERGENCE?

Introduction

1. Family and child outcomes have changed in many ways over the past few decades, and frequently outcomes have converged across the OECD. In particular, important drivers of population structure such as life expectancy and fertility rates have become more similar over the last four decades. Female participation rates have also converged across countries, while child well-being outcomes show a more mixed pattern with improvement in some child health outcomes, but diverse trends in child poverty.

2. Family policy across the OECD is expanding, as spending on family benefits is increasing. However, the intensity in the use of cash benefits (including child allowances and income support payments during parental leave), fiscal supports and childcare service supports remains different across countries. The evidence suggests a slight shift in spending towards the early years (0-6) in many countries. On average across OECD countries, the total child-related leave period that mothers can use after childbirth has increased to almost one year while formal childcare participation by children below the age of 3 had increased to about one-third in 2010. Nevertheless, despite movement in the same direction, the degree of convergence in family policy (Chapter 2) appears noticeably smaller than convergence in family outcomes (Chapter 1).

3. The analysis below takes an empirical approach to determine how family policies relate to three important elements of family and child well-being: fertility, female employment and infant mortality. The more detailed analysis of trends in family outcomes (Chapter 1) and family policy (Chapter 2) gives an overall view of changes in important policies and outcomes over time, including an assessment of whether country experiences are converging or diverging.

How are family policies and outcomes related?

Three important outcomes of family and child well-being

4. There are many important indicators of family and child well-being. However, for the econometric analysis to be robust, annual time-series of a sufficient length for a sufficiently large number of countries is required (see Annex for detail on the model specifications).[1] These data limitations also contribute to the selection of three indicators of family and child well-being: the total fertility rate, the female employment rate and the infant mortality rate.

- The total fertility rate (TFR) is an important indicator of family well-being as it reflects the difficulties adults are having in combining work and family commitments and the broader set of constraints they face in having as many children as they say they would like.

[1] For example, the analysis here does not include family poverty. Data on poverty from the OECD Income Distribution database (OECD, 2013a) are available at 5-year intervals. The analysis here is based on annual data, which allows for testing many variables, and accounts for more variation than an analysis based on 5-years average (see Richardson *et al*., 2014). It also facilitates the use of lagged dependent variables.

- Declining fertility rates in many EU and OECD countries will contribute to smaller working-age populations. Mobilising unused labour supply is thus an important element in any strategy towards ensuring future economic prosperity, and increasing female employment is key in this context.

- Female employment is an important indicator of family well-being for different reasons as, for example, it also reflects upon gender equality in labour market opportunities or family poverty risks as these are lowest in dual earner families. Maternal employment may have negative effects on cognitive development if mothers return to work within 6 months of childbirth, but such effects are small, not universally observed and other factors such as quality interaction with children and family income often have greater influence (OECD, 2011a).

- Infant mortality provides a measure of the survival chances of a child at the very start of his/her life and thus a central indicator for early child well-being. It is also indicative of a country's health and development status.

The policy determinants of family and child well-being

5. The policy drivers of fertility, female employment and infant mortality are numerous and it is not possible to capture all of them in the regression analysis due to data limitations. The analysis focuses on nine policy measures as exogenous variables for the regression model (detailed model specification, and justification of chosen specification, are available in the Annex).

6. The first three policy measures concern public expenditure for families. The indicators are separated to focus on public support provided to families around childbirth and later in a child's life.

1. Public spending on maternity leave per birth and birth grant, in percentage of GDP per capita;

2. Public spending on childcare services per child aged under 3 years, in percentage of GDP per capita;

3. Spending per child under age 18 in family cash benefits (e.g. child allowances, income support during leave), in percentage of GDP per capita;

7. Four further policy measures are included that focus on leave entitlements to care for a child, and on childcare services.

4. Total length of paid leave available for mothers (maternity and parental leave combined), in weeks;

5. Total length of paid leave available for fathers (paternity and parental leave combined), in weeks;

6. Childcare enrolment rate for children aged 0-2 years inclusive;

7. Pre-school enrolment rate for children aged 3-5 years inclusive;

8. The last two policy measures relate to work incentives for second earners in couple families, often women.

8. Tax incentives to work part-time – the difference in the household disposable income between a couple-parent household with two children, where one adult earns the entire household earnings

(133% of average worker wage) and a couple-parent household where the two adults share the earnings (100% and 33% of average worker wage);

9. Relative marginal tax rate on a second earner.

9. The analysis also controls for unobserved country characteristics as well as for time effects (the Annex contains a detailed description of the model specifications). To address potential bias in the model due to the omission of explanatory variables which are correlated with both the policies and outcomes, a series of control variables are introduced into the model as additional regressors. These control variables capture the socio-economic and institutional context within countries and over time that are likely to have an effect on fertility, female employment and infant mortality. Ten control variables are considered: (i) GDP per capita, (ii) employment protection legislation index, (iii) incidence of part-time employment among women, (iv) incidence of part-time employment among all persons, (v) public employment as a share of working-age population, (vi) service sector employment as percentage of total employment, (vii) unemployment rate, (viii), male employment rate, (ix) public expenditure on health (only in regression model for infant mortality), and (x) number of years spent in education by women. The results are summarized in Table 1 (Annex Table A1 contains relevant detail).

Policy determinants of total fertility rate

10. The model specifications suggest that the following public policies are among the most important (statistically significant) drivers of total fertility rates among EU and OECD countries (Table 1, column (a)):

- Public spending on family cash benefits appears to be associated with increases in the number of children per woman.

- The length of child-related leave for mothers and the childcare enrolment rates (age 0-2) tend to increase the TFR. The duration of paternity leave and pre-school enrolment rates (age 3-5) are also positively associated with the TFR, but their effect is less statistically significant. [2]

- The number of years that women spend in education is associated with women having fewer children. Women who study longer may enter the workforce at an older age and start a family later in life, thus having fewer or no children (OECD, 2011a). By contrast, female employment has a positive effect on the number of children per woman, but the effect size is small.

11. The positive and varied effects of financial transfers, child-related leave and childcare on the number of children per woman is consistent with the findings by Luci-Greulich and Thévenon, 2013, and Gauthier, 2013, suggesting that a combination of these forms of support for working parents is likely to facilitate parents' choice to have children.

[2] Both maternity and paternity leave variables reflect only the legislated length of leave and do not concern actual take-up rates. Mothers usually make greater use of available leave provisions (OECD, 2014, PF2.2). Since the length of leave available to fathers is correlated with total leave available to mothers, the coefficient for paternity leave is likely to capture part of the effect of maternity leave on family outcomes.

Table 1. Effect of family policies on fertility, female employment and infant mortality across the EU and OECD

Regression results of a two-way fixed-effects model with panel-corrected standard errors

	OECD 30			EU 19		
	LN Total fertility rate	LN Female employment rate	LN Infant mortality rate	LN Total fertility rate	LN Female employment rate	LN Infant mortality rate
	(a)	(b)	(c)	(a)	(b)	(c)
Family spending and benefits						
Spending on leave and birth grants	+ (*)	=	=	=	=	=
Spending on childcare services	=	=	=	=	=	=
Spending in family cash benefits	+ (***)	=	=	+ (**)	=	=
Leave entitlement and childcare services						
Weeks of paid leave for mothers	+ (***)	=	- (**)	+ (***)	=	- (*)
Weeks of paternity leave	+ (**)	=	=	+ (*)	=	=
Childcare enrolment rates (lagged for (b))	+ (***)	+ (**)	- (*)	+ (**)	+ (**)	- (**)
Pre-school enrolment rates (lagged for (b))	+ (*)	+ (***)		=	=	
Tax based work incentives for women						
Tax incentives to work part-time	=	++ (***)	=	=	++ (**)	=
Relative marginal tax rates on second earners	++ (*)	=	=	=	=	=
Control variables						
GDP per capita	=	++ (**)	=	=	++ (**)	=
Squared GDP per capita	=		=	=		=
Female employment	+ (***)		=	+ (***)		=
Male employment			=			=
Incidence of part-time employment amongst female employees	=			=		
Incidence of part-time employment amongst total employees		+ (*)	=		=	=
Unemployment rate (lagged for (b))	=	=		=	=	
Number of years spent in education by women	-- (***)	=	=	-- (***)	=	=
Employment in services		++ (*)			++ (**)	
Employment in the public sector		-- (**)			=	
Employment protection legislation index		=			=	
Total fertility rate		=			=	
Public health expenditure			-- (***)			-- (***)
Public social expenditure			- (*)			- (*)

A positive/negative sign indicates an effect which increases/decreases the outcomes. "+" (or "-") indicates that the standardised coefficient is positive (or negative) but is less than 5% (0.05) for one standard deviation change in the unit, and "++" (or "--") if the standard coefficient is 5% of more. The threshold of 5% (0.05) implies that every time the independent variable changes by one standard deviation, the estimated outcome variable changes by on average 5% of a standard deviation, all other things being equal. Please refer to the Annex for the effect sizes.

Values in parenthesis (***, **, *) indicate that the estimated coefficient is significant at the 1%, 5% and 10% levels respectively.

"=" indicates insignificant estimates (less than at the 10% level), regardless of the value of the coefficient.

Source: OECD calculation of data on family policies and outcomes from OECD (2014) OECD Family database.

Policy determinants of female employment

12. The results also suggest that the following two public policy areas are among the most important drivers of female employment rates among EU and OECD countries (Table 1, column (b)):

- Childcare and pre-school enrolment rates, both in current and lagged form, have a small but significant effect on female labour force participation, and these effects are much more robust than the effects of paid leave or other family benefits. Combined with the positive association with fertility rates (see above) the analysis highlights the importance of formal childcare provisions as they allow women to stay in the labour market and reduce barriers that childbearing may pose to female employment.

- Tax incentives to work part-time are positively associated with female employment, most likely as working part-time facilitates maternal employment and helps parents reconcile work and family responsibilities. Similar associations are observed for the incidence of part-time employment amongst total employees: as part-time employment opportunities become more widespread, the proportion of working women in the population appears to increase.

13. An increase in the size of the service industry also tends to raise female employment, suggesting that this sector provides greater opportunity for female employment. By contrast, on average across the EU and the OECD an expansion of the public sector appears to have little effect on female employment.

14. In general the findings in Table 1 in our analysis for female employment are consistent with the findings for female labour force participation as in Thévenon (2013), who also found significant positive effects of female educational attainment on female employment. Richardson *et al.*, (2014) also found that cash, but particularly in-kind supports can play a significant role in boosting female employment.[3]

Policy determinants of infant mortality

15. The model specifications suggest that the following public policies have a significant effect on infant mortality among EU and OECD countries (Table 1, column (c)):

- Public expenditure on healthcare is by far the most important factor affecting infant mortality: increases in public health spending greatly reduce the incidence of infant mortality.

- The duration of paid leave that is available to mothers also reduces infant mortality, although its effect is not as strong as for public health spending. Childcare enrolment (0-2) and the overall magnitude of welfare states (public social spending minus spending on health and family benefits) are indicators that reflect the overall ability of family and social services to identify health issues at an early stage, and they also have a negative association with infant mortality. However, the associations are weak (effects are small and of limited statistical significance).

[3] Thévenon (2013) looks at the effect of some of the important policy drivers on full-time and part-time female employment separately, This study's findings include an unambiguously positive correlation between the provision of childcare to children under 3 years of age and both full-time and part-time female participation in the labour market, but also that spending on childcare exerts a negative influence on part-time work, which suggests that women move from part-time to full-time work if, other things being equal, longer and/or better care is provided; part-time work appears to be more likely when there are constraints in the provision of affordable childcare services of good quality.

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ANNEX: MODEL SPECIFICATIONS FOR REGRESSION OF FERTILITY, FEMALE EMPLOYMENT AND INFANT MORTALITY

Policy determinants

To assess the effect of different policy instruments on trends in fertility, female employment and infant mortality the analysis uses time-series cross-section (TSCS) data on 30 EU and OECD countries that span the years 1980-2007.

The drivers of fertility rate, female employment and infant mortality are numerous and evaluating the effect of policy drivers is likely to be affected by omitted variables and reverse causality issues. Furthermore, the inclusion of so many countries has inevitably led to a significant number of missing data and to an unbalanced panel dataset. These issues potentially affect the results, which should therefore be interpreted with caution. However, the choice of particular econometrics techniques helps to control for many of the issues concerning the data and to obtain robust results.

To estimate the effect of public policies on the fertility, female employment and infant mortality outcomes, the analysis here focuses on nine policy measures as exogenous variables for the regression model that reflect the public policy stance in countries: (1) Public spending on maternity leave per birth and birth grant, in percentage of GDP per capita; (2) Public spending on childcare services per child aged under 3 years, in percentage of GDP per capita; (3) Spending per child under age 18 in family cash benefits, in percentage of GDP per capita; (4) Total length of paid leave available for mothers (maternity and parental leave combined), in weeks; (5) Total length of paid leave available for fathers (paternity and parental leave combined), in weeks; (6) Childcare enrolment rate for children aged under 0-2 inclusive; (7) Pre-school enrolment rate for children aged under 3-5 inclusive; (8) Tax incentives to work part-time – the difference in the household disposable income between a couple-parent household with two children, where one adult earns the entire household earnings (133% of average worker wage) and a couple-parent household where the two adults share the earnings (100% and 33% of average worker wage); and, (9) Relative marginal tax rate on a second earner in a couple family.

The dependent variables are defined in natural logarithms in all three regressions. The justification for this transformation is that all dependent variables are heavily skewed with a long tail to the right and log transformation shifts the distribution towards normality. Also, for the regression of female employment rates, all the variables are expressed in logarithms as the relationship between the variables is not to be linear and the transformation increases the interpretability of patterns in the data. Another potential endogeneity bias that might arise in the analysis of the effect of family policies on female employment comes from the fact that the decision regarding the use of formal childcare is to some extent simultaneous with the choice between work and inactivity. To avoid reverse causality, childcare enrolment rates and pre-school enrolment rates are instrumented by their lagged variable (Thévenon, 2013) for the regression of female employment rates; one more potential endogenous variable, which is also instrumented by its lagged values, is the unemployment rate.

Model specifications

Different approaches can be used to assess the effect of policies on family outcomes. Below we briefly describe the chosen model specifications that best suit our data, and the justification for the chosen specifications.

Two-way fixed-effects with robust standard error – an initial model

The two-way fixed-effects estimation model allows to control for unobserved fixed country characteristics as well as for time effects. Since these time effects could vary across countries, we also include in the regression country-specific time trends that capture idiosyncratic shifts in national contexts (Thévenon, 2013). A fixed-effects model is preferred to a random-effects model as we cannot assume that individual country and time effects are not correlated with the regressors (a Haussmann test confirms that a fixed-effects model specification is a better fit for the observed data than a random-effects model). However, the model requires error variances to be constant across countries and years, a condition that is rarely met in small, unbalanced TSCS data. A modified version of the Wald test for group-wise heteroskedasticity in fixed effect regression models confirms the presence of this problem in our sample and suggests the use of robust standard errors. To address any remaining within-group correlation, it is better to use cluster robust standard errors. However, the cluster robust standard error estimator converges to the true standard error only as the number of clusters approaches infinity. Kézdi (2004) shows that with a small number of clusters (i.e. below 50) or very unbalanced cluster sizes, inference using the cluster robust estimator may be incorrect more often than when using the simple robust estimator. Moreover, the size of the standard errors increases when we use autocorrelation-consistent asymptotic variance and this might lead to a loss of explanatory power of the independent variables. For all the above mentioned reasons, our model specification will only correct for heteroskedasticity.

Two-way fixed-effects with panel corrected standard errors – an improved model

A common approach to deal with time-series cross-section data where both the number of units and the number of time periods are small is the Lagged Dependent Variable (LDV) model proposed by Beck and Katz (1995). The method consists of three essential steps: (i) pool the data from different units (countries) into one dataset and apply OLS, (ii) adjust for autocorrelation by adding an LDV to the model and (iii) calculate panel-corrected standard errors. A limitation of Beck and Katz's model is that it doesn't correct for unit heterogeneity, as it assumes all the units have the same intercept. Models that include both unobserved units effects and a lagged dependent variable are referred to as dynamic panel model (DPM). These models, combined with panel-corrected standard errors (PCSEs), allow for the control of panel heteroskedasticity and autocorrelation. However, the contemporaneous correlation part of PCSEs requires common time periods across units, which we do not have due to missing data. The specifications of this model are the same as for the two-way fixed-effects approach described above. The only difference is in the estimation of the effect of public policies on female employment, which is based on 2-stage least squares to account for potential endogenous variables (Thévenon, 2013); the PCSEs are combined with 2-stage least squares by running the usual two-way fixed-effects model with panel corrected standard errors, but with the endogenous variables lagged by one year. The results of the two-way fixed-effects model with panel corrected standard errors are presented in Table A1.

Limitations of the model specifications

The model specifications in our analysis focuses on an exploratory approach of relating policies to outcomes, based on a fixed-effect model of cross-national time-series data. This approach is consistent with previous models used to relate polices to important social policy outcomes, such as fertility (Luci-Greulich and Thévenon, 2013), female employment (Anghel *et al.*, 2011 and Thévenon, 2013) and

economic growth (Bassanini and Duval, 2006). Our analysis extends further on such previous models with the addition of greater policy (structural) variables and longer times-series data, which has been made possible with the recent inclusion of such information in the OECD Family database (OECD, 2014). As a further improvement to the model, the regression uses panel corrected standard errors to better cater for longer time-series data, increasing the overall robustness of the analysis.

The model specifications also closely follow the well-accepted "checklist" devised by Brambor *et al.* (2006) for understanding the effects of individual policy instruments. However, an important limitation is the lack of analysis of interactions between such policy instruments, which can reflect how institutions within a country work together to influence social policy outcomes.

A further limitation of our analysis, common to most fixed-effect models, is the assumption that the effects of policy instruments are similar across countries, which may not be the case. A common approach to account for possible varying effects of policy instruments is to estimate the effect of the independent variables separately for each country and calculating the mean average (Pesaran and Smith, 1995). However, any gains of such an approach are offset by high standard errors associated with fewer data points (Thévenon, 2013). Thus, running the regression separately on a cluster of countries that are considered to be homogenous in their use of policy instruments, may still result in high standard errors and possible loss of degrees of freedom, simply because of fewer observations. To some extent, OECD member countries are considered homogenous in their use of policy instruments as these countries are strong market economies with more developed welfare states. In our regression analysis a cluster of 19 EU countries to study the effects of the policy instruments within a more homogenous group of countries but based on fewer observations (Table 1 and Table A1). The results are similar.

Table A1. Effect of family policies on fertility, female employment and infant mortality across the EU and OECD

Effects sizes of a two-way fixed-effects model with panel-corrected standard errors

	OECD 30			EU 19		
	LN Total fertility rate	LN Female employment rate	LN Infant mortality rate	LN Total fertility rate	LN Female employment rate	LN Infant mortality rate
	(a)	(b)	(c)	(a)	(b)	(c)
Lagged dependent variable	0.565	0.755	-0.294	0.588	0.752	-0.236
	(9.90)***	(16.14)***	(2.53)*	(10.14)***	(15.49)***	(2.36)*
Spending on leave and birth grants	0.004	0.004	-0.009	0.002	0.005	-0.011
	(1.80)*	(0.60)	(0.99)	(0.96)	(0.46)	(1.15)
Spending on childcare services	0.000	0.000	0.000	0.000	0.004	0.000
	(0.85)	(0.54)	(0.65)	(0.73)	(1.89)	(1.31)
Spending in family cash benefits	0.000	0.001	0.000	0.000	0.005	0.000
	(3.32)***	(0.19)	(0.08)	(3.27)**	(0.57)	(0.57)
Weeks of paid maternity leave	0.001	0.003	-0.001	0.001	0.001	-0.001
	(4.04)***	(0.80)	(2.96)**	(4.16)***	(0.16)	(2.42)*
Weeks of paternity leave	0.001	-0.001	-0.001	0.001	-0.001	0.000
	(2.53)**	(0.81)	(0.56)	(2.46)*	(0.63)	(0.17)
Childcare enrolment rates (lagged for (b))	0.002	0.014	-0.011	0.002	0.013	-0.007
	(2.70)***	(3.15)**	(2.54)*	(2.85)**	(2.87)**	(3.02)**
Pre-school enrolment rates (lagged for (b))	0.001	0.033		0.001	0.024	
	(1.84)*	(3.65)***		(1.66)	(1.96)	
Tax incentives to work part-time	0.000	0.317	0.000	-0.001	0.273	0.002
	(0.25)	(3.57)***	(1.32)	(0.29)	(3.01)**	(0.49)
Relative marginal tax rates on second earners	0.055	0.004	0.112	0.050	0.009	0.015
	(1.78)*	(0.24)	(0.6)	(1.38)	(0.25)	(0.14)
GDP per capita	0.000	0.153	0.000	0.000	0.144	0.000
	(0.20)	(2.99)**	(1.87)	'(0.72)	(2.69)**	(1.34)
Squared GDP per capita	0.000		0.000	0.000		0.000
	(0.14)		(0.71)	(0.68)		(0.59)
Female employment	0.006		-0.016	0.006		-0.009
	(3.61)***		(1.13)	(3.38)***		(1.79)
Male employment			0.018			0.013
			(1.09)			(1.97)
Incidence of part-time employment amongst female employees	0.001			0.000		
	(0.58)			(0.24)		
Incidence of part-time employment amongst total employees		0.034	0.007		0.026	0.002
		(2.17)*	(0.17)		(1.63)	(0.57)
Unemployment rate (lagged for (b))	-0.001	-0.012		-0.001	-0.009	
	(0.47)	(1.71)		-0.29	(1.18)	
Number of years spent in education by women	-0.058	0.057	0.092	-0.058	0.009	0.108
	(3.87)***	(0.88)	(0.17)	(3.82)***	(0.13)	(0.63)
Employment in services		0.164			0.193	
		(2.51)*			(2.64)**	
Employment in the public sector		-0.078			-0.056	
		(3.18)**			(1.91)	
Employment protection legislation index		-0.011			-0.013	
		(0.93)			(1.01)	
Total fertility rate		-0.008			-0.017	
		(0.40)			(0.72)	
Public health expenditure			-0.124			-0.148
			(9.97)***			(10.89)***
Public social expenditure			-0.001			-0.009
			(2.43)*			(2.83)*
_cons	-1.068	-2.862	2.812	0.215	-2.527	3.367
	(1.56)	(3.80)***	(1.91)	(0.44)	(3.31)***	(2.23)*
Pseudo R^2	*0.99*	*1.00*	*0.99*	*0.99*	*1.00*	*0.99*
Number of observations	*169*	*159*	*139*	*142*	*137*	*113*

The dependent variables are expressed in natural logarithm. All independent variables for model (b) on female employment are also expressed in natural logarithm. Estimates based on two-way fixed-effects model with panel-corrected standard errors in brackets. ***, ** and * represent significance at 1%, 5% and 10% level respectively.

All the estimated models include country-fixed effects so as to focus on the within-country, over time variation between the dependent variables and its determinants. In addition, because the decision regarding care is to some extent simultaneous with the choice between work and inactivity, the use of childcare and pre-school enrolment rates introduces a risk of bias in the estimated coefficients. Enrolment rates are, therefore, instrumented by their lagged values.

Source: OECD calculation of data on family policies and outcomes from OECD (2014) OECD Family database.

CHAPTER ONE:
PARENTS AND CHILDREN: OUTCOMES HAVE BECOME MORE SIMILAR ACROSS COUNTRIES

1.1. Introduction and main findings

16. Families - defined as households with dependent children - have changed in many ways over the past few decades across the OECD. Patterns in fertility rates, marriage and divorce rates, female labour force participation and education and well-being outcomes for children have all changed, but have they led to greater similarity in outcomes for parents and children across Europe and the OECD?

17. This chapter looks at the many family outcomes that are important for the well-being of parents and children, and presents how these outcomes have changed over time. There are some data limitations, however, which restrict the analysis. For example, historical time-use data are not available to illustrate possible changes in unpaid work by women in view of higher female labour force participation. Similarly, in many countries non-traditional forms of partnership such as cohabitation were not sufficiently widespread to be reflected in historical data series. Hence, certain features will only be discussed with reference to data for recent years.

18. Following the main findings, section 1.2 presents changes in demographic patterns, family formation and dissolution and changes in family structures. Sections 1.3 and 1.4 focus on changes in educational attainment and labour force participation, with the subsequent sections discussing changes in family and child poverty and other child outcomes in the areas of material well-being and health. Section 1.7 concludes with a look at how the economic crisis which started in 2007/08 has affected these outcomes and how some relevant indicators have changed since then.

Main Findings

- *Many outcomes for parents and children have converged across the EU and the OECD* (Table 1.1), but underlying trends move in different directions and in some areas there has been a deterioration of family well-being. For example, the decline in infant mortality and the increases in life expectancy and educational attainment contribute to family well-being, but the recorded increase in child poverty does not.

- *Life expectancy and, total fertility rates (TFR) – have converged considerably over the past four decades* leading to greater similarity in population structures across EU and OECD countries. Marriage rates have declined considerably since 1980 while divorce rates have increased.

- *Children today are more likely to end up with divorced parents than in the past.* Divorce rates in 2010 were twice as high as in 1970 and on average across the OECD almost 60% of divorces occur among parents. Although reconstituted families are on the rise, children of divorced parents are still more likely to live with just one parent.

- *Outcomes in educational performance and educational attainment have shown some divergence*. The widespread overall increase in successful completion of tertiary education, and among women in particular, has also contributed to greater female labour force participation; traditionally low-employment countries made greater progress in this area. The increase of part-time employment among women has not been uniform across countries and little convergence is observed.

- *Child well-being outcomes show a mixed pattern.* Child poverty has continued to increase over the past decade in most countries, with greater variation in outcomes across the OECD countries than across the EU. In terms of measurable outcomes in the health area, most notably infant mortality outcomes have improved and converged over the past two decades across countries.

- *The crisis has had negative effects on employment and households' income.* Since the start of crisis in 2007/2008 on average across the OECD child poverty has continued to rise, while female employment fell until 2010. The recovery in fertility rates observed in many countries since the early 2000s has stalled while the decline in divorce rates that occurred since 2005 was reversed in 2009.

Table 1.1: OECD countries have converged in family outcomes over the past few decades.

OECD average, standard deviation and change across countries, 1980, 1990, 2000 and 2010

Panel A. Population and demography

	OECD average				OECD standard deviation				OECD change [1]			
	1980	1990	2000	2010	1980	1990	2000	2010	1970-80	1980-90	1990-00	2000-10
Total fertility rate	2.18	1.91	1.68	1.74	0.80	0.50	0.42	0.37	-30/32	-22/34	-28/34	+26/34
Crude marriage rate	6.88	6.47	5.48	4.81	1.20	1.29	1.02	1.10	-25/28	-25/32	-28/33	-28/34
Crude divorce rate	1.68	1.87	2.01	2.11	0.89	0.84	0.83	0.90	+22/23	+22/30	+20/30	-18/33
Life expectancy at birth	72.6	74.7	77.1	79.7	3.74	2.90	2.64	2.45	+26/28	+32/32	+34/34	+32/32
Share of population aged 20-64	55.1	58.0	59.8	61.0	4.32	4.01	2.81	2.55	+26/34	+33/34	+25/34	+27/34

Panel B. Education

	OECD average		OECD standard deviation		OECD change [1]	
	2000	2010 [2]	2000	2010 [2]	1990-00	2000-10 [2]
PISA reading literacy score	494.1	492.8	22.86	33.13	-	-16/26 [3]
Tertiary attainment rate, aged 25-34	26.4	37.7	10.67	11.51	-	+32/32

Panel C. Employment

	OECD average			OECD standard deviation			OECD change [1]		
	1990	2000	2010	1990	2000	2010	1980-90	1990-00	2000-10
Female employment rate, aged 15-64	53.2	56.2	59.5	14.0	12.1	10.3	-	+20/24	+26/33
Incidence of part-time employment, women, aged 25-54	24.5	23.3	25.2	12.3	12.6	12.3	-	-10/19	+19/31
Incidence of part-time employment, men, aged 25-54	3.1	3.5	4.8	1.6	1.5	1.9	-	+15/19	+26/31

Panel D. Child well-being

	OECD average			OECD standard deviation			OECD change [1]		
	1990	2000	2010	1990	2000	2010	1980-90	1990-00	2000-10
Child poverty rate	12.2	12.2	13.2	6.6	5.7	6.2	-	+16/25	+18/27
Infant mortality rate	12.9	7.5	4.9	12.6	7.0	3.9	-	-29/29	-29/29

All average and standard deviations are unweighted. As most distributions are not normal, the standard deviation may result in values that are above/below the theoretical maximum/minimum.

1. For countries for which data are available, the indicator shows whether changes have increased or decreased the observation for the given indicator, over the corresponding decade.

2. The data for 2010 on PISA reading literacy score refer to 2009.

3. Includes significant and non-significant changes.

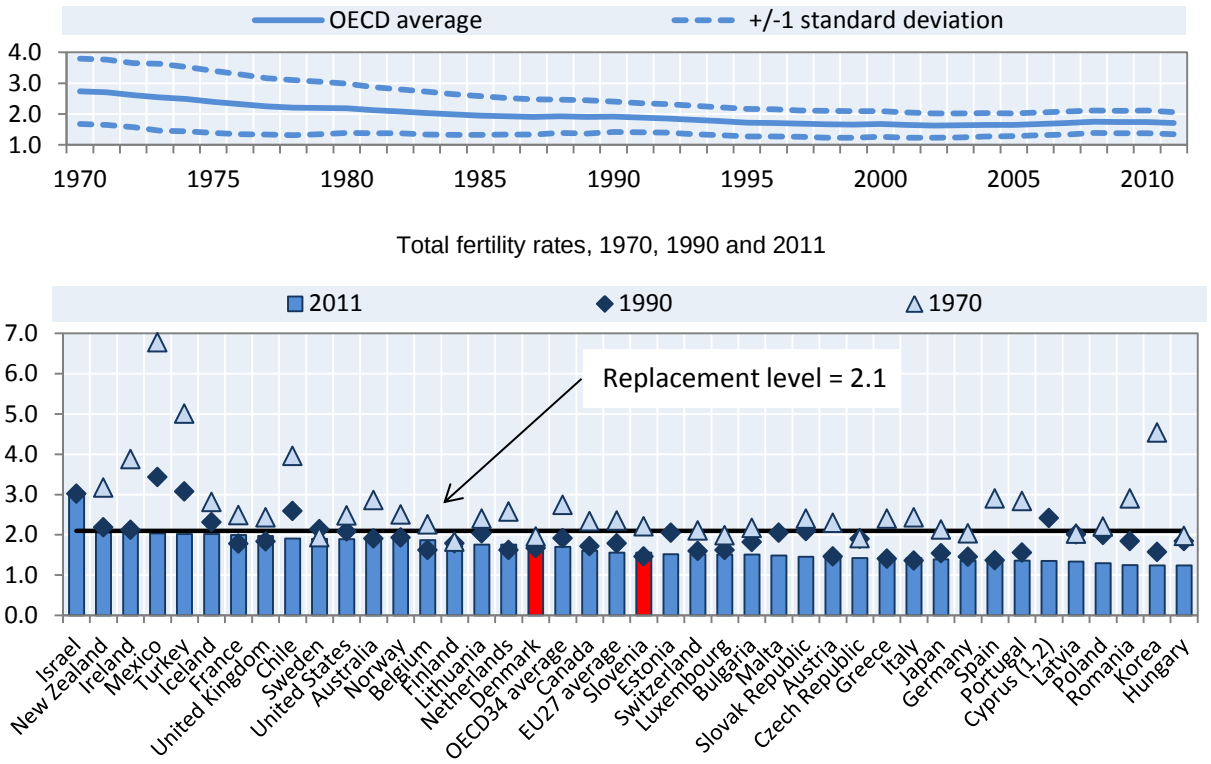
Source: OECD (2014), OECD Family database.

1.2. Population and demography

19. Total fertility rates (TFR) in the European Union and the OECD have declined substantially in many countries over the past few decades, falling from an average of around 2.7 children per woman in 1970 to around 1.7 in 2011 (Chart 1.1). The average TFR across the OECD levelled out at 1.6 children per woman in 2002 and then edged up. But during the on-going economic crisis this rebound in fertility rates appears to have stalled (see below). Overall, the average TFR across the EU and OECD has been below the replacement level since 1977 and 1982 respectively.[4] In 2011, the TFR was around the replacement level in France, Iceland, Ireland, Mexico, New Zealand, Turkey and the United Kingdom, and above this level in Israel. In all other OECD and EU member states the TFR is currently below the replacement level and particularly low in Hungary, Korea, Latvia, Poland and Romania at 1.3 children per woman or less.

Chart 1.1: Fertility rates have converged among OECD countries

Average OECD total fertility rate and standard deviation among member states, 1970 - 2011



The data for 2010 refer to 2009 for Korea, Mexico and Romania.

1. Footnote by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognizes the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of United Nations, Turkey shall preserve its position concerning the "Cyprus issue".

2. Footnote by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognized by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus."

Source: OECD (2014) *OECD Family database,* SF2.1.

4. The fertility "replacement level" is defined as the cohort fertility rate of 2.1 children per woman, which would ensure the replacement of the previous generation, and therefore population stability, assuming no net migration and no change in mortality rates.

20. The pace and timing of the decline in TFR from the 1970s to the early 2000s varied between countries. Among Nordic and western European countries, the decline started early but the TFR mostly remained between 1.5 and 2.0 children per woman since the mid-1970s. By contrast, among southern European countries (Greece, Portugal and Spain) the decline started in the early 1980s while some eastern European countries (e.g. the Czech Republic, Hungary, Poland and the Slovak Republic) saw large decreases in fertility rates from around 2.0 children per woman in the early 1990s to around or below 1.5 children in the late 2000s. Fertility rates in Japan and Korea were in sharp decline until the mid-2000s, while the fertility rates in the United States bottomed in the 1970s and have oscillated around two children per woman for the past 20 years.

21. The year 2002 marks a turning point as fertility rates began to rise in many countries, but at a much slower pace than the previous decline. Since 2002, the TFR has increased by 0.2 children per woman in Belgium, Denmark, Finland, France, Greece, Norway, the Slovak Republic and Switzerland; by 0.3 in the Czech Republic, Estonia, Iceland, New Zealand, Sweden and the United Kingdom; and by 0.4 in Slovenia. This rebound in fertility in Nordic countries has brought fertility rates close to the replacement level; this is also true for some of the so-called "lowest-low" fertility rate countries in southern Europe and the Czech Republic. However, TFRs have fallen since the beginning of the economic crisis in many of the OECD countries and especially in the United States where the TFR fell by 0.18 children per woman between 2008 and 2011.

22. The initial large decline among countries with historically high fertility rates in the 1970s and 1980s, combined with the recent rebound among low fertility countries has meant that there has been greater convergence among OECD and EU member states in their fertility rates.[5] However, convergence appears to be occurring below replacement level.

23. Greater access to contraceptives has given more adults control over the timing and occurrence of births, and as more women want to first establish themselves in the labour market, many adults choose to postpone having children. Across the OECD the average age at which women have their first child increased from 24 in 1970 to 28 in 2010 (OECD, 2014, SF2.3). The average age of first childbirth has increased, to around 30 years, in Germany, Italy, Japan, Korea, Luxembourg, Switzerland, Spain and the United Kingdom, all countries (except the United Kingdom) with fertility rates well below the OECD average.

24. Postponement of childbearing is a major reason for the decline in fertility rates as it limits the age-interval for women to give birth and in which they have fewer children (OECD, 2011a and Luci-Greulich and Thévenon, 2013). In addition to those women who cannot conceive or those adults who have decided not to have any children, the upper limit to the childbearing years (the so-called "biological clock") also makes it difficult for women who postpone having children to give birth at a later age (Billari *et al.*, 2011) As a result of these factors, the proportion of women who remain childless has increased across the OECD (OECD, 2014, SF2.5). A greater proportion of women born in the mid-1960s are childless compared with women born in the mid-1950s in most OECD countries, with the exception of Mexico, Norway, Portugal and the United States (where there was a decrease in the proportion of childless women of less than 2 percentage points). Definitive childlessness[6] is highest in Spain and the United States, with more than 20% of women born in 1965 remaining childless, while it is lowest in the Czech

5 The standard deviation around the OECD average has declined from a high of 1.1 children per woman in 1973 to a current low level of 0.4; the TFR among OECD countries ranged from 1.5 to 6.4 in 1973 and currently stands between 1.2 and 3.0 in 2010 (see Table 1.1).

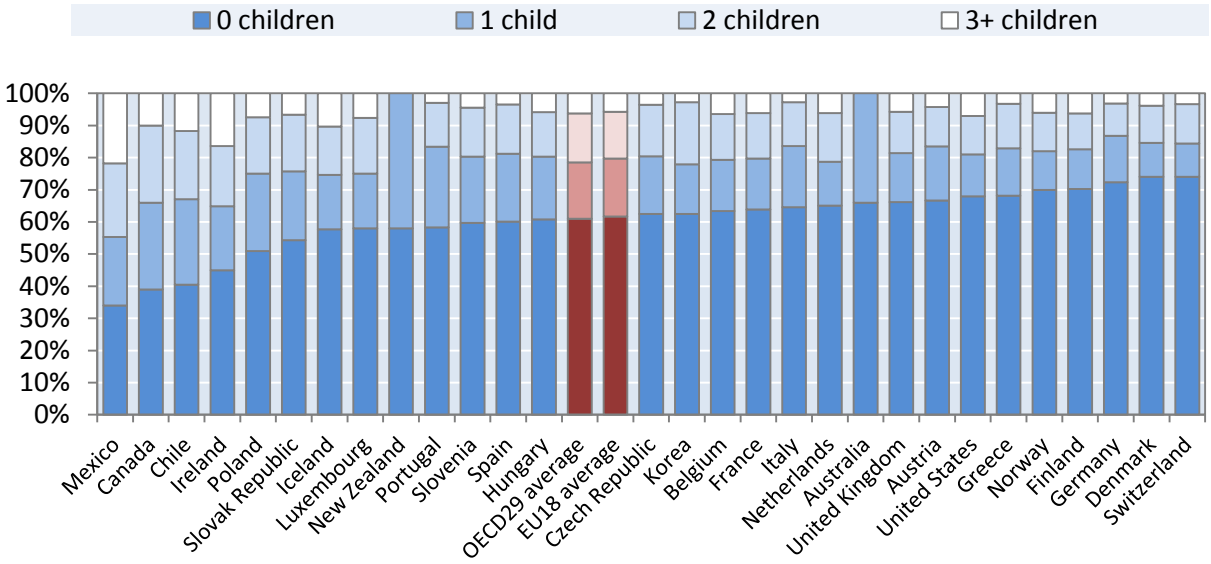
6. Definitive childlessness is defined as childless women who have reached the end of their reproductive period – age 50 years.

Republic, Hungary, Mexico, Portugal and Slovenia where less than 10% of women from the same cohort have no children.

25. Overall, lower fertility rates and ageing populations (see Box 1.1) have led to households having fewer children. Chart 1.2 shows that in all OECD countries, except Canada, Chile, Ireland and Mexico, over half of households do not have children.[7] Even households with children predominantly have only one or two; on average across the OECD, the proportion of households with one child is 18%, while the proportion of households with 2 children is 15%. Only around 1 in 20 households, on average, have 3 or more children, but it is relatively high in Canada, Chile, Iceland, Ireland and Mexico where more than 10% of households have 3 children or more.

Chart 1.2: Most households have no children

Share of households by number of children, percentage, 2010



Source: OECD (2014) OECD Family database. SF1.1.

1.2.1. Life expectancy

26. Considerable improvement in access to and quality of healthcare and nutrition across the OECD means that on average people are now expected to live some 10 years longer than 40 years ago (Chart 1.3). On average across the OECD the life expectancy at birth has increased by 10 years from 70 years in 1970 to 80 years in 2010. Life expectancy at birth is highest in Italy, Japan, Spain and Switzerland at 82 years or above, while it is lowest in Hungary and Turkey where people, on average, are not expected to live longer than 75 years.

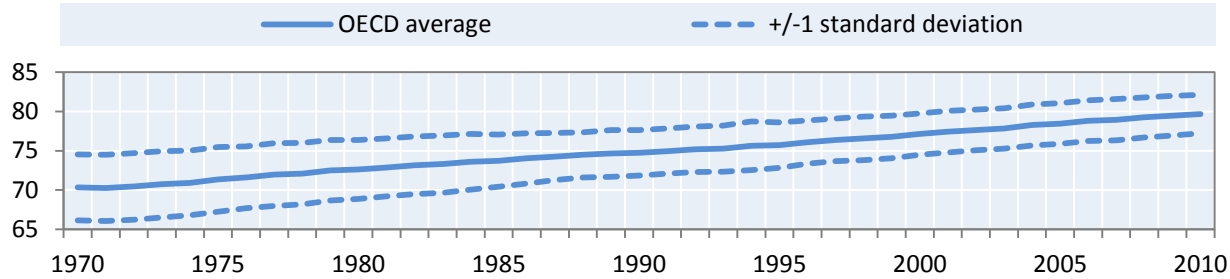
27. The improvement in life expectancy has been greater in countries with historically lower levels of life expectancy including Korea, Mexico and Turkey, where life expectancy has improved by more than 15

[7] Despite persistently low fertility rates the average household size in Korea and the Slovak Republic remains above the OECD average due to the high proportion of multigenerational households in these two low-fertility countries (OECD, 2014, SF1.1).

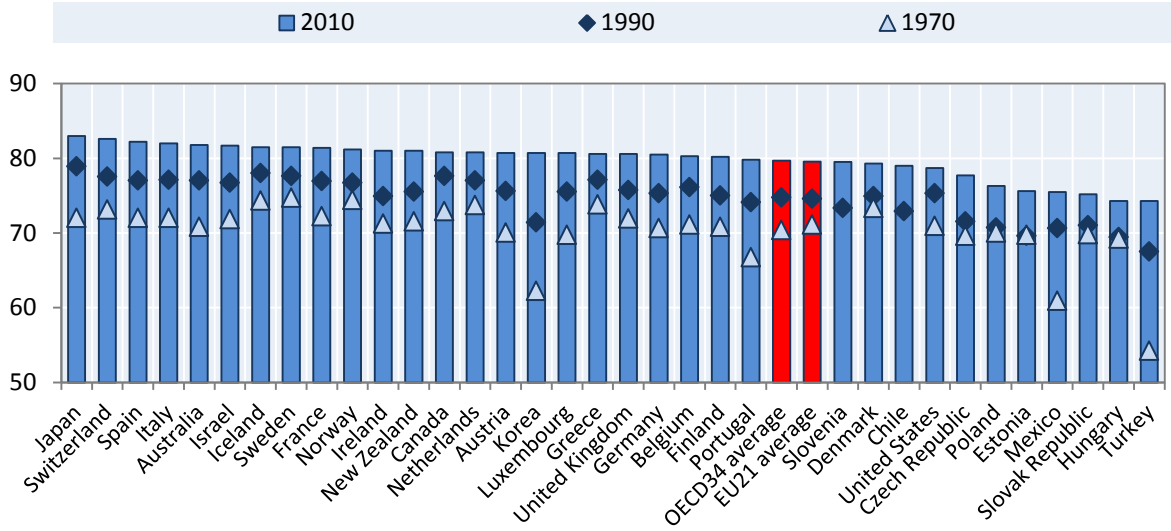
years from 1970 to 2010. As such, there has been greater convergence in life expectancy among OECD countries with the standard deviation across the average decreasing from 4.2 in 1970 to 2.5 in 2010. There is now a less than 10-year difference in the life expectancy between the best (Japan) and worst performing (Turkey) country.

Chart 1.3: Life expectancy is increasing and converging across the OECD

Average OECD life expectancy at birth and standard deviation among member states, 1970 - 2010



Life expectancy at birth, 1970, 1990 and 2010



Source: OECD (2014), *OECD Family database*, CO1.2.

28. The difference in life expectancy between men and women has narrowed slightly over the past 40 years, but still varies greatly (OECD, 2014, CO1.2). On average, women can expect to live 5.6 years longer than men across the OECD. There is large variation in the difference between male and female life expectancies between countries. The gender gap is largest in Estonia, Hungary, Poland and the Slovak Republic, where women are expected to live more than 7 years longer than men; it is lowest in Israel, the Netherlands and New Zealand at less than 4 years.

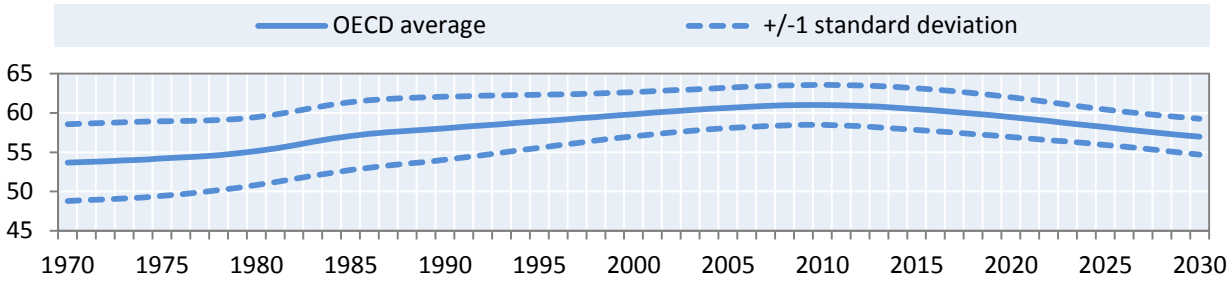
29. As well as living longer, people in the EU and OECD are also living healthier lives for longer. The number of Healthy Life Years (HLY, a measure used across the European Union) indicates that women in EU countries can expect to live 61 years (75% of their lifespan) without limitations in daily activities (OECD, 2014, CO1.2). Men can expect to live 60.2 years (80% of their lifespan) free of disabilities. Thus, there is only a marginal gender gap in HLY, suggesting that in the EU although women live longer lives the latter years may not necessarily be of greater quality. There is variation in HLY across countries. While in Denmark, Malta and Sweden females and males can expect to live 67 years or more in good health, in Estonia, Finland, Latvia and the Slovak Republic the number of years a person can expect to live free of disabilities is only between 50 and 55 years.

Box 1.1. A changing population structure: increased demand for care and labour market participation

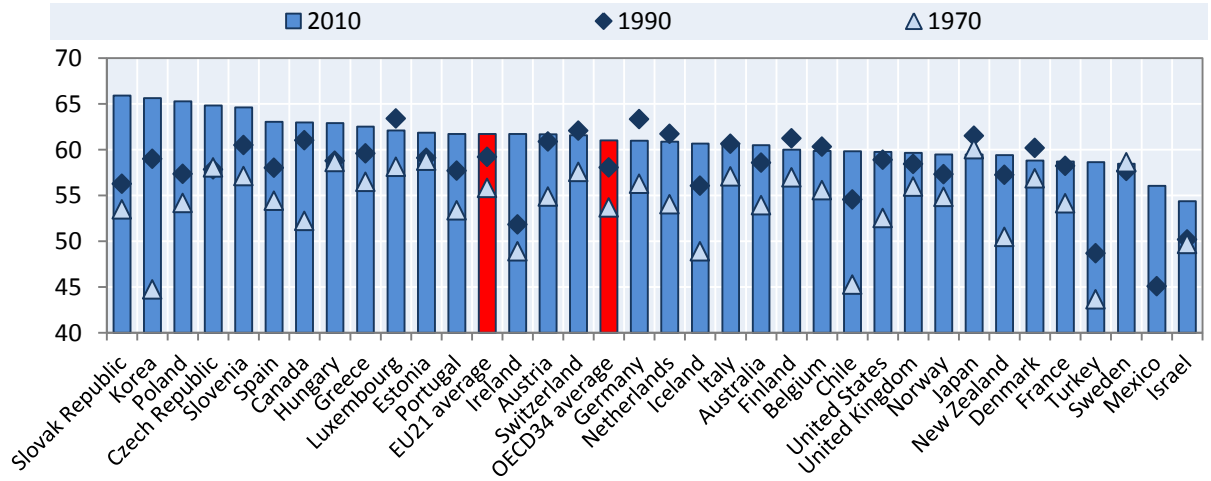
Decreasing fertility and increasing longevity have resulted in a slowdown in the growth in working-age population (which because of data limitations here concerns the population aged 20-64 rather than persons aged 15-64). Some countries registered a drop in the proportion of the working-age population over the 1990 to 2010 period (Belgium, Denmark, Finland, Germany, Italy, Japan, Luxembourg, the Netherlands and the Switzerland) and many other countries are expected to experience a reduction in the size of the labour force in the future and a growing population of senior citizens (OECD, 2011a). Indeed, the convergence in fertility rates and life expectancy among OECD countries has led to a convergence in the population structure. The first panel in the chart shows that the standard deviation in the share of the working-age population decreased from a high of 4.9% in 1970 to 2.5% in 2010 and is projected to decrease to 2.3% in 2030.

The working-age population is getting smaller across the OECD

Average OECD share of the population aged 20-64 years, percentage, 1970-2030



Share of the population aged 20-64, percentage, 1970, 1990 and 2010



Data for 2011 to 2030 are projections based on a "medium variant" as described by the UN World Population Prospects.

Source: OECD (2014), *OECD Family database*, SF1.4.

The changing population structure has consequences for (long-term) care issues. Children, youth and the elderly (65+ years) are dependent on the working-age population for personal care to a varying extent. The chart suggests that on average across the OECD the proportion of persons aged 20-64 will decrease from 2011 onwards; a similar pattern is observed across EU countries (OECD, 2014, SF1.4). OECD (2011c) illustrates that by 2050 the demand for nurses and personal care workers (in full-time equivalents) will at least double in most OECD countries.

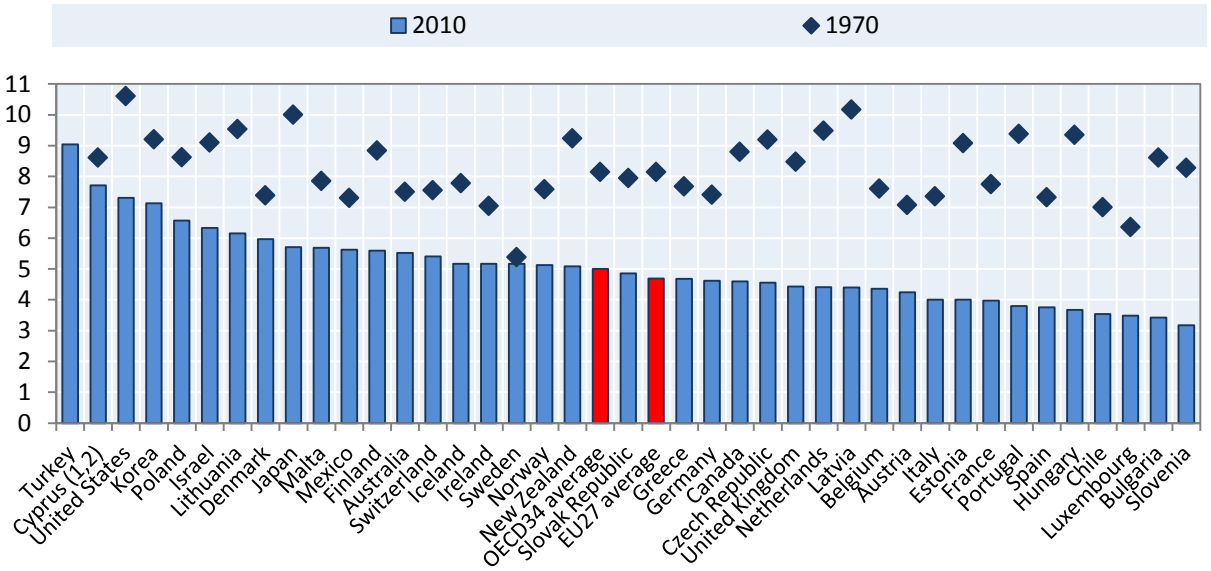
The projected decline in the working populations will require a mobilisation of labour supply among groups currently under-represented in the labour force. For example, OECD (2012a) and Thévenon *et al.* (2012) show how a gradual increase in female labour supply in terms of numbers and working hours, has a potentially large effect on labour supply – to the extent that it can help avoid looming labour shortages in, for example, Germany and Japan, and boost economic growth in general.

1.2.2. Family structures - marriage

30. Falling marriage rates (Chart 1.4) and increasing divorce rates (Chart 1.6) have led to some convergence between countries since 1970 (Table 1.1).[8] On average across the OECD, marriage rates have fallen from 8.1 marriages per 1 000 people in 1970 to 5.0 in 2010, but marriage nevertheless remains the most popular form of partnership among adults (OECD, 2014, SF3.1). Also, there is considerable variation across countries: marriage rates have remained high in Korea, Turkey and the United States but are low in Chile, Luxembourg and Italy.

Chart 1.4: Fewer people are getting married

Number of marriages per 1 000 population, 1970 and 2010



1. and 2. See notes 1 and 2 to Chart 1.1.

Source: OECD (2014) OECD Family database, SF3.1

31. The decline in the marriage rate has been accompanied by an increase in the average age at which first marriages occur (OECD, 2014, SF3.1). The tendency to defer the first marriage has been most pronounced in Switzerland where the mean first marriage age of women increased by more than seven years from 25 years in 1970 to 32 years in 2010. Overall, the partnership patterns are changing between generations and in most countries across the OECD the younger generation (aged 20-34 years) is more likely to be cohabiting than the previous generation at the same age. Cohabitation rates are high in France, and the Anglophone and Nordic countries, while they are low in Greece, Italy, Poland and the Slovak Republic, and negligible in Turkey.

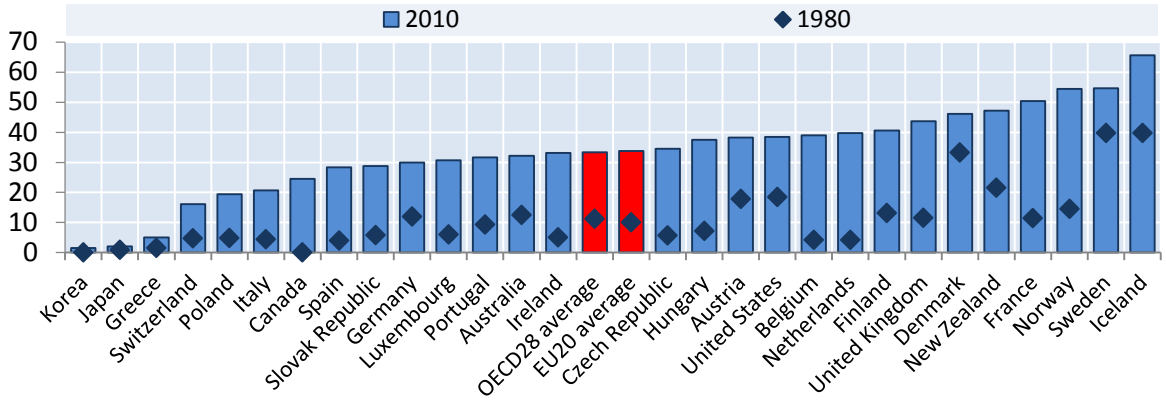
32. Many people now get married after having children or have children without getting married. In 1980, the mean age of women in the OECD countries at first childbirth was 24.3, 0.3 years after the

[8] In 1970 the marriage rate among OECD countries ranged from 5.4 to 10.6 with a standard deviation of 1.1, while in 2010 it ranged from 3.2 to 7.7 with a standard deviation of 1.0 (the analysis excludes Turkey as data for 1970 are not available). For divorce rates the standard deviation decreased from 0.8 in 1970 to 0.7 in 2010.

average age at first marriage. However, by 2010, the mean age at first marriage (29.7) has risen above the mean age at first childbirth (27.7). The number of children born outside of marriage in OECD countries tripled from 11% in 1980 to almost 33% in 2010 (Chart 1.5). The rate is particularly high among Nordic countries; more births occur outside of marriage than within in Iceland, Norway and Sweden. By contrast, births outside of marriage are rare in countries where the cohabitation rate is low, such as in Greece, Japan and Korea.

Chart 1.5: The proportion of births outside of marriage has increased over the past 30 years

Proportion of births outside of marriage 1980 and 2010



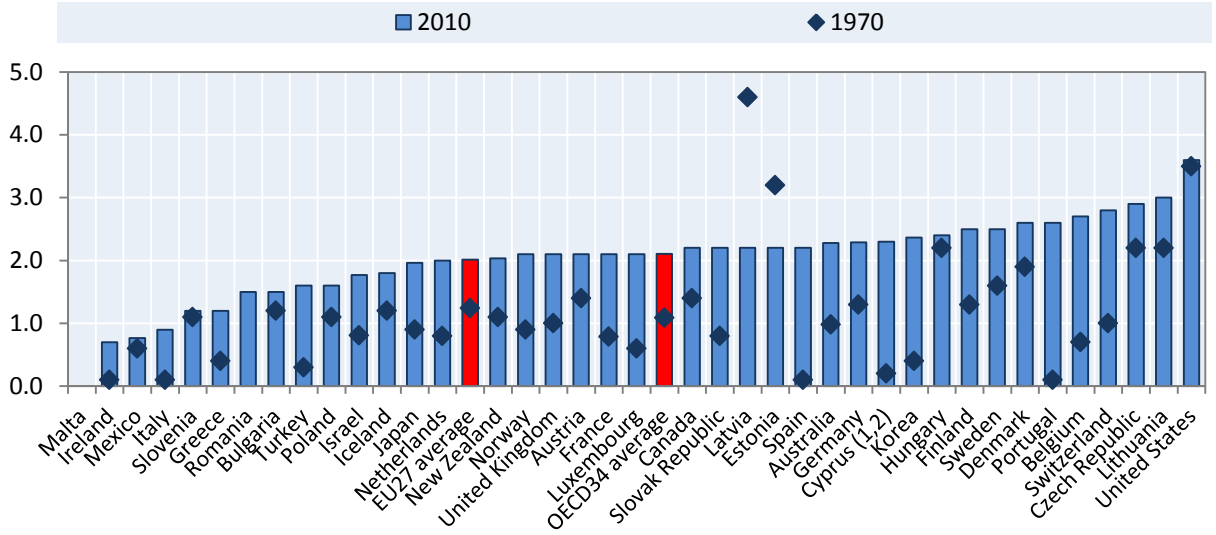
Source: OECD (2014), OECD Family database, SF2.4

1.2.3. Family structure – divorce

33. On average across the OECD, divorce rates increased from 1970 until the mid-2000s, upon which there was a small drop, until divorce rates increased again in 2009 (Chart 1.6 and Chart 1.16 Panel D). Between 1970 and 2010 the average divorce rate across the OECD countries nearly doubled to 2.1 divorces per 1 000 people (Chart 1.6). Divorce rates are high in the Czech Republic, Lithuania, Switzerland and the United States and low in Italy, Ireland, Malta and Mexico. Thus, overall there are fewer people getting married now than before, and those that do are more likely to get divorced.

Chart 1.6: Many marriages end in divorce

Number of divorces per 1 000 population, 1970 and 2010



1. and 2. See notes 1 and 2 to Chart 1.1.

Source: OECD (2014) OECD Family database, SF3.1.

34. Across the OECD, except for Australia, Germany, Italy, New Zealand and Switzerland, most divorces involve parents with children (Chart 1.7). Countries with a high proportion of divorces involving children (i.e. 65% or more) include Greece, Luxembourg, Mexico, Portugal and the Slovak Republic. Divorces often do not involve a large number of children. Only in Finland, Iceland, Luxembourg and the Netherlands do more than 35% of the divorces involve two or more children.[9]

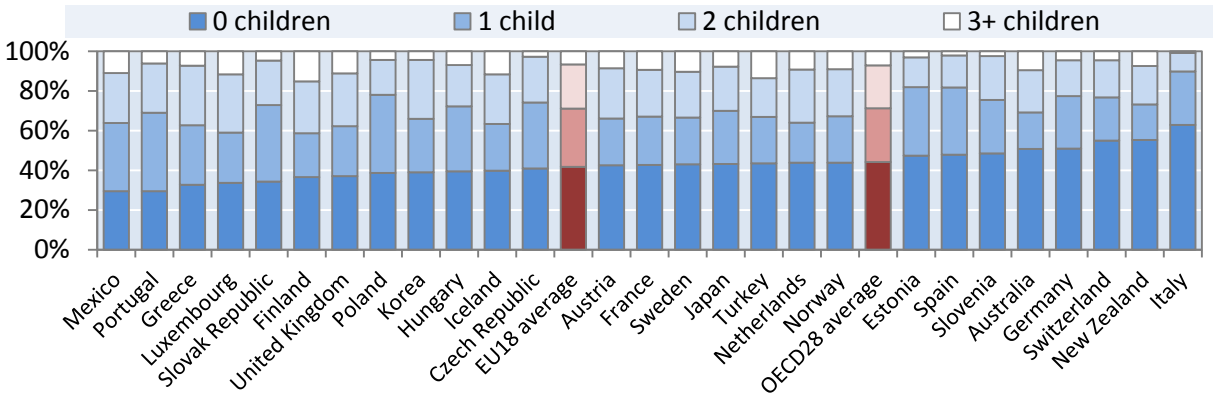
35. Children of divorced parents are more likely to live with just one parent than in reconstituted families, and in many OECD countries the number of sole-parent families is projected to increase from 10 to 30% by 2030 (OECD, 2011b). On average across the OECD, almost 10% of children live in reconstituted households, while nearly 15% live in sole-parent households (OECD, 2014, SF1.3). The proportion of reconstituted families is above OECD average in Belgium, Canada, the Czech Republic, Estonia, France, the Nordic countries, the United Kingdom and the United States. Reconstituted families are rare in Greece, Italy, Poland, Slovenia, Spain and Turkey where less than 5% of children live in such households.

36. Around 1 in 15 children on average across the OECD, live in a household with their grandparents (OECD, 2011a). In some countries, sole parents live with their parents to pool resources and gain better access to childcare (see Chapter 2). Multigenerational households are most common in Poland and the Slovak Republic, where more than 15% of children live in multi-generational households, while they are extremely rare in the Nordic countries.

9 In many countries couples who want to have children still marry while cohabiting couples are less likely not to have children. This selection effect may help to explain why the proportion of divorces that involves children is growing. Cohabitation in many countries tends to be less stable than marriage which can also contribute to the "real divorce rate" being much higher than recorded as cohabiting couples who split up are not captured in the data (Lundberg and Pollak, 2013).

Chart 1.7: Most divorces involve one or more children

Number of children involved in divorces, as a proportion of all children, 2010



Source: OECD (2014), OECD Family database, SF3.2.

37. The recent increase in sole-parent households is expected to continue over the next few decades in most countries for which projections are available (OECD, 2011b). The consistency of the upward trend in sole-parent households across these OECD countries is remarkable, with the bulk of projections to 2025-30 suggesting that numbers are likely to increase by between 22% and 29%. Austria, Netherlands, Switzerland and the United States are the countries expecting the lowest increases in sole-parent families (8 to 10%). Germany stands out as the one exception with a projected decrease in sole-parent numbers of 16% by 2025 as the effect of a rise in divorce and separations is unlikely to be larger than that of declining numbers of children.

1.3. Education outcomes

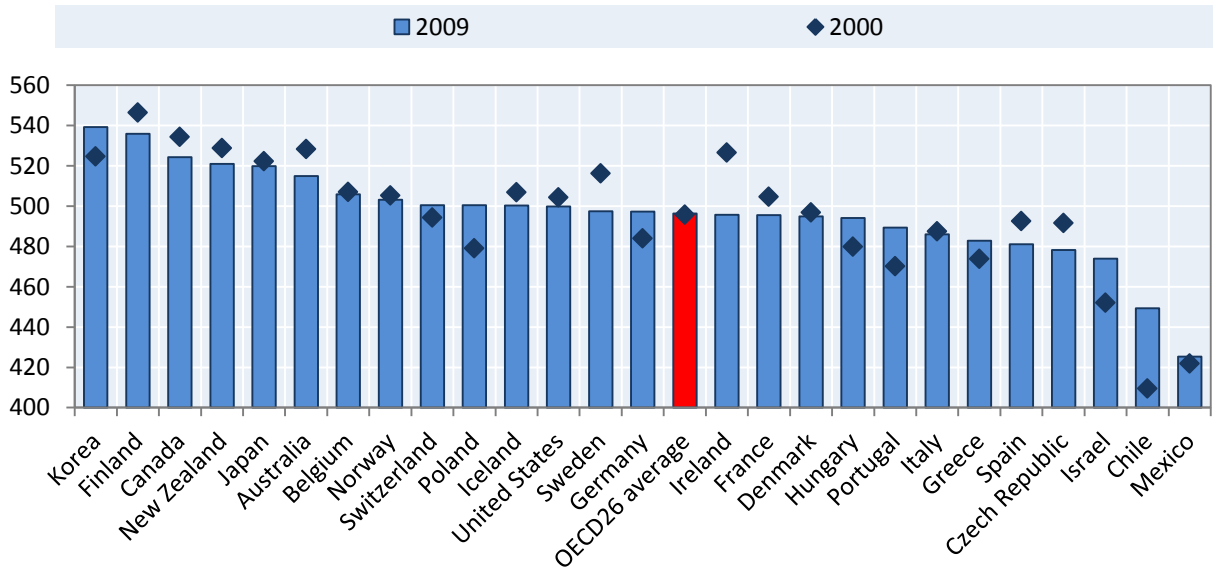
38. With mandatory schooling from around the ages of 6-16 years (OECD, 2014, PF4.1), enrolment in primary and secondary education is nearly universal in most OECD and EU countries. However, there is great variation in how well countries perform in terms of literacy scores and educational outcomes, especially by gender. Here we look at how pupils perform in secondary education, particularly reading literacy for which observations in 2000 and 2009 are available, and their attainment later in tertiary education.

1.3.1. Student performance in reading literacy in secondary school

39. The OECD's Programme for International Student Assessment (PISA) evaluates how students at age 15 (when approaching the end of compulsory schooling) perform in the skill sets of reading, mathematics and scientific literacy, however, comparable trend data from 2000 to 2009 are only available for reading assessments. Reading literacy in PISA tests the ability to decode text and grammatical structures and also asks students to identify different types of text and relate them to the contexts in which they appear.

Chart 1.8: Average OECD Pisa reading scores have changed over the 2000s but this masks substantial cross-national variation.

PISA reading performance scores, 2000 and 2009[1]



1. The analysis shows changes from 2000 to 2009 as complete statistical analysis was undertaken by the PISA study using appropriate sample comparisons to allow for statistically significant changes over time.

Source: OECD (2010), *PISA 2009 Results*.

40. The average OECD reading performance has remained has not changed much since 2000, increasing by just 1 score point from 496 in 2000 to 497 in 2009 (OECD, 2010, and Chart 1.8). However, some countries markedly improved learning outcomes (Chart 1.8). Of the 26 countries with comparable results for both PISA 2000 and 2009 assessments, seven countries have seen significant improvement: Chile (from 410 to 449), Israel (from 452 to 474) and Poland (from 479 to 500) all increased their reading performance by more than 20 score points, and Portugal (from 470 to 489), Korea (from 525 to 539), Hungary (from 480 to 494) and Germany (from 484 to 497) by between 10 and 20 score points. Four countries saw a decline in their reading performance between 2000 and 2009. Among those, student performance in Ireland (from 527 to 496) decreased by 31 points, in Sweden (from 516 to 497) by 19 points, and in Australia (from 528 to 515) and the Czech Republic (from 492 to 478) by 13 points.

1.3.2. Attainment in tertiary education

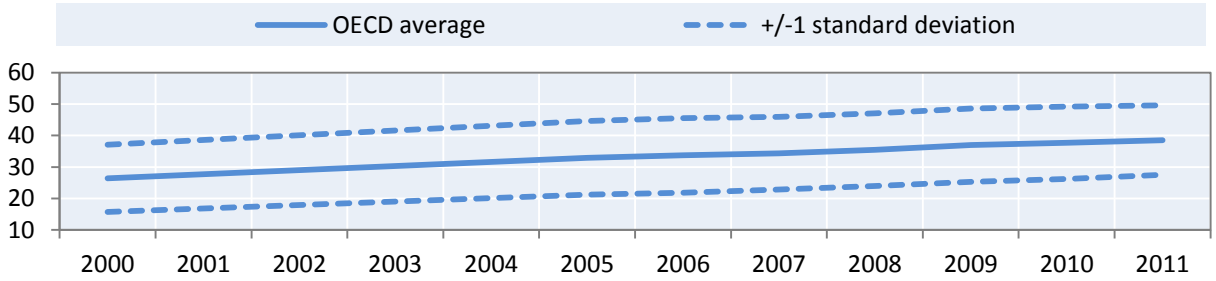
41. The proportion of persons aged 25-34 with a tertiary degree has increased in all OECD countries over the past decade (Chart 1.9 Panel B). In 2011, tertiary attainment rates were highest in Canada, Japan and Korea at over 50% and lowest in Austria, Italy, Mexico and Turkey at less than 25%. The largest increases between 2000 and 2011 were observed in Israel, Korea, Luxembourg and Poland with the proportion attaining tertiary degrees increasing by more than 20 percentage points, with Korea now having the highest attainment at 64%. The smallest increases, at 5 percentage points or less, were seen in Germany, Mexico, Spain and the United States, and almost a negligible increase of less than 1 percentage point in Finland (albeit from a high base in 2000).

42. Across the OECD, on average, the gain in tertiary attainment over the past decade has been greater among women (16 percentage points) than men (9 percentage points) and as of 2006 more women

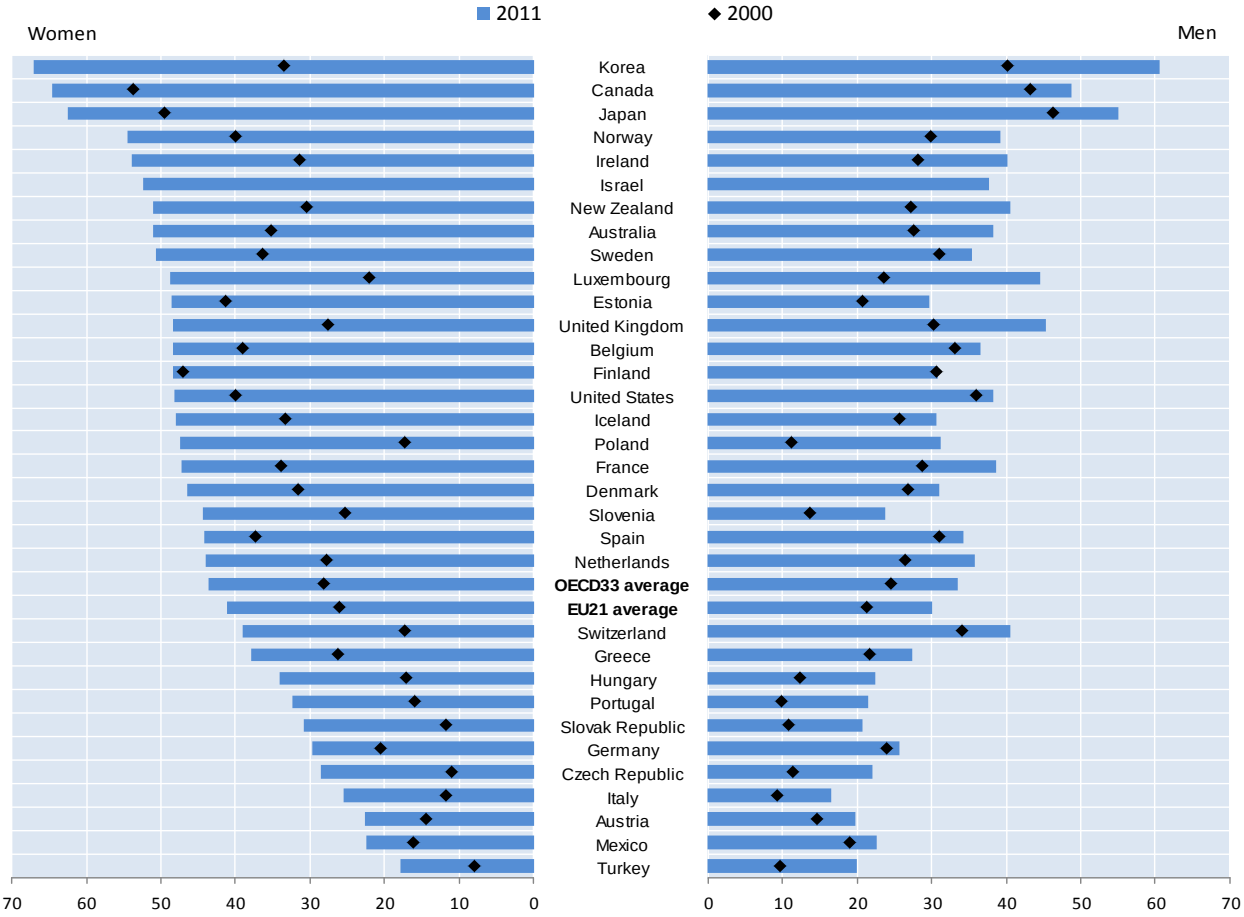
possessed a tertiary degree than men (Chart 1.9 Panel B). Among women, the largest increases were observed in Korea, Luxembourg and Poland with gains of more than 25 percentage points. By contrast among men, no country observed such gains with only Korea and Luxembourg seeing increases of more than 20 percentage points.

Chart 1.9: Tertiary attainment levels have increased in all OECD countries over the past decade

Panel A. Average OECD tertiary attainment rate for persons aged 25-34 years and standard deviation, percentage, 2000-2011



Panel B. Tertiary attainment rate for persons aged 25-34 years by gender, percentage, 2000 and 2011



Tertiary education refers to both type-A and type-B tertiary educational programmes.

Countries are ordered in decreasing attainment rate among women in 2011.

Source: OECD (2013c) *Education at a Glance 2013*.

43. Overall, the increases in tertiary attainment were mixed with little correlation between the level of increase and the historic attainment levels. As such, there has been little convergence in the overall attainment rates across the OECD countries with the standard deviation oscillating around 11% between 2000 and 2011 (Chart 1.9 Panel A).

1.4. Employment outcomes

44. Increasing female participation in higher education has contributed to changing female aspirations regarding labour market participation in many OECD countries, with the biggest change in behaviour amongst married mothers (see next section). The timing of this increase, however, has varied across countries. For example, the rise in female employment began in the early 1960s in Australia, New Zealand, the Nordic countries, and the United States, whereas the main gains in Ireland, the Netherlands and Spain were recorded over the past two decades.

45. In the early 1990s, Greece, Ireland, Italy, the Netherlands, Spain and Turkey had the lowest female labour market participation among the OECD with less than 40% of the female working population in employment (OECD, 1995). Amongst these countries there has been a large increase in female employment in Belgium, Ireland, the Netherlands and Spain with employment rates exceeding 50% in 2012. There were also modest increases in Greece and Italy while female employment is still lowest in Turkey.

46. The Nordic countries have historically had the highest female employment rates among the OECD countries. Iceland is the only OECD country with nearly 80% of the female working-age population in employment in 2012.

47. The gains in female employment among historically low female employment countries, such as Greece, Italy, Ireland and Spain, have contributed to some convergence among OECD countries (Chart 1.10). Initially, however, female employment rates diverged with the standard deviation rising from 12.9% in 1980 to 13.9% in 1990, before countries began to converge with the standard deviation in female employment rates being 10.4% in 2012.

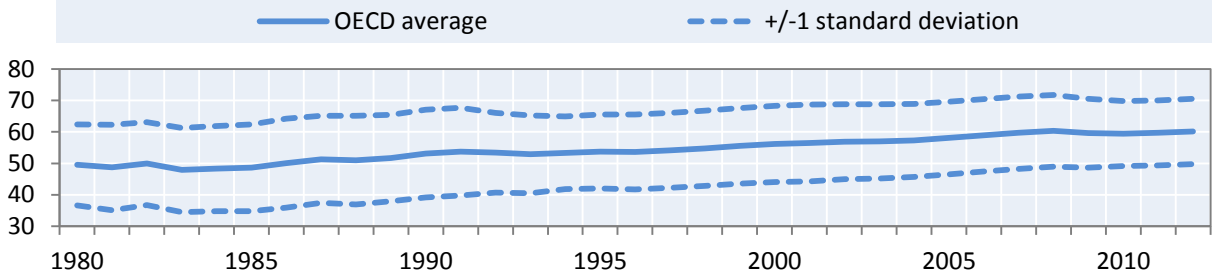
48. Across the EU and the OECD, on average, there has been little change in the incidence of part-time employment among female prime-age workers over the past two decades with the rate currently around 22% of female employment (age 25-54). In some, countries, much of the increase in female employment rates has been in part-time employment: an increase of more than 5 percentage points was observed over the 2000-2012 period in Austria, Chile, Greece, Italy and Spain (Chart 1.11 Panel A).[10] However, part-time work among female prime-age workers dropped substantially between 2000 and 2012 in Iceland, Norway and Sweden, and also in Belgium and Poland, where it declined by more than 3 percentage points (Chart 1.11).

49. The incidence of part-time employment among prime-age men has increased in almost all OECD countries over the past decade but from a much lower base; with the OECD average increasing from 3.1% to 5.1%; male part-time employment is still considerably lower than among women in all OECD countries (Chart 1.11 Panel B).

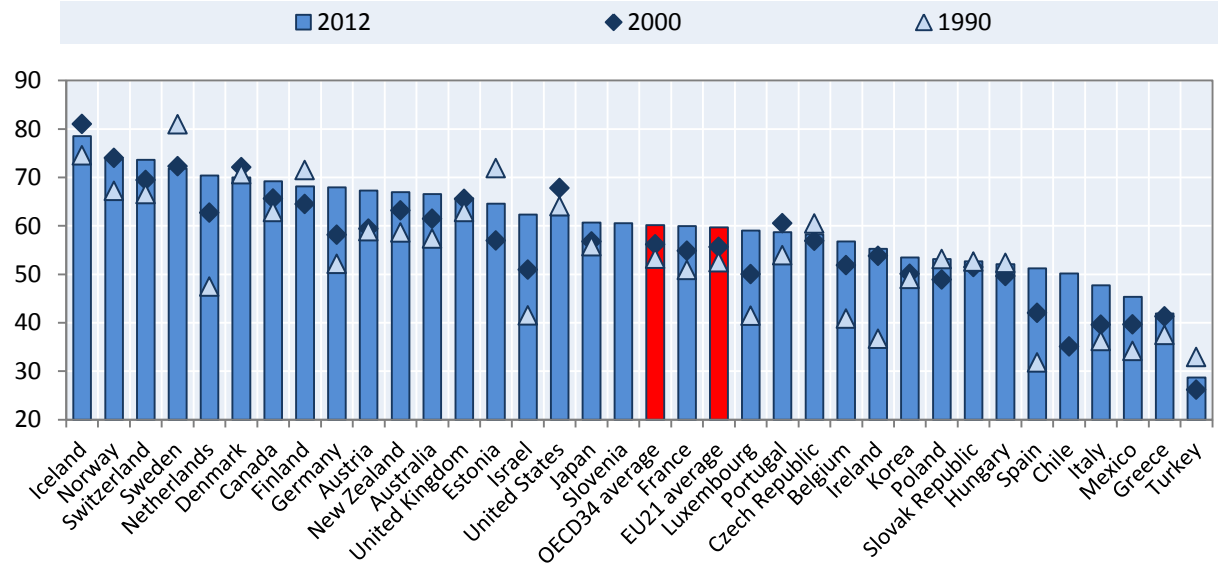
[10] There is some evidence to suggest that countries that have seen greater expansion in female employment over the past decade have also witnessed an increase in the incidence of part-time work with a correlation coefficient of +0.6.

Chart 1.10: Women are increasingly participating in paid work

Average OECD employment to population ratio of woman aged 15-64 years and the standard deviation, 1980-2012



OECD employment to population ratio of women aged 15-64 years, 1990[1], 2000 and 2012

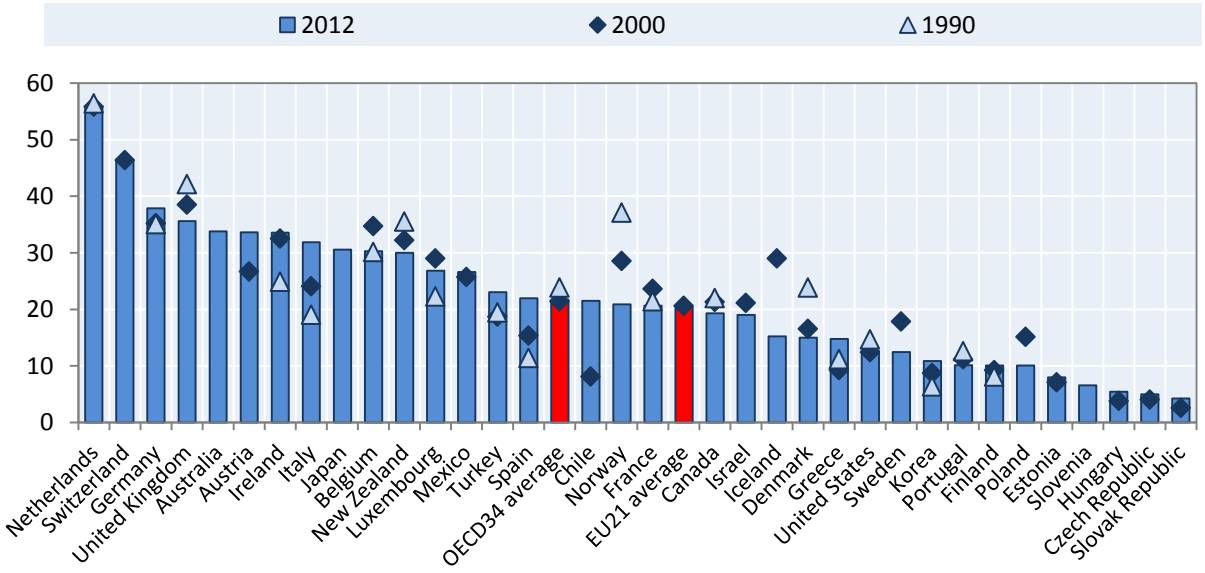


1. For 1990 the data refer to 1991 for Iceland and Mexico; 1992 for Hungary and Poland, 1994 for the Slovak Republic; 1995 for Austria and the Czech Republic.

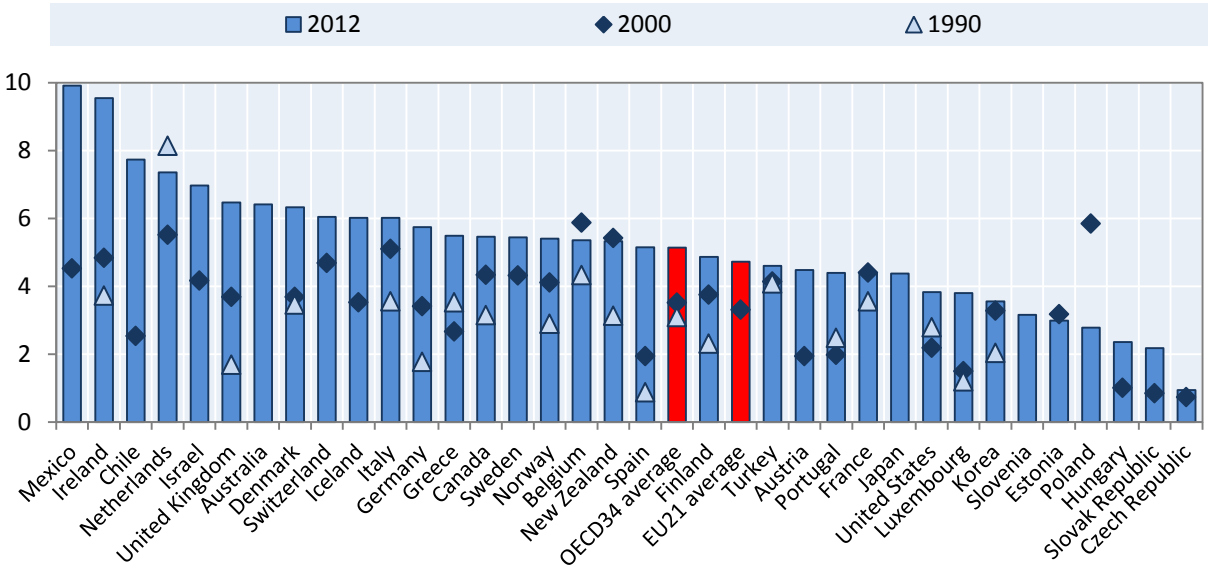
Source: OECD (2013d), *OECD Employment database*.

Chart 1.11: Country experiences with part-time employment are mixed

Panel A. Incidence of part-time employment among total female employment, women aged 25-54 years, percentage, 1990, 2000 and 2012



Panel B. Incidence of part-time employment among total male employment, men aged 25-54 years, percentage, 1990, 2000 and 2012



Source: OECD (2013d), OECD Employment database.

1.4.1. Parents in employment

50. The growth in the proportion of women in the labour force is strongly related to the growing number of mothers remaining in employment or returning to the labour force. On average across OECD countries in 2009, more than six out of ten mothers with dependent children (aged 0-16) were in paid employment (Chart 1.12). There is, however, considerable cross-national variation. At below 50%, employment rates for mothers with dependent children (0-16) were lowest in Hungary, Italy, Poland and the Slovak Republic. In contrast, more than two out of three mothers were in paid employment in Canada, the Netherlands, Switzerland and the United States, with maternal employment rates highest in Nordic countries at around 75% or more.

51. Virtually all employed mothers take a short break from paid work just before birth and during the first few months after a child's birth. After this period, differences in national parental leave and childcare support contribute to different labour force behaviour of mothers (see Chapter 2). Chart 1.12, shows that in many countries maternal employment rates rebound when children are three to five years of age, and maternal employment rates often increase further when children enter primary school around the age of six. But the data also mask considerable cross-national differences in the dynamics of employment relationships. For example, in Australia and New Zealand mothers often reduce weekly working hours to care for young children and increase hours when children go to primary school at age five (OECD, 2007), in contrast to the Netherlands and Switzerland where part-time employment is a more permanent feature for mothers throughout childhood.

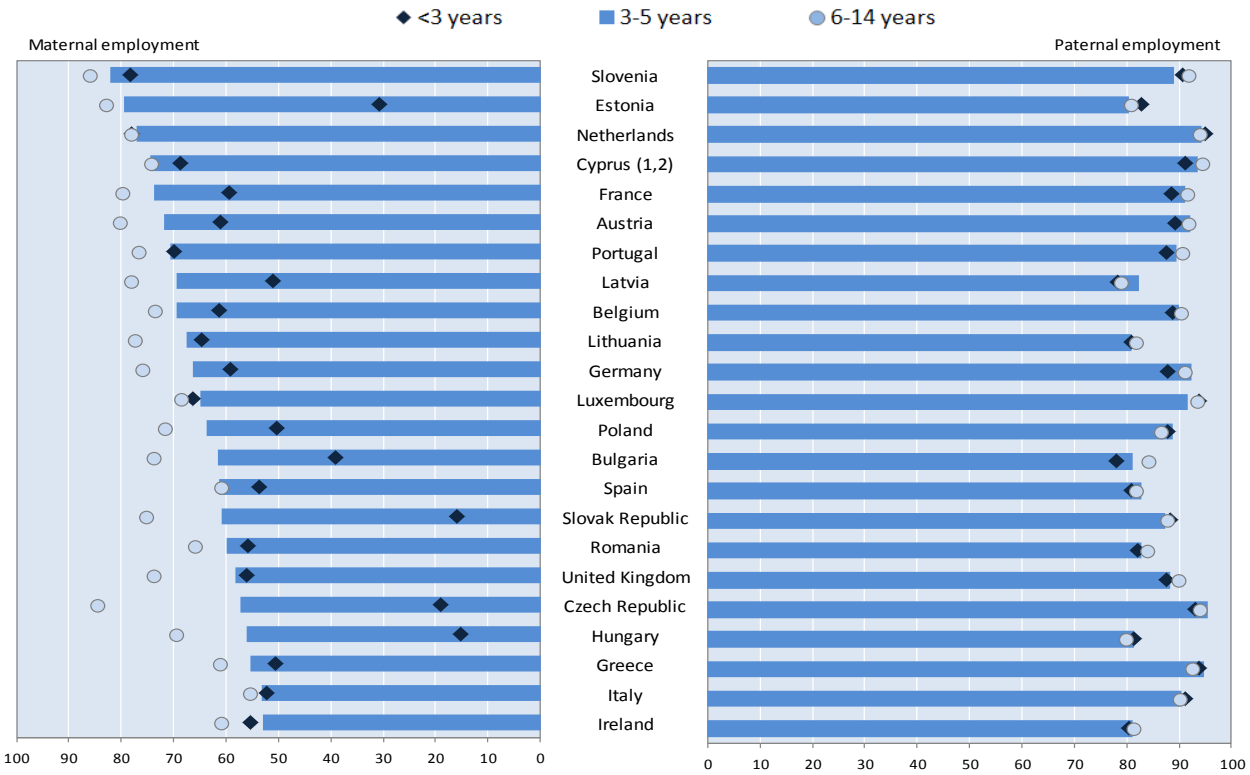
52. Employment rates tend to be lower for mothers with a greater number of dependent children (OECD, 2014, LMF1.2). In 2009, on average almost 60% of mothers with one child were in paid employment, while this was about 55% for mothers with two children. In Greece, Hungary, Italy, Luxembourg, Poland, the Slovak Republic and Spain, less than half of mothers with two or more children were in paid employment in 2009. Maternal employment rates tail off even further in the presence of a third child, falling below 30% in Hungary, Italy and Poland.

53. Compared to women, men are less likely to adjust their working hours or to withdraw from the labour market in the presence of young children. Chart 1.12 shows that while mothers with very young children are less likely to be in paid work, fathers' employment participation, by contrast, does not seem to be affected by the presence of children. What is more, some studies have shown men tend to slightly increase their number of working hours and commitment to work with the arrival of children (O'Brien *et al.*, 2007 and OECD, 2011a).

54. Looking across the OECD, the increase in female and maternal employment has led to an increase in the share of couple families where both adults are in paid employment. In most countries the male breadwinner household has now been replaced by dual-earner couples: on average nearly 60% of couples are now dual-earner families (OECD, 2014, LMF1.1). However, as in many couples one partner, often the woman, earns less than the other, the "1.5 earner model" label may be more apt.

55. The increase in employment has also translated into more children living in households where parents are employed. In all countries studied, more than 80% of children living in couple households have at least one parent in full-time employment with the proportion particularly high in Japan and the United States (OECD 2014, LMF1.1). The share of children living in couple households where both parents are employed is also high, particularly in Portugal, Slovenia and the United States, where more than 60% of children live in couple households with both parents working full-time.

Chart 1.12: Mothers reduce employment participation when children are young



Countries are ordered from top to bottom in descending employment rate among mothers with youngest child aged 3-5 years.

1. and 2. See notes 1 and 2 to Chart 1.1.

Source: OECD (2014), OECD Family database, LMF1.2.

1.5. Poverty among households

56. Poverty risks are strongly linked to employment status, and jobless families face the highest poverty risks (Table 1.2). Joblessness is generally much higher for sole-parent families than for couples with children (OECD, 2014, LMF1.1), and the growth in the incidence of sole- parent families has been a significant contributor to trends in family joblessness.

57. A significant minority of families in work are poor (as measured with respect to half the median disposable household income). In nearly two-thirds of OECD countries, sole-parent families with a working adult are generally poorer than two-parent households where only one parent is employed (Table 1.2). But joblessness is still the major poverty risk especially among sole-parent families. In almost all countries, poverty rates among non-employed lone parents are at least twice as high as among those with paid work. Poverty rates among couples with children where neither parent is employed are, on average, three times higher than where one parent is employed, and more than ten times higher than where both parents are employed.

Table 1.2: Children in sole-parent families face an elevated poverty risk

Poverty rates for children and for families by employment status, percentages, 2010

	Children (0-17)	Sole parent		Two parents		
		Not working	Working	No worker	One worker	Two workers
Australia	15.1	73.1	14.4	67.5	10.3	1.9
Austria	8.2	68.7	20.1	53.0	14.7	1.9
Belgium	12.3	58.8	15.9	77.6	20.3	1.0
Canada	14.0	87.0	27.4	68.5	23.2	4.4
Chile	23.9	82.5	37.4	76.5	33.0	5.1
Czech Republic	10.3	84.4	20.0	76.6	11.3	1.8
Denmark	3.7	26.7	5.6	30.5	9.3	0.9
Estonia	12.7	71.9	30.0	73.6	18.7	4.4
Finland	4.4	48.6	7.3	35.7	8.8	1.1
France	11.0	49.7	18.4	24.8	11.4	2.9
Germany	9.1	54.0	23.8	16.4	2.5	0.5
Greece	16.0	66.7	26.7	15.5	28.6	5.9
Hungary	9.4	71.8	15.1	16.9	8.5	2.3
Iceland	7.7	33.4	29.8	39.8	14.2	2.0
Ireland	10.2	36.9	2.1	26.9	9.9	0.6
Israel	28.5	86.3	30.2	88.7	44.1	4.0
Italy	17.3	85.9	22.6	82.3	28.5	5.1
Japan	15.7	50.4	50.9	36.0	13.6	11.8
Korea	9.7	23.1	19.7	37.5	9.5	5.3
Luxembourg	11.8	65.2	43.0	54.5	16.5	4.0
Mexico	24.5	41.9	28.2	75.3	32.9	10.4
Netherlands	9.9	58.2	22.6	66.4	15.4	2.0
Norway	5.1	42.3	9.9	42.4	12.6	1.0
New Zealand	13.3	47.4	13.8	46.9	13.0	2.5
Poland	14.2	77.4	20.7	61.6	26.7	4.3
Portugal	15.6	62.2	33.6	68.1	26.4	3.7
Spain	20.1	80.3	29.2	76.5	29.4	7.8
Slovak Republic	12.2	87.9	21.8	79.6	18.3	4.4
Slovenia	8.0	95.3	23.1	86.8	27.8	2.6
Sweden	8.2	56.7	10.9	58.4	18.2	1.2
Switzerland	9.8	31.6			7.2	
Turkey	27.5	44.7	32.4	45.0	21.5	20.2
United Kingdom	9.8	27.8	4.8	30.3	8.6	1.0
United States	21.2	90.7	31.1	86.9	28.1	5.8
OECD34 average	**13.2**	**60.9**	**22.5**	**53.8**	**18.7**	**4.1**
EU21 average	**11.2**	**63.6**	**19.9**	**53.0**	**17.1**	**2.8**

Source: OECD (2013b), OECD Income Distribution database.

1.6. Child well-being

58. Poverty in childhood can have a damaging and lasting effect on children's development and well-being and worryingly child poverty has edged up over the past two decades despite a consistent growth in average family income. However, child well-being is a multidimensional concept and income poverty

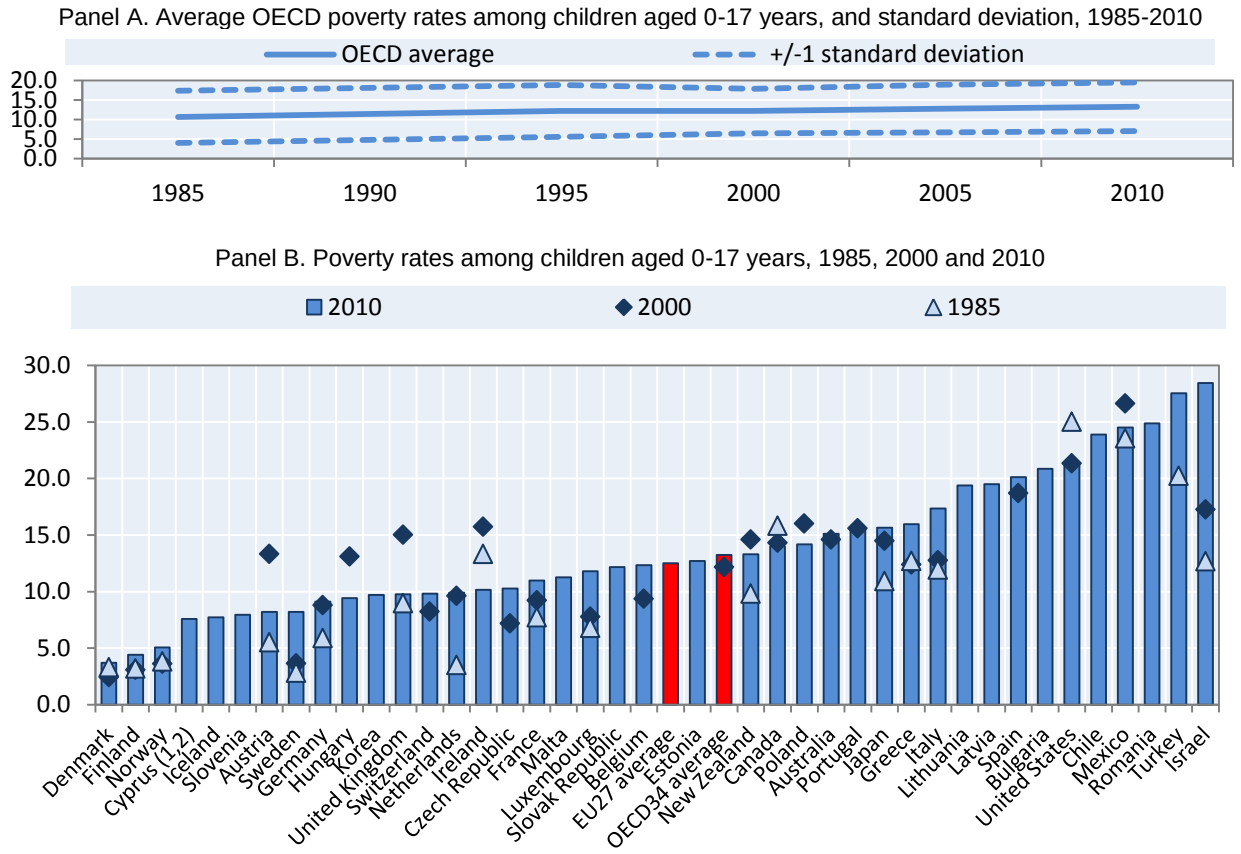
alone does not completely capture the situation of children. This section therefore also looks at indicators on child health (for a full discussion of different factors affecting child well-being see OECD, 2009).

1.6.1. Material well-being – child poverty

59. In most OECD countries, poverty risks have shifted over the past 20 years towards families with children (Förster and Mira d'Ercole, 2005). In many countries, families with children are more likely to be poor than other groups of the population; only in Belgium, Denmark, Finland, Greece, Norway and Sweden do children face lower risks of poverty than the national average (OECD, 2013b).

60. Over the past few decades child poverty has steadily increased, on average across the OECD (Chart 1.13 Panel A). Over the past decade alone the average OECD child poverty rate has increased by 1 percentage point, from 12.2% in 2000 to 13.2% in 2010. However, there has been little convergence across countries with the standard deviation remaining relatively large (approximately half of the mean) throughout the 1980s, 1990s and 2000s. There remains considerable variation in child poverty across countries (Chart 1.13 Panel B): The poverty rate is highest, at over 20%, in Bulgaria, Chile, Israel, Mexico, Romania, Spain, Turkey and the United States. While it is lowest in Denmark, Finland and Norway at 5% or less, Austria, Ireland and the United Kingdom saw the most pronounced falls in the child poverty rate over the past decade with decreases of more than 5 percentage points between 2000 and 2010 (see below).

Chart 1.13: Child poverty has increased in most countries with little sign of convergence



The child poverty rate is defined as the share of children living in households with equivalised incomes less than 50% of the median equivalised income for the entire population.

1. and 2. See notes 1 and 2 to Chart 1.1.

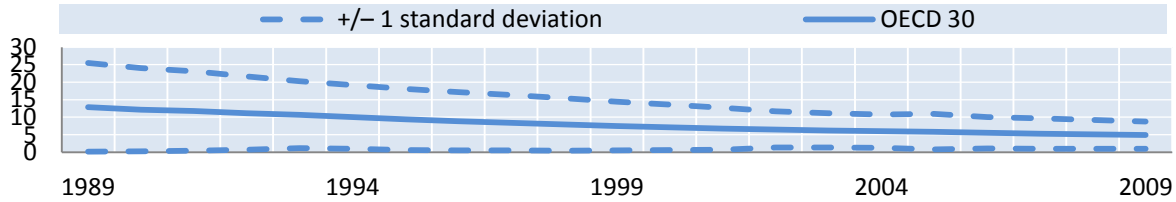
Source: OECD (2013b), OECD Income Distribution database.

1.6.2. Health outcomes – infant mortality and low birth weight

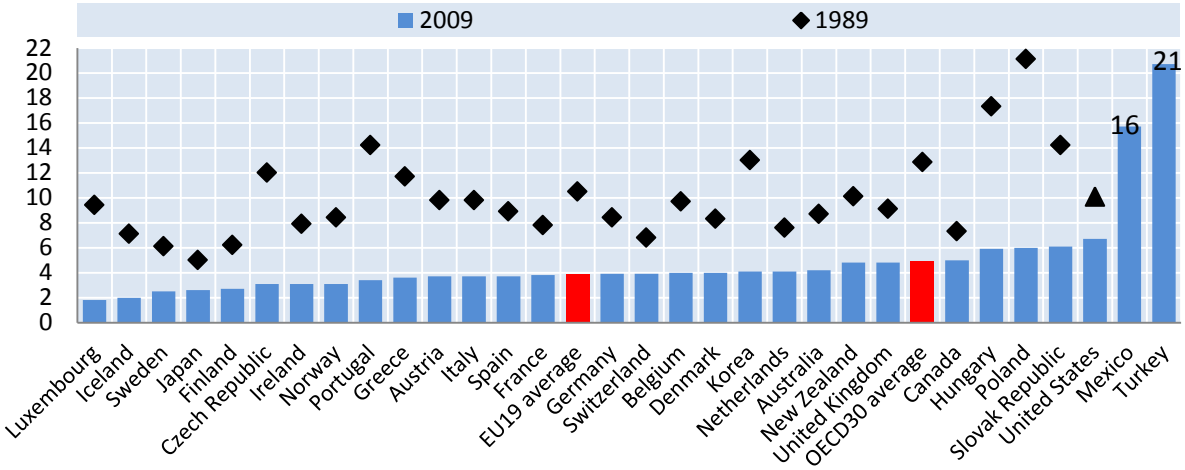
61. Two important measures of child health outcomes are infant mortality rates and low birth weights. In 2009, infant mortality was low or extremely low in most OECD countries (Chart 1.14), and there have been improvements in all OECD countries on this front in the past 20 years. Japan, along with most northern European countries, had the lowest rate of infant deaths in 2009 (two to three per 1 000). Mexico and Turkey are outliers with substantially higher infant mortality rates than other OECD countries at rates of 16 and 21 per 1 000 births, respectively.

Chart 1.14: In the past 20 years the number of infant deaths has fallen and converged among countries

Number of deaths among children under one year of age that occurred in a given year per 1 000 live births, OECD average and standard deviation, 1989-2009



Number of deaths among children under one year of age that occurred in a given year per 1 000 live births, 1989 and 2009



Source: OECD (2013c), *OECD Health database.*

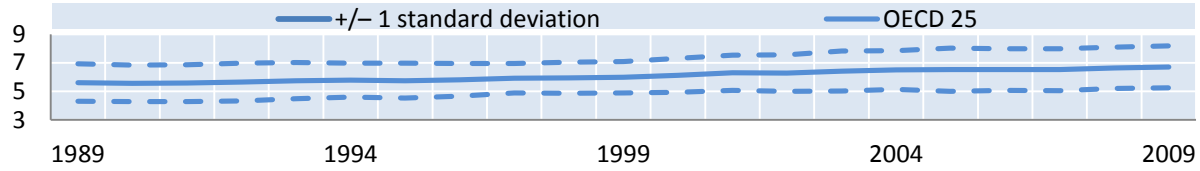
62. Improvement in healthcare and immunization programmes (OECD, 2014, CO1.4) has led to a large reduction in previously high-infant mortality rate countries, contributing to convergence across OECD countries toward a low rate. The standard deviation between countries has fallen from 12.7% in 1989 to a low of 3.9%.

63. Contrary to the trends observed in the infant mortality rates, low birth weights have increased across the OECD countries in the past 20 years. Low birth weight is linked to children's future development trajectories and has also been linked to earning and learning capacity in later life (for example, see Black, 2007). However, part of this increase is due to improvements in medical care leading to a higher number of pre-mature births for children who would otherwise not have survived to birth, as well as changes to birth recording practises. Nordic countries have particularly low proportions of children

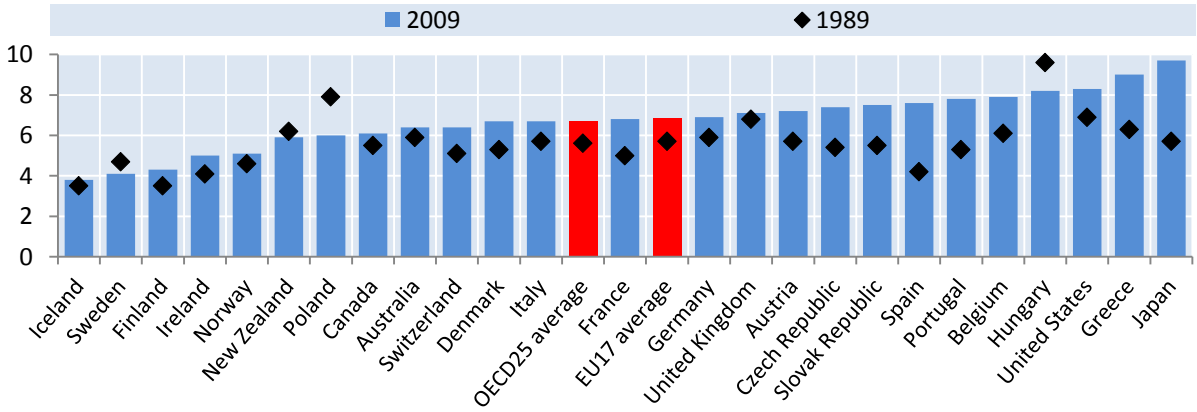
born underweight and the rates in these countries have only increased slightly since 1989 (Chart 1.15). At the other end of the scale, Greece and Japan have high rates of low-birth weight children, rates which have increased more substantially than elsewhere since 1989. There has been little convergence in the proportion of low birth-weights among OECD countries.

Chart 1.15: Low-birth weights are creeping up

Number of live births weighing less than 2.5 kilograms as a percentage of total number of live births, OECD average and standard deviation, 1989-2009



Number of live births weighing less than 2.5 kilograms as a percentage of total number of live births, 1989 and 2009



Source: OECD (2013c), *OECD Health database.*

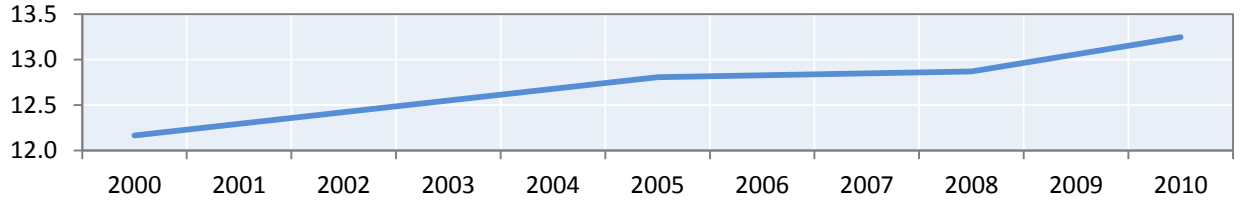
1.7. The effect of the economic crisis

64. The recent global economic crisis, which began in 2007/08 has affected family and child well-being outcomes (OECD, 2012b), but these effects have been varied as has the pace of change.[11] For example, changes in income and employment opportunities have immediate effects on (male and) female employment and poverty (Chart 1.16 Panels A and B), while it may take longer for changes in income and economic stress to affect family formation and family dissolution (Chart 1.16 Panels C and D).

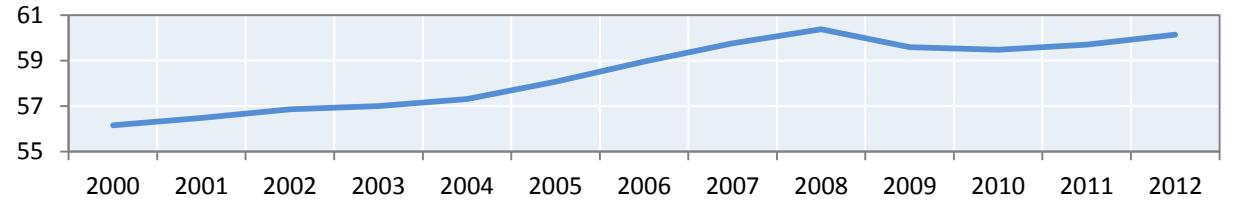
[11] Family and child well-being are multidimensional concepts and changes in employment opportunities and income affect many well-being indicators. However, data limitations restrict the discussion to four important measures of well-being and work-family life balance.

Chart 1.16: Trends in four important family outcomes before and during the economic crisis

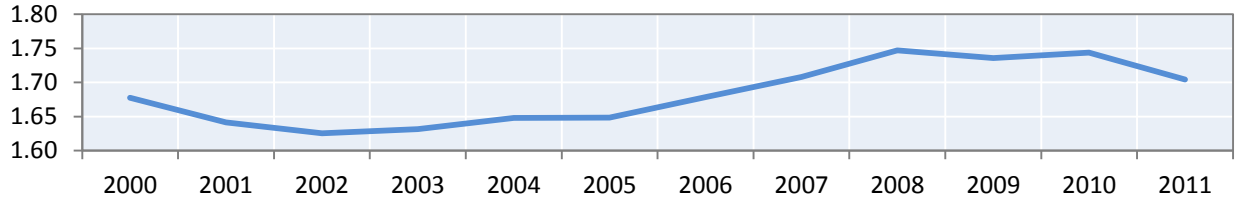
Panel A. Proportion of children in poor households, OECD average, 2000-2010[1]



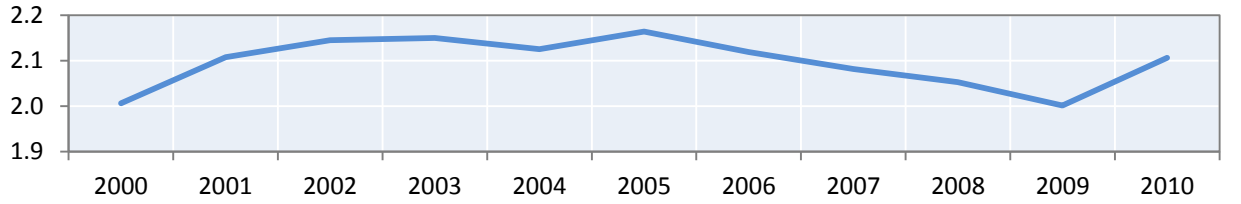
Panel B. Female employment-to-population ratio, OECD average, 2000-2012



Panel C. Total fertility rate, OECD average, 2000-2011



Panel D. Number of divorces per 1 000 population (crude divorce rate), OECD average, 2000-2010



[1] Data on income distribution and relative poverty are not available not on annual basis. In general, the series in Chart 1.16 Panel A is based on observations for 2000, 2005, 2008 ad 2010 and interpolated for intermittent years.

Sources: (OECD, 2014) *OECD Family database,* (OECD, 2013b)*OECD Income Distribution database,* and (OECD, 2013d) *OECD Employment database.*

1.7.1. Child poverty – household income

65. As discussed above, poverty risks have shifted towards families with children over the past 20 years, with increasing child poverty observed in almost all OECD and EU countries. On average across the OECD, the child poverty rate increased from 12.2 % in 2000 to 12.8% in 2005; it remained at that level until 2008, before increasing by 13.2 % in 2010 (Chart 1.16 Panel A). The increase since the onset of the crisis has been large in Bulgaria, Hungary, Lithuania, the Slovak Republic and Spain with increases of more than 2 percentage points, and the most severe in Turkey where child poverty increased by more than 4 percentage points between 2008 and 2010. (Table 1.A1.1)

66. Nevertheless, some countries observed a decrease in child poverty over this period; most notably Canada, Ireland, Luxembourg, Mexico, Portugal and the United Kingdom where the child poverty rate dropped by more than 1 percentage point between 2008 and 2010 – a smaller decrease was observed among Nordic countries (Table 1.A1.1). This is partially due to the nature of the poverty measurement, which defines all households with incomes below half of median equivalised household disposable income, as poor. A fall in median household income, which was observed in many of these countries (see Table 1.A2.1), and the resulting drop of the poverty threshold can lead to a smaller proportion of households falling below the poverty threshold although real income decreased for many such households.

1.7.2. Female employment rate – employment opportunities

67. Following the outbreak of the economic crisis, the majority of OECD countries recorded a decline in female employment rates between 2008 and 2010 (Chart 1.16, and Table 1.A1.1). However, many countries experienced a recovery in female employment rates between 2010 and 2012 Over the 2008-2012 period, the largest falls (at greater than 3 percentage points), in the female employment rate between 2008 and 2012, were recorded for Bulgaria, Denmark, Greece, Ireland, Latvia, Portugal, Slovenia, Spain and the United States. Over the same period, the female employment rate increased by more than 3 percentage points in Chile, Germany, Israel, Luxembourg, Malta and Turkey.

68. The initial fall in the employment rate between 2008 and 2010 was often larger among men than women; on average across the OECD the female employment rate fell by 1 percentage point while male employment rate fell by 3 percentage points. Overall, this reflects how the economic crisis initially affected some sectors more adversely that are male dominated, such as construction, while jobs in the civil service, often popular among female workers, was better protected (OECD, 2012c). However, more recently as the effects of the crisis has lessened the construction sector has seen a small rebound in many countries with more severe cuts taking place in the civil service as governments have focused on austerity. This has brought greater parity in changes in employment among men and women, with female employment rate increasing by 0.7 percentage points between 2010 and 2012 and male employment rate increasing by 0.3 percentage points over the same period.

1.7.3. Fertility rate – family formation

69. Following the small rebound in the birth rate during the 2000s the TFR declined from 1.75 in 2008 to 1.70 in 2011 on average across the OECD (Chart 1.16 Panel C). The TFR fell by more than 0.12 children per woman over the 2008-11 period in Denmark, Estonia, Iceland, New Zealand, Turkey and the United States (Table 1.A1.1), while increases of similar magnitude materialized over this same period in Lithuania and the Slovak Republic.

1.7.4. Divorce rate – family dissolution

70. The average OECD crude divorce rate decreased from 2.16 divorces per 1 000 persons to 2.2.00 in 2009 (Chart 1.16 Panel D). However, there was a sharp increase of 0.10 from 2009 to 2010 on average across the OECD, although many countries experiencing a continued decline in the divorce rate (Table 1.A1.1). It is difficult to gauge the effect of the crisis on family dissolution. On the one hand, economic stress may contribute to more divorces, but the potential economic costs of divorces may act as a barrier to starting divorce proceedings as observed in the United States (Cohen, 2011). In the Netherlands the recent decline in divorce is partly due to a fall in house prices since the onset of the crisis, so that couples face substantial financial losses when they sell their house in the event of a divorce (Vandevyvere and Zenthöfer, 2012).

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ANNEX 1.A1 CHANGES IN FAMILY OUTCOMES BEFORE AND DURING THE ECONOMIC CRISIS

Table 1.A1.1: The economic crisis had mixed effects on family well-being outcomes, 2000, 2008 and 2010/2011/2012

	Child poverty			Female employment rate				Total fertility rate			Divorce rate		
	2000	2008	2010	2000	2008	2010	2012	2000	2008	2011	2000	2008	2010
Australia	14.6	14.0	15.1	61.4	66.7	66.2	66.6	1.76	1.96	1.88	2.6	2.2	2.3
Austria	13.3	8.0	8.2	59.4	65.8	66.4	67.3	1.36	1.41	1.43	2.4	2.4	2.1
Belgium	9.4	11.3	12.3	51.9	56.2	56.5	56.8	1.67	1.85	1.87	2.6	3.3	2.7
Bulgaria	-	18.5	20.8	47.2	59.5	56.4	55.6	1.26	1.48	1.51	1.3	1.9	1.5
Canada	14.3	15.1	14.0	65.6	70.1	68.8	69.2	1.49	1.68	1.61	2.3	2.1	-
Chile	-	24.5	23.9	35.1	42.1	46.7	50.2	2.05	1.92	1.91	-	0.1	-
Cyprus (1,2)	-	6.6	7.6	53.0	62.9	63.0	62.1	1.64	1.46	1.35	1.7	2.1	2.3
Czech Republic	7.2	8.4	10.3	56.9	57.6	56.3	58.2	1.14	1.50	1.43	2.9	3.0	2.9
Denmark	2.4	4.0	3.7	72.1	74.1	71.1	70.0	1.77	1.89	1.76	2.7	2.7	2.6
Estonia	-	12.1	12.7	57.0	66.3	60.5	64.6	1.39	1.65	1.52	3.1	2.6	2.2
Finland	3.1	5.4	4.4	64.5	69.0	66.9	68.2	1.73	1.85	1.83	2.7	2.5	2.5
France	9.2	9.3	11.0	54.8	60.2	59.7	60.0	1.87	1.99	2.00	1.9	2.1	2.1
Germany	8.8	7.9	9.1	58.1	64.3	66.1	68.0	1.38	1.38	1.36	2.4	2.3	2.3
Greece	12.4	16.8	16.0	41.3	48.7	48.1	41.9	1.26	1.51	1.42	1.0	1.2	1.2
Hungary	13.1	7.2	9.4	49.6	50.6	50.6	52.1	1.33	1.35	1.24	2.3	2.5	2.4
Iceland	-	5.8	7.7	81.0	80.3	77.0	78.5	2.08	2.14	2.02	1.9	1.7	1.8
Ireland	15.7	11.4	10.2	53.8	60.5	56.0	55.2	1.90	2.10	2.04	0.7	0.8	0.7
Israel	17.2	26.6	28.5	50.9	55.6	56.9	62.4	2.95	2.96	3.00	1.7	1.8	1.8
Italy	12.7	15.9	17.3	39.6	47.2	46.8	47.8	1.26	1.42	1.42	0.7	0.9	0.9
Japan	14.5	14.2	15.7	56.7	59.7	60.1	60.7	1.36	1.37	1.39	2.1	2.0	2.0
Korea	-	10.4	9.7	50.0	53.2	52.6	53.5	1.47	1.19	1.24	2.6	2.4	2.4
Latvia	-	20.1	19.5	53.3	65.4	59.4	60.2	1.24	1.44	1.34	2.6	2.7	2.2
Lithuania	-	16.7	19.4	58.2	61.8	58.5	60.2	1.39	1.47	1.76	3.1	3.1	3.0
Luxembourg	7.8	13.4	11.8	50.0	55.1	57.2	59.0	1.78	1.60	1.51	2.4	2.0	2.1
Malta	-	11.8	11.2	33.4	37.4	39.3	40.9	1.69	1.44	1.49	0.0	0.0	0.0
Mexico	26.6	25.5	24.5	39.6	44.1	43.8	45.3	2.77	2.10	2.03	0.5	0.8	0.8
Netherlands	9.6	9.2	9.9	62.7	69.3	69.4	70.4	1.72	1.77	1.76	2.2	2.0	2.0
New Zealand	14.6	12.2	13.3	63.2	68.7	66.7	67.0	1.98	2.18	2.06	2.5	2.3	2.0
Norway	3.6	5.5	5.1	74.0	75.4	73.3	73.8	1.85	1.96	1.88	2.2	2.1	2.1
Poland	16.0	14.5	14.2	48.9	52.4	52.6	53.1	1.37	1.39	1.30	1.1	1.7	1.6
Portugal	15.6	16.7	15.6	60.5	62.5	61.1	58.7	1.56	1.37	1.36	1.9	2.5	2.6
Romania	-	25.8	24.9	59.0	52.5	52.0	52.0	1.31	1.35	1.25	1.4	1.7	1.5
Slovak Republic	-	10.1	12.2	51.5	54.6	52.3	52.7	1.29	1.32	1.45	1.7	2.3	2.2
Slovenia	-	7.2	8.0	58.6	64.2	62.6	60.5	1.26	1.53	1.56	1.1	1.1	1.2
Spain	18.7	17.7	20.1	42.0	55.7	53.0	51.3	1.23	1.46	1.36	0.9	2.4	2.2
Sweden	3.6	7.0	8.2	72.2	73.2	69.7	71.8	1.55	1.91	1.90	2.4	2.3	2.5
Switzerland	8.2	-	9.8	69.4	73.5	72.5	73.6	1.50	1.48	1.52	1.5	2.6	2.8
Turkey	-	23.5	27.5	26.2	23.5	26.2	28.7	2.27	2.15	2.02	0.5	1.4	1.6
United Kingdom	15.0	12.3	9.8	65.6	66.8	65.3	65.7	1.64	1.96	1.97	2.6	2.2	2.1
United States	21.3	21.6	21.2	67.8	65.5	62.4	62.2	2.06	2.07	1.89	4.1	3.5	3.6
OECD34 average	**12.2**	**12.9**	**13.2**	**56.2**	**60.4**	**59.5**	**60.1**	**1.68**	**1.75**	**1.70**	**2.0**	**2.1**	**2.1**
EU27 average	**-**	**12.0**	**12.5**	**54.6**	**59.8**	**58.3**	**58.7**	**1.48**	**1.59**	**1.56**	**1.9**	**2.1**	**2.0**

1. and 2. See notes 1 and 2 to Chart 1.1.

Source: OECD, 2014) *OECD Family database,* (OECD, 2013b)*OECD Income Distribution database,* and (OECD, 2013d) *OECD Employment database.*

ANNEX 1.A2 MEDIAN HOUSEHOLD INCOME SINCE 1980

Table 1.A2.1. Trends in household median income, current prices in national currency, 1980-2010

	1980	mid-1980	1990	mid-1990	2000	mid-2000	2008	2010
Australia	-	-	-	27819	30072	34245	42646	42048
Austria	-	14687	-	19266	18623	21299	22180	22851
Belgium	-	18065	-	18910	20101	20487	21305	21565
Canada	28205	28506	29164	27275	29910	32211	34865	35982
Chile	-	-	-	2292056	-	-	2774563	3201018
Czech Republic	-	-	138069	158382	162995	180595	206101	208975
Denmark	-	175061	185588	191237	199560	209869	220970	223514
Estonia	-	-	-	-	-	4973	6883	6412
Finland	13037	16272	-	16724	18512	21007	23007	23383
France	-	15877	16981	17990	18972	20004	21044	21004
Germany	-	16371	19108	18855	20117	20009	19683	20535
Greece	-	-	-	-	-	12054	12970	13353
Hungary	-	-	1239833	960631	1069606	1350562	1356536	1289652
Iceland	-	-	-	-	-	3459177	3973099	3490218
Ireland	-	10686	-	13326	21349	24368	23871	21802
Israel	-	39500	48038	52906	60151	58666	64705	67770
Italy	-	14510	16460	15679	16744	-	17492	17673
Japan	-	2447999	-	2881449	2714501	2631367	2598725	2495629
Korea	-	-	-	-	-	-	19157107	19988000
Luxembourg	-	22826	-	28987	32766	35340	35174	35538
Mexico	-	32063	-	35706	34969	38942	42478	39001
Netherlands	16800	15700	18600	18900	21200	22800	22200	22000
New Zealand	-	26395	25932	24774	28015	29636	34631	34342
Norway	-	198056	-	208698	243267	264741	318832	317770
Poland	-	-	-	-	14222	16213	21725	22331
Portugal	-	-	5425	7327	8993	8957	9153	9608
Slovak Republic	-	-	-	-	-	4311	6725	7154
Slovenia	-	-	-	-	-	12144	13835	13261
Spain	-	8112	10763	11106	14517	13885	14917	14617
Sweden	140982	142154	170828	158658	180223	193808	218829	229758
Switzerland	-	-	-	-	46933	48027	-	51401
Turkey	-	6415	-	5943	-	5783	7685	7494
United Kingdom	9997	10582	12657	12551	14330	16348	16804	16333
United States	25933	25942	28261	27408	30328	30166	29678	29056

Source: OECD (2013b), *OECD Income Distribution database.*

CHAPTER TWO:
THE EVOLUTION OF FAMILY POLICIES: IS THERE CONVERGENCE ACROSS COUNTRIES?

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

2.1. Introduction and main findings

71. Family and child policies co-determine many of the family outcomes discussed in the previous chapter. Public family policies increase families' resources in terms of money and time, through financial support and leave from work to provide personal care for children, or through formal childcare support which facilitates labour market participation and promotes child development. Timing of these interventions may differ: parental leave is often taken around childbirth and immediately afterwards, while children often participate in formal childcare when they are a little older but still of pre-school age.

72. Countries have generally expanded their family policies since the 1980s, to give "more choice" and help families reconcile their work and care commitments. However, the balance of public supports in cash, in time and in-kind varies considerably across EU and OECD countries; it is often related to the historically different national policy settings and timing of reform. Nevertheless, many family and child outcomes are converging (Chapter 1); in part this reflects the importance of socio-economic change beyond the scope of family policy, such as education participation and associated change in labour market behaviour (e.g. OECD, 2012).

73. This chapter considers the trends in the development of different family policy tools. Following the main findings, the first section (Section 2.2) discusses changes in overall public spending on family benefits in the form of cash, services and tax-breaks. Section 2.3 focuses on the important role of family financial support within the benefits package and its changes up to 2011. Sections 2.4 and 2.5 discuss policy trends in child-related leave and childcare, respectively.

Main Findings

- *Across the OECD public spending on family benefits as a proportion of GDP has increased over time in most countries, but there has been no convergence in overall spending levels.* Countries have generally placed different emphasis on family support measures such as child tax credits, child allowances, parental leave benefits and/or formal childcare. Overall spending levels remain varied, but there is some convergence in the share of spending by type. As the proportion of in-kind benefits has remained constant, there has been some increase in the use of fiscal supports while the proportion of cash benefits and variation therein has declined over the last decade (Table 2.1 Panel A).

- *There has been a small shift in public spending towards the early years (0-6) in many countries.* The share of spending on early years has increased from 23% in 2003 to 25% on average across the OECD in 2009. Much of the spending is in the form of investment in early childhood education and care. However, not surprisingly, spending in middle and late childhood continues to dominate because of the weight of public spending on primary and secondary education.

- *Public spending on early childhood education and care has increased from 0.5% in 2000 to 0.7% in 2009.* However, spending varies considerably across countries with no sign of convergence among OECD and/or EU countries.

- *The increase in spending on childcare provisions is reflected in higher formal childcare and pre-school enrolment among children aged 0-5 years*. The increase is greater among those aged 0-2 years, but enrolment rates for this age-group have diverged since 2000. By contrast, participation rates among children aged 3-5 years have converged, as countries with relatively low participation rates caught up to some extent with countries that achieved universal enrolment at an earlier stage.

- *The total package of tax/benefit support for families, increased in the early 2000s in many countries, but has become less generous since the onset of the economic crisis.* The fall in public support for

families has been greater for sole-parent families, and support levels across countries have started to converge as the largest decreases have taken place in countries with more generous support.

- *Overall, the period for which mothers are entitled to paid employment-protected child-related maternity and parental leave has increased from 17.6 weeks in 1970 to 47.5 weeks in 2012.* Both parents are now entitled to some child-related leave in most countries, but substantial differences remain in the duration of leave and payment rates.

- *The duration of paid maternity and parental leave available to mothers diverged across countries during the 1970s and 1980s, but there has been some convergence in the 2000s* (see Table 2.1 Panel C). On the whole, countries have increased entitlements to employment-protected paid leave (Table 2.1 Panel C the last column) or kept them unchanged. Paid parental leave entitlements were shortened only in a few countries. For example, in Finland and Sweden during the 1990s, while reform since 2000 in Austria, the Czech Republic and Germany introduced a “flexible payments system” which facilitates parents to take leave for shorter durations at higher levels of income support.

- In most cases, payment rates of income support during leave are flat-rate (at below average earnings) or earnings-related up to a specified ceiling. Hence, from a household income perspective it often makes more sense if the partner with the lowest earnings takes leave form work, and that is often the mother. *In order to stimulate fathers to make use of leave entitlements and thus generate a more equal take-up of child-related leave among parents, several countries have introduced “father quota”, “bonus months”, "a gender equality bonus" and/or a flexible payments system or otherwise grant extensive paid father leave entitlements* for 8 weeks or more in Austria, Belgium, Finland, Germany, Iceland, Italy, Luxembourg, Norway, Portugal and Sweden, with France to introduce such reforms in July 2014..

Table 2.1. There has been little convergence in family policy among OECD countries

OECD average, standard deviation and change across countries, 1980, 1990, 2000 and 2010

Panel A. Public spending on family benefits

	OECD average		OECD standard deviation		OECD change [1]	
	2000 [2]	2010 [3]	2000 [2]	2010 [3]	1990-00 [2]	2000-10 [3]
Spending on family benefits. % of GDP	2.08	2.61	0.99	1.05	-	+29/33
Share of spending as cash benefits	56%	51%	21%	19%	-	-23/33
Share of spending as in-kind benefits	37%	37%	17%	16%	-	+21/33
Share of spending as tax breaks	7%	12%	13%	13%	-	+16/33

Panel B. Financial support for families as a share of net income

	OECD average		OECD standard deviation		OECD change [1]	
	2000 [2]	2010 [3]	2000 [2]	2010 [3]	1990-00 [2]	2000-10 [3]
Family benefits for couple parents on average wages	3%	3%	3%	3%	-	-17/30
Family benefits for sole parents on average wage	10%	8%	7%	6%	-	-15/30
Net additional cash support for couple parents on average wages	5%	5%	3%	3%	-	-17/30
Net additional cash support for sole parents on average wage	14%	13%	7%	6%	-	-16/30

Panel C. Child-related leave period

	OECD average				OECD standard deviation [4]				OECD change [1]			
	1980	1990	2000 [2]	2010 [3]	1980	1990	2000 [2]	2010 [3]	1970-80	1980-90	1990-00 [2]	2000-10 [3]
Maternity and parental leave, duration of protected leave in weeks	40.9	62.5	76.0	82.3	48.6	60.3	60.9	57.4	-	+18/30	+19/30	+12/30
Maternity and parental leave, duration of paid leave in weeks	17.6	37.4	45.5	47.5	14.2	45.1	51.8	37.9	-	+15/30	+13/30	+14/30
Paternity leave, duration in weeks	0.1	0.1	3.4	4.7	0.3	0.4	7.4	7.7	-	+1/30	+10/30	+15/30

Panel D. Early childhood education and care

	OECD average		OECD standard deviation		OECD change [1]	
	2000 [2]	2010 [3]	2000 [2]	2010 [3]	1990-00 [2]	2000-10 [3]
Public spending on childcare and preschool for children aged 0-5 years	0.5	0.7	0.3	0.4	-	+30/33
Childcare enrolment rate among children aged 0-2 years	20.5	32.6	15.2	17.8	-	+22/22
Childcare and preschool enrolment rate among children aged 3-5 years	70.8	76.9	23.7	20.5	-	+22/29

All average and standard deviations are unweighted. As most distributions are not normal, the standard deviation may result in values that are above/below the theoretical maximum/minimum.

1. Number of countries where the given indicator has increased or decreased in value over the corresponding decade over the total number of countries for which data are available.

2. Data on public spending on family benefits and data on cash benefits for families refer to 2001; data on early childhood education care spending and enrolment refer to 2003.

3. Data on public spending on family benefits and data on early childhood education and care spending refer to 2009; data on cash benefits for families refer to 2011.

4. Even though the average duration of paid maternity and parental leave available to mothers was 45 weeks in 2000, its standard deviation was 52 weeks. However, this is not a normal distribution of observations, and ranges from 0 and 164 weeks.

Source: OECD (2012a), OECD Family database.

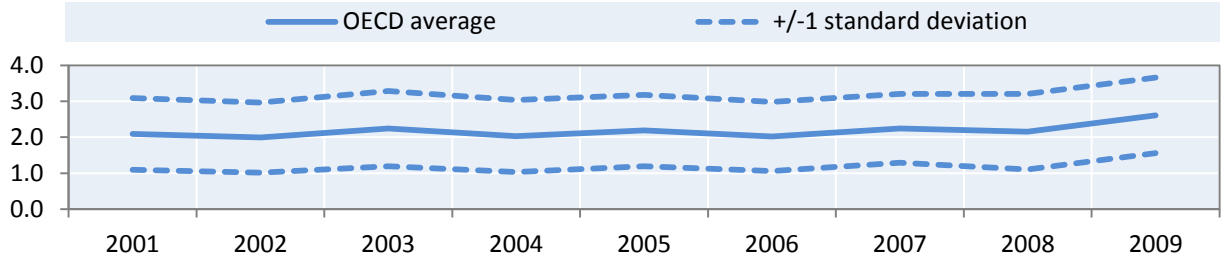
2.2. Public spending on families

74. The on-going economic crisis and the shift in poverty risks towards children (Chapter 1), make public family benefits increasingly important to many families with children. In the OECD and EU, various types of family supports exist, including cash benefits (e.g. family allowances, income support during parental leave), in-kind service provision (e.g. including supports for Early Childhood Education and Care - ECEC) and tax breaks (e.g. child tax credits and tax allowances for dependent children).

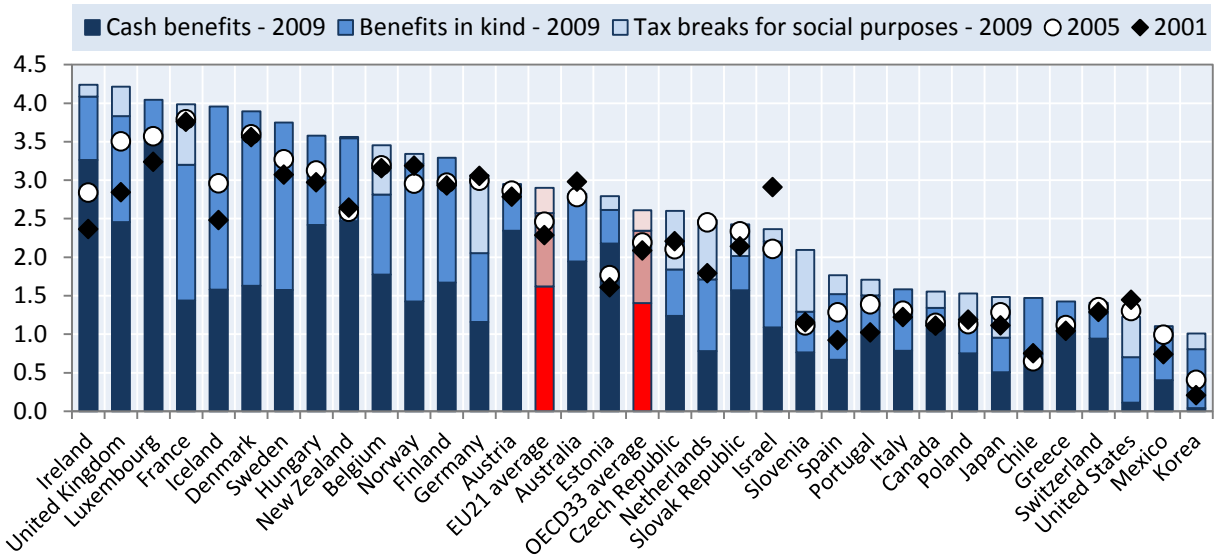
75. Overall, average OECD public spending on families was around 2.6% of GDP in 2009 (Chart 2.1 Panel B). At over 4% of GDP, the highest spending-to-GDP ratios were recorded for Ireland, Luxembourg and the United Kingdom, and the lowest in Korea and Mexico. Since the onset of the economic crisis public spending-to-GDP ratios have increased in most countries as family benefits changed little while GDP stabilised or fell during the 2007-2009 period. Countries where family support is largely income-tested saw the largest rises in spending (OECD, 2012a), in Ireland and the United Kingdom spending on families rose by more than 0.5% of GDP between 2007 and 2009. This is largely due to the change in the employment and/or income situation of many households which led to an increase in the proportion of households that are eligible for family cash supports and maximum payment rates even when the rules of specific programmes have been tightened in many countries (see Section 2.3 below).

Chart 2.1: Over the last decade public spending on family benefits increased in most OECD countries

Panel A. Average OECD public spending on family benefits and standard deviation, percentage of GDP, 2001-2009



Panel B. Public[1] spending[2] on family benefits[3], percentage of GDP, 2001, 2005 and 2009[4]



1. The spending items reported here are defined as public and concern outlays by general government, i.e. different levels of government and social security funds, but not payments by private agents (including employers).

2. Public spending on family benefits in some (e.g. Canada and Switzerlandf) may be under-reported due to imcomplete coverage of spending by sub-national authorities (e.g, on family services including childcare supports). This makes it also difficult to estimate the precise share of spending on cash benefits, services and tax breaks towards families.

3. Supports accounted for here only concern public support that is exclusively for families (for example, child payments and allowances, parental leave benefits and childcare support). Spending in other social policy areas, such as health and housing supports, also assists families, but not exclusively, and is not included here. Similarly, Chart 2.1 does not include information on public spending on the Earned Income Tax Credit (EITC) in the United States, Most claimants of EITC-supports (paid out "in cash" and "in tax") are families, but families are not the exclusive target group of this policy measure. Hence, this important social programme in the United States (worth about 0.4% of GDP in 2010) is not grouped under family benefits.

4. A longer time series from 1980 to 2009 for cash benefits and in-kind services only is available in Annex 2.2.

Source: OECD (2014) OECD Social Expenditure database.

76. There has been little convergence among OECD countries in the proportion of GDP spent on families in the form of cash, in-kind and fiscal benefits between 2001 and 2009 (Chart 2.1 Panel A). The standard deviation around the average OECD spending on families remained around 1.0% between 2001 and 2008, and increased slightly to 1.1% in 2009 as countries took various fiscal measures in response to the crisis (Box 2.1). Longer time series are available for family cash benefits and in-kind spending only, and they do not show a very different picture once the break in the series in 1998 has been taken into account.[12]

Box 2.1. Family policies during the crisis

In the early phases of the economic crisis, public spending on family benefits increased from 2.3 to 2.6% of GDP on average across the OECD, with a larger increase in countries with largely income-tested systems such as Ireland and the United Kingdom. In the early phase of the crisis, child or family allowances (including tax allowances) were increased in a number of countries on a temporary basis, and often family support had already been extended in the previous years (see Table below). For instance in France income taxes for low-income families were reduced, while in several other countries (Germany, Italy, Hungary) one-off benefits were paid to families in need. A few countries (e.g. Italy and Poland) also created additional housing benefits.

But since 2010, consolidation measures have been put in place and many fiscal consolidation measures have targeted child or family allowances; some cuts also were made to parental leave policies, with temporary postponements or reductions in payments. A number of countries froze benefits and/or tightened eligibility conditions (e.g. Greece, Hungary, the Netherlands and the United Kingdom). Some others froze or reduced birth-related benefits (the Baltic countries and the Czech Republic).

Reforms announced or introduced in 2013 follow different approaches across countries, but frequently maintain or increase childcare supports, For example, Japan plans to expand its formal childcare capacity with another 400 000 places by the end of 2017. Also, the United Kingdom extended the entitlement to 15-hours of free childcare to two-year olds from September 2013, while in April of the same year a means-test was introduced in Child benefit. In Germany, policy also moved to increase childcare support and introduced a childcare guarantee. However, a home-care allowance ("Betreuungsgeld") for parents who do not use publicly funded childcare facilities was also introduced so it is as yet unclear what the overall effect on childcare participation will be. France plans to create 275 000 new childcare places ("crèches", "nounous", and "maternelles") in 5 years from 2014 onwards. Reform in 2014 will also reduce the maximum fiscal benefit through the "Quotient Familial" and cash support payments to families with young children ("PAJE payments"), while means-tested family supplements (and/or for larger families) will increase. By contrast, in the Netherlands childcare support was cut in September 2012, which contributed to a decline in the use of childcare by 8% of children and 5% in the number of hours per child in the first 6 months of 2013. Other measures include: the non-indexation of child allowances in 2014-2015; the phase out of age-differentiation in child allowance payments (to be cut to the lowest rate by 1 July 2016); and, the abolition of tax-relief for parents on parental leave (which is otherwise unpaid in the Netherlands).

12. Because of measurements and methodological changes, data on public spending on Early Childhood Education and Care (ISCED 0) as in the *OECD Education database* for the years since 1998 is not comparable with data that exist for previous years. Data on tax breaks for social purposes first became available for a limited number of countries in the mid-1990s (see Adema, *et al.*, 1996), but coverage had increased markedly by 2001.

Changes in Family-related Benefits (family benefit / child benefit / birth-related benefit / childcare benefit), selected countries, 2009-2012

Country	Type of benefit	Year	Reform			
			Eligibility	Benefit level / duration	Program phased in (+) / out (-)	Description
Austria	Family benefit	2009		+		One-off family allowance
	Tax credit	2009		+		Increase in tax-credit for childcare
Canada	Family related Tax Credits	2011		+		Several measures enhancing non-refundable tax credits for families with children.
	Maternity Leave	2012	-			Persons no longer authorized to remain in Canada no longer eligible to EI maternity or parental benefits.
Czech Republic	Income tax	2009	+			Temporary reduction on income tax for low-income families
	Family benefit	2011-2012	-	-		Parental and social allowance more restrictive and less generous
	Maternity leave	2009		-		Decrease in replacement rat
	Birth grant	2011	-	-		More restrictive and less generous
Estonia	Tax-break	2009		+		Increase for families with 2+ children
	Tax credit	2009		-		Additional tax-relief removed
	Family benefit	2011	-			Parents no longer eligible while receiving paid parental leave
	Study loans	2009		-		For parents with children in school
France	Family benefit	2009		+		One-off family allowance top-up
	Income tax	2009	+			Reduction in bottom tier tax
	Childcare provision	2009		+		One-off increase in childcare vouchers
Greece	Maternity leave	2009	+			Include mothers in the private sector
	Child benefit	2012		+	+	New means testing
	Family benefit	2012	-	-	-	Extension of family allowance for third child onwards abolished
Hungary	Family benefit	2009		+		One-off payment for low-income families
	Childcare provision	2009		+		Extension for low-income families
	Family benefit	2011		-		Temporary freeze on universal allowance
Ireland	Maternity leave	2009		+		Increase in replacement rate
	Childcare provision	2009		+		Free pre-school year
	Child benefit	2009	-	-		Reduction in benefit and age restriction
Italy	Family benefit	2009		+		One-off payment to low-income families / temporary increase in family allowance
	Birth grant	2009		+		Temporary lump sum payment
	Family benefit	2009		-		Lump sum payment abolished
Japan	Child benefit	2010-2011	+			Increase in amount
	Birth grant	2011		+		Increase in amount
Luxembourg	Childcare provision	2009		+		New voucher for children under 12
Spain	Birth grant	2010		-		Birth grant abolished
Sweden	Family benefit	2010		+		Increase in child benefit for 2+ children
United Kingdom	Parental leave	2012		+		Increase in the basic level
	Housing benefit	2012		+		Increase in amount for families with children
	Child benefit	2009		+		Increase in
	Income tax	2009		+		Increase in tax threshold for low-income families
	Tax credit	2009	-			Reduction in income test threshold
	Birth grant					Abolition of a "Health during pregnancy" grant
United States	Tax credit	2009-2011		-		

For Canada, information does not include data on the province of Québec.

A "+" means an expansion of eligibility conditions or an increase in generosity of existing programmes, or a new programme phased in. A "-" means the reform headed in the opposite direction. Countries were selected on the basis of reforms being probably linked to the economic downturn or fiscal consolidation.

Source: OECD (2014) OECD Family database and OECD 2013 questionnaire on social policies in the crisis (OECD, 2013c, *It's All about People – Jobs, Equality and Trust,* Annex II).

2.2.1. Composition of public spending on families

77. Currently, most governments provide family benefits in the form of cash benefits (Chart 2.1 Panel B): in 2009, cash benefits made up more than 40% of public spending in all OECD countries except France, Germany, Japan, Korea, Mexico, the Netherlands, Slovenia, Spain and the United States. Cash benefits are relatively flexible tools in social protection systems. Adjusting child benefits in view of revised poverty targets or budgetary constraints is much easier than adjusting public childcare and education.

78. Tax breaks for families can also be an important pillar of financial support to households with children. In Germany, Japan, the Netherlands, Slovenia and the United States they accounted for over 30% of spending on families in 2009 (Chart 2.1 Panel A).[13] Many countries provide some form of favourable tax treatment for families with children to sustain family incomes, for example by including children in the tax unit (e.g. France, Slovenia), by awarding tax credits for dependent children (e.g. the United States), or by deducing child-related expenses (e.g. Canada, the Netherlands, Portugal).[14] In some countries, tax breaks and cash transfers (i.e. "non-wastable tax credits")[15] are integral parts of the same policy measure. For example, in Germany in 2009 the "Familienlastenausgleich" (Family transfer payments) amounted to EUR 38.5 billion, of which EUR 23.1 billion was off-set against tax liabilities (tax credits) and EUR 15.4 billion paid out as family allowances. Similarly, public spending on the "Child Tax Credit" in the United Kingdom amounted to GBP 19 billion in 2009 of which GBP 15.2 billion was paid out in cash and 3.8 billion claimed as an off-set against tax liabilities.

79. Like cash support, in-kind services are a substantial part of public spending on families: they amounted to almost 1.0% of GDP on average across the OECD in 2009 (Chart 2.1 Panel A). In-kind services can include childcare and day care services, home help for families, and a suite of family social services. Chile, Italy, Korea, Mexico and the Nordic countries are the largest “service providers” in the OECD, spending around 50% or more of family spending on in-kind services. In the first four countries the share of family services is high, while total spending on family benefits is below the OECD average; by contrast, in Nordic countries spending on family services is an integral, if not defining part of the comprehensive system of public support during childhood.

2.2.2. Spending by age of children

80. Investing in early childhood and sustaining this throughout childhood increases the efficiency of public investment, saving money in the process and offsetting costs of long-term underinvestment in human capital (Heckman, 1999; Heckman and Masterov, 2007). Such “sustained early interventions” can provide cognitive and attainment gains for children during their school years, and employment and earnings gains in adulthood (Goodman and Sianesi, 2005 and Aakvik *et al.*, 2005).

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13 Providing support to children is generally considered as a social policy objective across the OECD. However, providing financial support to married or partnered couples per se is not considered as a social policy objective in all OECD countries. Hence, cash or tax support for married people, such as what exists in Belgium, France, Germany and Japan, is not included among the tax breaks with a social purpose.

14 For more detailed information on Tax Breaks with a Social Purpose by country, see the document “Net social expenditure indicators: country data 2001-2009” (pdf) in the *OECD Social Expenditure database* (http://www.oecd.org/els/soc/socialexpendituredatabasesocx.htm).

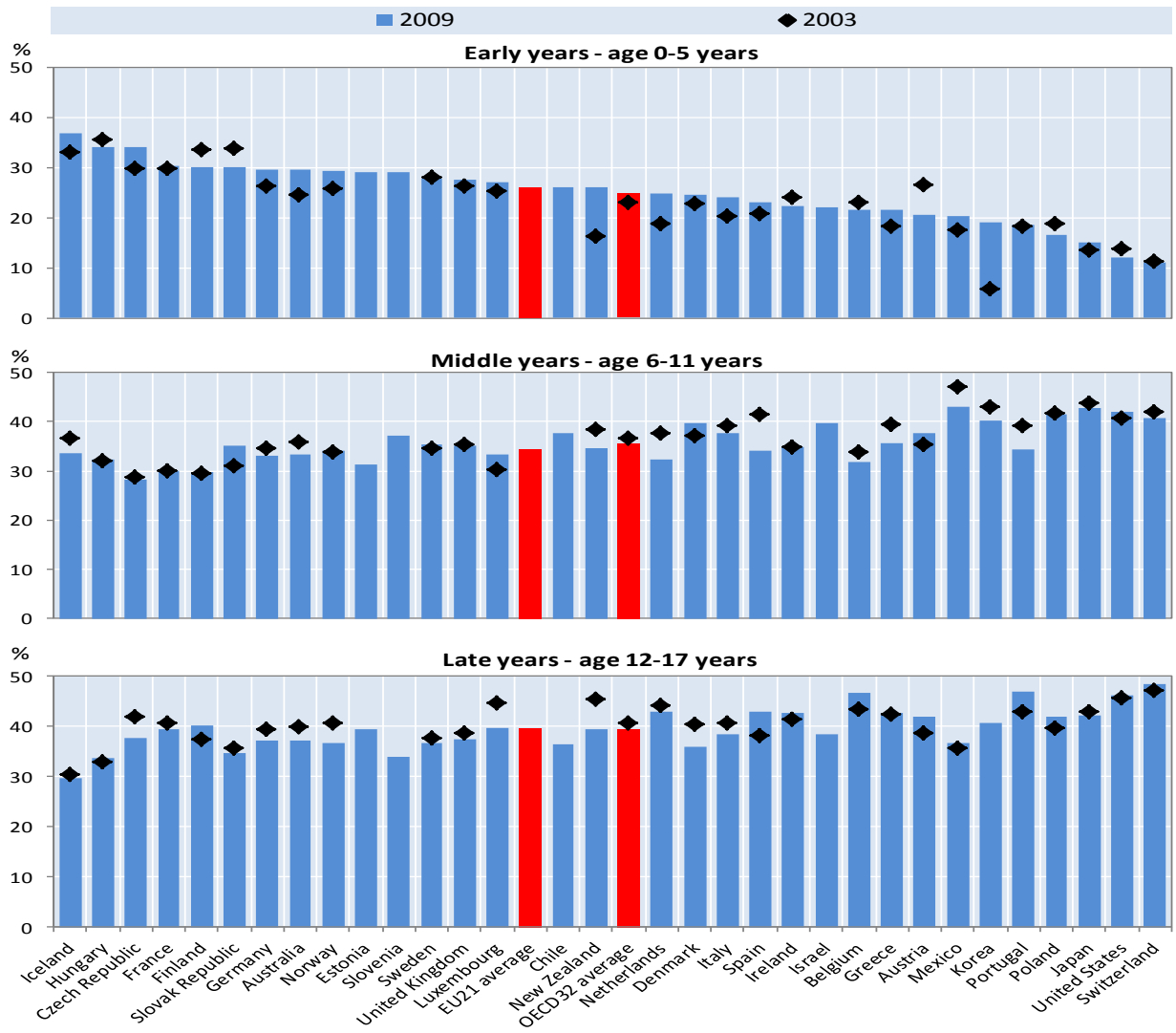
15 “Non-wastable” tax credits are benefits paid in cash when the tax liability of a recipient is not large enough to make (full) use of a particular fiscal advantages or tax credit.

81. The increase in spending on family benefits per child, of which income support during parental leave and childcare support are important components (see below), has translated into a small shift in focus towards early years spending in many OECD and EU countries. Taking into account public spending on family benefits and spending on education (OECD, 2013b), the share of spending on early childhood years has increased from 23% in 2003 to 25% in 2009 on average across the OECD (Chart 2.2). Over the same period the spending-share on the middle years dropped from 37% to 36% and for the later years the share declined from 40% to 39%.

82. The largest share of spending on the early years, more than 30%, is recorded for the Czech Republic, Finland, France, Hungary, Iceland and the Slovak Republic. Conversely, spending on the early years is less than 20% in Japan, Korea, Poland, Portugal, Switzerland and the United States, although in Korea there has been a large increase of over 13 percentage points between 2003 and 2009.

Chart 2.2: Over the past decade there has been a small increase in the early year's spending share

Share of public spending[1] per child by age group, percentage, 2003 and 2009



1 Spending on children includes cash benefits and tax breaks, childcare, other benefits in-kind and education spending.

Source: OECD (2013a), OECD Social Expenditure database and OECD (2013b), OECD Education database.

83. Overall the share of spending on the early childhood years has converged across the OECD: many countries with previously low investment in the early years had the biggest increases in spending towards young children. As a result, the standard deviation in the share of spending on the early years has decreased from 7.3% in 2003 to 6.2% in 2009.

2.3. Financial support considered in view of disposable family income

84. The previous section illustrated the magnitude of public spending in family benefits, but such support does not have the same relative value for all families. This section considers the importance of cash support from a household perspective and in relation to the disposable income of families.

2.3.1. Family cash benefits

85. The average contribution of family cash benefits to their net income was 2.7% for couple families and 8.4% of sole-parent families (Chart 2.1) in 2011, measured as a share of the family's net income. (Chart 2.3).[16] Box 2.2 provides a discussion of the various types of cash benefits available to families with children. For sole-parent families, family cash benefits provided the greatest income share (more than 15%) in Australia, Denmark, Finland, Hungary, Lithuania, Luxembourg and Sweden; for couple-parent households cash benefits amounted to more than 5% of net income in Austria, Belgium, Bulgaria, Hungary, Ireland and Luxembourg.

86. In about half of OECD and EU countries the level of support provided to families with children through cash benefits increased until 2007, before decreasing later in the decade. The OECD average cash support for sole-parent households increased from 9.5% in 2001 to 10.4% of the household's net income in 2006, before decreasing to 8.4% by 2011. For couple-parent households the OECD average cash support increased from 3.0% in 2001 to 3.1% of the net household income in 2006, before dropping to 2.7% in 2011 (Chart 2.3). One of the biggest changes was recorded in the Slovak Republic where the support for sole-parent families increased from 9.2% of net household income in 2001 to 29.5% in 2006, due to the introduction of a child allowance in 2005 with special provisions for sole parents; a cut in the payment rate in 2008 led to a subsequent decrease, with family cash benefits among sole-parent households amounting to just 6.3% of net household income in 2011.

87. Family cash benefits as a per cent of the average worker wage (AW), which can be seen as a measure of "social solidarity in earnings structures", are presented in Annex 2.A1 (Chart 2.A1.1). Not surprisingly, countries that provide more generous overall cash support as a percentage of the average wage, also provide larger cash support as a share of the family's net income (Chart 2.3 and Chart 2.A1.1). As some countries income-test family cash benefits (OECD 2012a, indicator PF1.3), couples where the adults earn 133% and 67% of AW (i.e. the net household earnings is twice the AW) always receive lower benefits than sole-parent families with the same number of children at a similar age On average across the OECD, the cash benefit for couples with two children was around 4.1% of AW compared with 7.2% for sole-parent families (Chart 2.A1.1).

88. Despite large cross-country variation in 2011, cash support provided to sole-parent households as a share of net income, ranging from 0% in several countries (no support) to 22 % in Denmark has converged across countries over the past decade. The standard deviation around the OECD average has decreased from 7.1% in 2001 to 6.3% in 2011. There was no such convergence for cash benefits for couple-parent households.

16. The analysis focuses on families with two children aged 4 and 6 years, and it is assumed that parents are not on parental leave. For sole-parent families the adult earns 100% of AW, while for couple parent families the two adults earn 133% and 67% of AW.

Box 2.2. Types of family cash benefits

Family cash benefits are defined as child-related cash transfers to families, and such support is generally used by families towards the cost of raising children and is not taxable. For simplicity, in our analysis, the value of family benefits concerns child allowances for families with children aged 3-12 years, and benefits include “refundable” or “non-wastable” tax credits (as defined before), but not fiscal support . The 3-12 age range generally avoids overlap with income support during parental leave periods (OECD, 2014, PF2.1).

In most countries family cash benefits are restricted to children (OECD, 2012a, PF1.3). In over half of OECD countries, cash amounts do not depend on family income and are paid as universal benefits. Universal family cash benefits may vary depending on the household’s work situation. For example, in Belgium family cash benefits are increased from the seventh month of unemployment. Universal family cash benefits for a one-child family are most generous in Hungary, Ireland and Luxembourg, where cash transfers for such a family can exceed 5% of the average wage of the average worker.

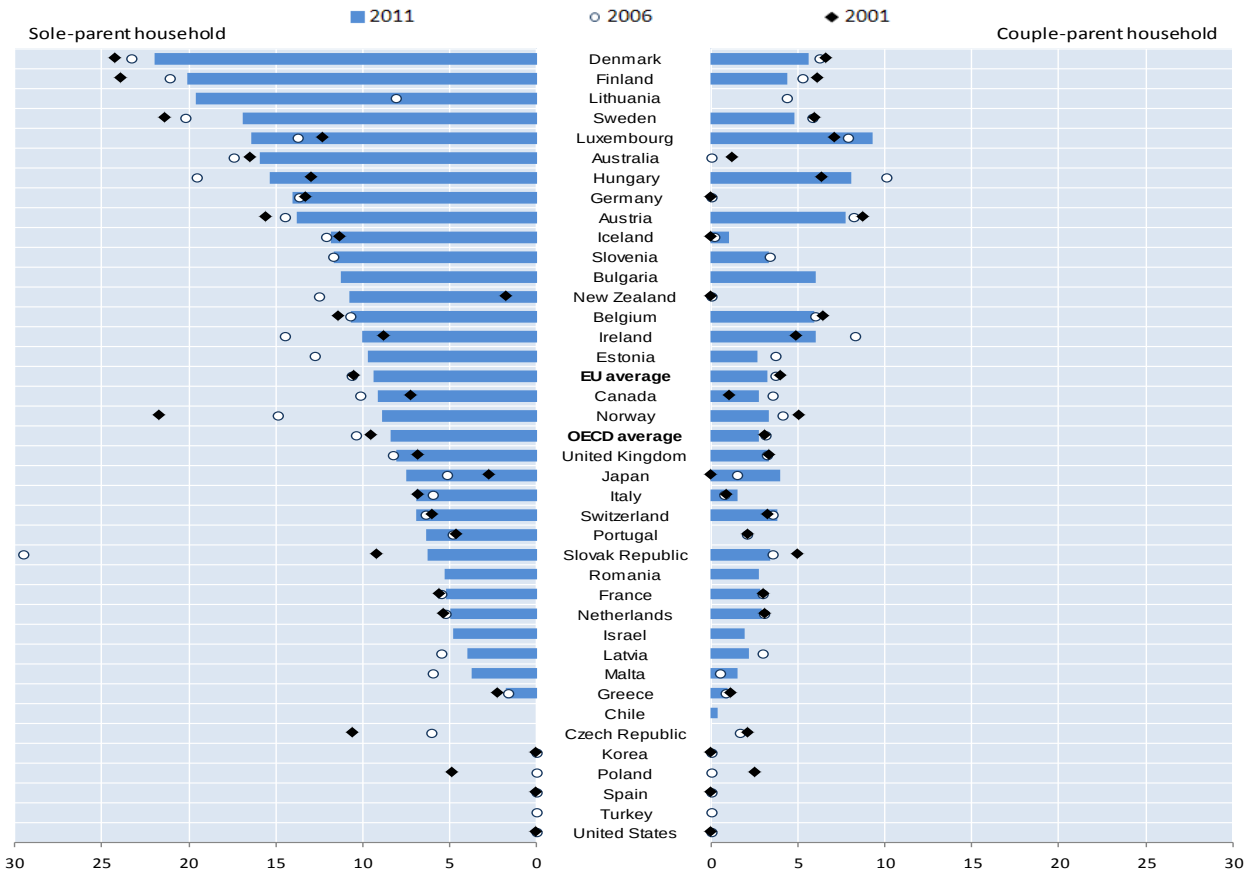
Countries where benefits are income-tested usually pay them only when family income is below a specified level and child benefits are reduced as the family income increases. For example, in Iceland, benefits decrease after an income limit with withdrawal rates that vary with the number of children, 2, 5 and 7% for one, two and three children, respectively. Austria, France and Germany pay additional income-tested benefits to low-income families, families with young children or unemployed parents (respectively), on top of a universal family benefit.

In Australia, Canada, Germany, New Zealand and the United Kingdom, cash transfers may take the form of “refundable” or “non-wastable” tax credits, as these benefits involve cash transfers to families. In these countries, the family tax credits are income-tested, except in Germany where the tax credit does not phase out when earnings increase (as with some other family cash benefits, the payment rate in Germany increases with the fourth child). In the United States, food stamps, under the Supplemental Nutrition Assistance Program, provide substantial cash benefits to families, but are not provided exclusively to families with children. As such food stamps are not included in our analysis of family cash benefits (Chart 2.3) – the programme was worth 0.5% of GDP in 2010 – but is included in the analysis of total financial support provided to families through the tax-benefit system (Chart 2.4).

Most countries also have an upper age limit of children for the eligibility of family cash benefits, which is often higher for children in education. However, families may not be eligible to family cash benefits if children have income of their own, are married or do not live with their parents. Payment rates can be uniform, but more often they vary by age and/or number of children across countries.

Chart 2.3: Family cash benefits make up 10% of sole-parent family income on average

Family cash benefits as a share of net income, percentage, 2001, 2006 and 2011



Both sole-parent and couple families refer to a household with two children aged 4 and 6 years. For sole-parent families the adult earns 100% of AW, while for couple parent families the two adults earn 133% and 67% of AW.

Source: OECD Tax-Benefit model 2001-2011.

2.3.2. Total financial support provided to families by the tax/benefit package

89. Family benefits rarely function as a stand-alone form of support for families. Social transfers and taxes work as a whole, with important interactions between them (see OECD, 2013d), to determine the total financial support for families; in some countries, benefits are also subject to taxation. As such it is important to consider the change in net income (before equivalisation[17]) to gauge the true extent of support provided to parents by the tax-benefit systems due to the presence of children.

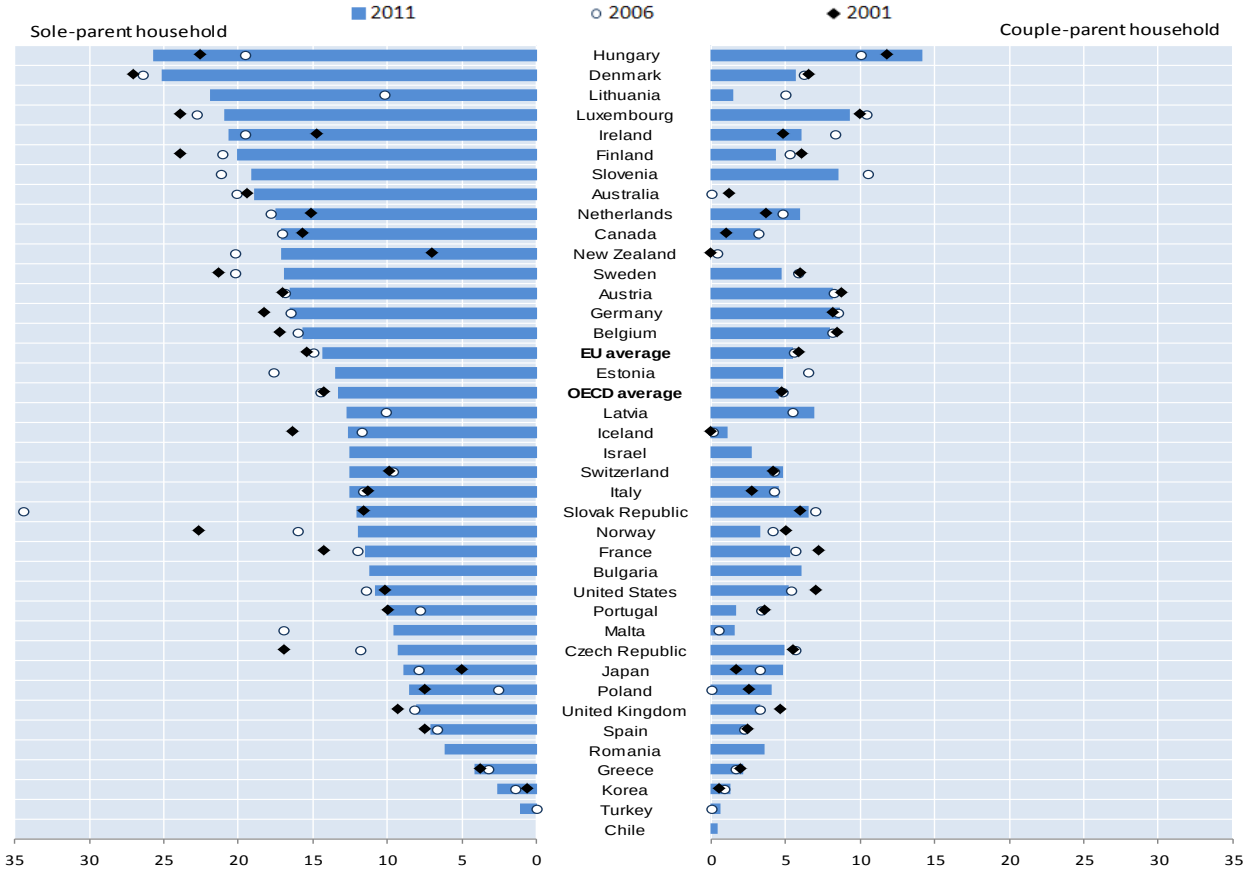
90. Chart 2.4 presents total financial support (net of taxes and social contributions) available to families with two children aged 4 and 6 years, relative to households with no children, as a share of the family's net income (for a detailed overview of the components of the family benefit package, see OECD,

17 . Equivalisation accounts for the extra costs associated with an increase in household size as well as economies of scale. Please refer to OECD (2013e) for discussion on the effects of equivalisation on the disposable income of families.

2013e). Families with children receive greater cash support than households without children in all OECD and EU countries, except for sole-parent families in Chile where family benefits are income-tested on the wages of the lowest earners, thus couple parents on 100% and 67% of AW are eligible for benefits while sole-parents on 100% of AW are not.

Chart 2.4: Families get more tax/benefit support than childless households

Additional financial support for families with two children, compared with childless households, as a share of net income, percentage, 2001, 2006 and 2011



Both sole-parent and couple families refer to households with two children aged 4 and 6 years. For sole-parent families the adult earns 100% of AW, while for couple parent families the two adults earn 133% and 67% of AW.

Source: OECD Tax-Benefit model 2001-2011.

91. As with family cash benefits, overall financial support as a share of the net income for sole-parent families has fallen in many countries as a result of the economic crisis: average support across the OECD increased slightly from 14% in 2001 to 15% in 2006 and then dropped to 13% in 2011. Among couple families, overall financial support as a share of net income remained largely stable at around 5% from 2001 to 2011.

92. Overall, the total benefits package provides greater financial support for families with children than family benefits alone, as other financial measures may be child-dependent or related to household size. In 2011, among sole-parent families the OECD average for family cash benefits was 8% while the total financial support was over 13%, given that some non-family benefits have special supplements for sole-parents. Among couple families the difference is smaller: family cash benefits account for 3% of net income on average across the OECD, compared to around 5% for total financial support.

93. In 2011, relative to net income levels, the total benefit package for sole-parent families was largest in Denmark and Hungary, as financial support amounted to more than a quarter of the family's net income. By contrast, support was particularly low in Chile, Greece, Korea and Turkey where the financial support for sole-parent families was less than 5% of the net income. Among couple families the size of the financial support as a share of net income was high in Hungary (the only country above 10%) and low in Australia, Chile, New Zealand and Turkey at less than 1%. In the United States, the total benefit package provides substantially more financial support than family cash support; the EITC and food stamps, which are not grouped under family cash benefits (see Box 2.2 and the notes to Chart 2.1.), provide considerable support to many families.

94. As with family cash benefits, there is little sign of convergence in the generosity of the total benefits package among countries. For both sole-parent and couple families the standard deviation among OECD countries fell by just one percentage point between 2001 and 2011: from 15% to 14% among sole-parent families and from 6% to 5% among couples with children.

2.4. Child-related leave

95. Child-related leave entitlements give employment protection, and sometimes income support, to workers who take time off work to care for their children. These leave policies have developed differently due to cross-national differences in: societal attitudes towards roles of mothers and fathers in raising children; parental labour market behaviour; employer attitudes towards child-related leave; different emphasis in policy objectives towards female labour force participation, gender equality; and, the role of child-related leave in the overall package of family policy (see OECD, 2011 for a more detailed discussion).

96. During the first part of the twentieth century concerns about maternal and child health led to the introduction of the right for mothers to stop work for a few weeks around childbirth in many OECD countries. By now most OECD countries have paid maternity (or pregnancy) leave periods that last around 3-5 months. In the second part of the twentieth century, many OECD countries introduced an additional entitlement to leave from work after a child is born – "parental" leave – which can be used by both parents, but often is used by mothers. In order to stimulate a more equal sharing of leave between parents and increase father's involvement in caring for children, a number of countries have also started to reserve periods of child-related leave for the exclusive use by fathers, whilst putting in place financial incentives for them to use leave (see below). There is great variety in the design, generosity, duration and flexible use options of child-related leave periods across countries (Box 2.3). There are also differences in the way entitlements to maternity, paternity, parental leave and/or childcare leave can be combined, and taken together there are considerable cross-national differences in the overall period of child-related leave that parents can use.

2.4.1. Maternity leave

97. Because maternity (or pregnancy) leave entitlements were first introduced to protect the health of working mothers and their new-born children, they are often incorporated into social security systems, alongside health insurance and paid sick leave. Maternity leave arrangements provide women with a period of repose from work before and after childbirth and a right to return to work with their employer (in the original or equivalent job) within a limited number of weeks after childbirth. The starting date of maternity leave (vis-à-vis the date of childbirth) varies across countries and can, in any event, be adjusted for medical reasons or by employer-employee agreement. Maternity leave is generally available to mothers only, but in some countries (e.g. Poland, the United Kingdom) part of the maternity leave can be transferred to fathers. The United States is the only OECD country without a nationwide paid maternity leave scheme, although some employers provide paid leave benefits and some states have paid maternity/parental leave legislation

(e.g. New Jersey, California) or provide income support during maternity leave through other social programmes (Kamerman and Waldfogel, 2010).[18]

Box 2.3. Child-related leave

Maternity (or pregnancy) leave is employment-protected leave of absence for employed women prior to and after childbirth and, in some countries, adoption. Almost all OECD countries have ratified the minimum duration of 14 weeks of paid leave recommended by the International Labour Organization (ILO), and many countries grant maternity leave entitlements that exceed the 14 week minimum (ILO, 2000). Most countries allow beneficiaries to combine pre- and post-birth leave, while some mandate a short period of pre-birth leave and six to ten weeks after childbirth.

Paternity leave is employment-protected leave of absence for employed fathers after childbirth. Paternity leave is much shorter than maternity leave – generally no more than two weeks. Because it is short, workers on paternity leave often continue to receive their full wages.

Parental leave is employment-protected leave of absence for employed parents that supplements maternity and paternity leave. In most, though not all, countries it follows maternity leave. Parental leave can be granted as: (i) a family right that parents can divide between themselves as they choose; (ii) an individual right which can be transferred to the other parent; or, (iii) a non-transferable individual right whereby parents have an entitlement to a specified period of leave for their exclusive use. Often called “daddy and mommy quotas”, these non-transferable leave periods have to be taken by fathers and mothers on a “use it or lose it” basis.

Homecare leave is leave to care for children until they are three years old. This can be a variation or extension of parental leave, and payments are not restricted to parents with prior work attachment. Finland makes homecare-related income support contingent on not using public day care facilities, while in Norway payment rates vary with the number of hours of publicly provided day care used. For more details see OECD Family database, Indicator PF2.1.

In addition to parental leave entitlements, working parents may use a range of additional leave entitlements – e.g. holidays or leave for a sick child – often to care for their family when the need arises at short notice (OECD Family database, Indicator PF2.3).

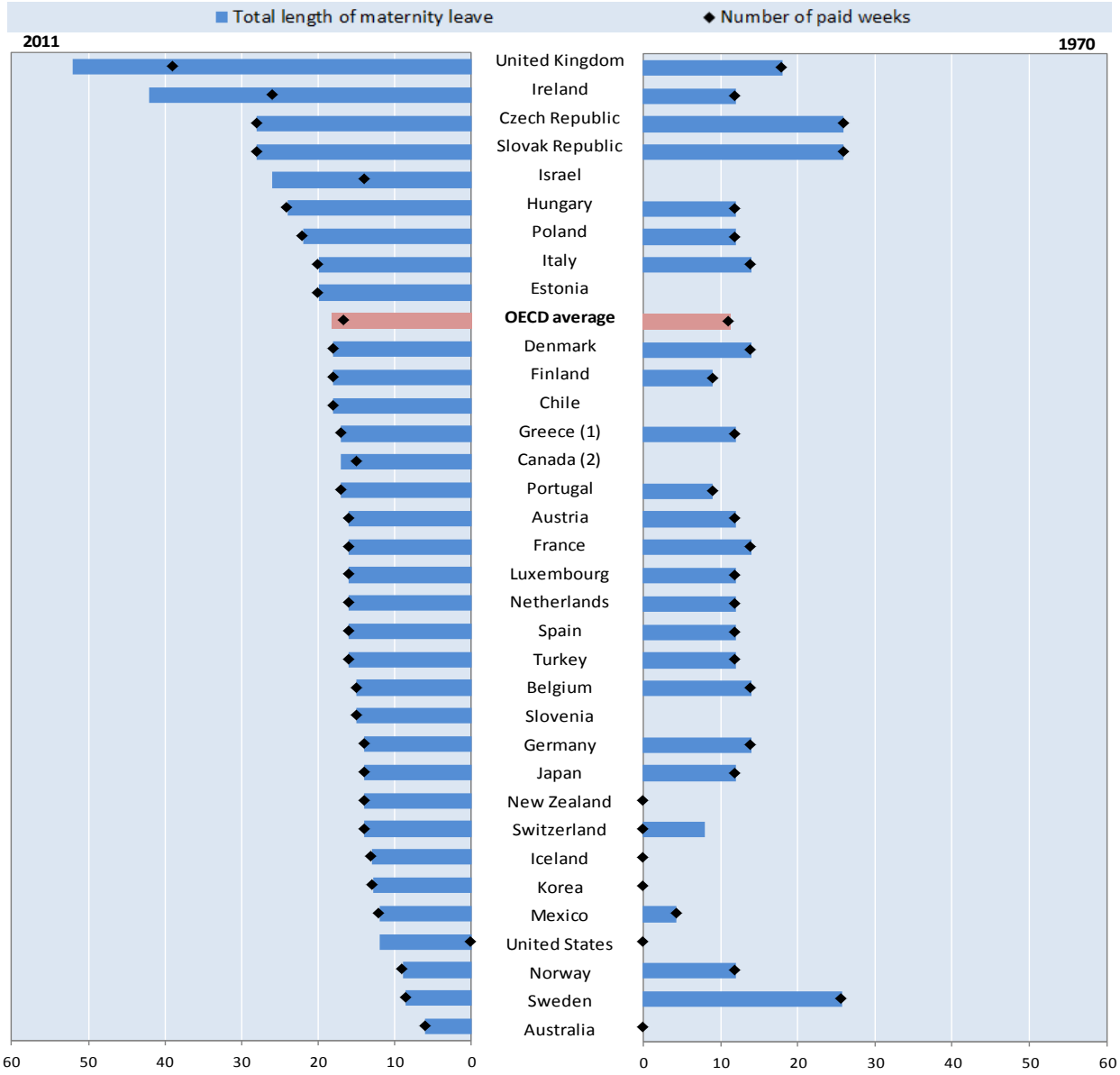
The intensity of use of leave entitlements by fathers and mothers is strongly related to income support payment rates during leave and the relative earnings position of parents in a household. As mothers often have lower earnings than their partner, household opportunity costs are least when mothers rather than fathers use the leave entitlements, and, indeed, mothers are the main users of parental leave entitlements (OECD Family database, indicator PF2.2). Hence, when considering trends in the overall entitlements to child-related leave (e.g. maternity leave and parental leave) the analysis considers trends in entitlements when the mother uses such leaves consecutively.

Payment rates of income support during leave are generally highest when periods are relatively short. Income support during maternity leave is often a set proportion of previous earnings (e.g. 80%) up to a specified upper threshold. Maternity pay replaces earnings in full for mothers with earnings up to 1.5 times the average wage in Estonia, Luxembourg, New Zealand, Poland, Slovenia and Spain. By contrast, payments in the United Kingdom are relatively low as Statutory Maternity Pay amounts to less than 40% of earnings for a worker earning half the average wage (OECD Family database, indicator PF 2.4). This outcome is related to the United Kingdom having the longest duration of paid maternity leave (and no paid parental leave). In other countries where short maternity leave periods are followed by prolonged periods of parental leave, income support during parental leave is also associated with relatively low flat-rate family-based payments, so that only one parent can claim income support while on leave. Payments may also be made for only part of the leave period. Parental leave is unpaid in Ireland, the Netherlands, Spain, Turkey, and the United Kingdom. The OECD Family database, indicator PF2.4 contains an overview of replacements rates regarding different child-related leaves. The available information on taxes and benefits does not facilitate developing a historical series on child-related leave replacements rates, and in its absence it is impossible to make observations on diverging on converging trends in payment rates.

18 . Five states (California, Hawaii, New Jersey, New York, and Rhode Island) and Puerto Rico have Temporary Disability Insurance (TDI) programmes which provide income support during the period of maternity leave, while California, New Jersey and Washington D.C. have enacted paid leave family benefits. Minnesota, Montana and New Mexico also have active At-Home Infant Care policies providing low-income working parents who choose to have one parent stay home for the first year of a new-born or adopted child's life, with a cash benefit offsetting some portion of the wages forgone.

98. The average duration of maternity leave was around 18 weeks the OECD in 2011 (Chart 2.5). It was longest in the United Kingdom (52 weeks), where there is no separate parental leave scheme. Australia also has no separate maternity and parental leave entitlements, but mothers may take six weeks out of 52 weeks of parental leave prior to the birth of their child.

Chart 2.5: Maternity leave in OECD, 1970 and 2011



Notes: Total length of maternity leave refers to the aggregate length of paid and unpaid entitled weeks. The figures in the chart refer to the total length of employment-protected maternity and parental leave in 2011. Australia, Norway and Sweden do not have separate maternity leave legislation. The figures shown for these countries refer to the weeks of parental leave reserved for the exclusive use by mothers.

(1) Greece has a basic maternity leave of 17 weeks. It also grants an additional six-month leave period, which begins after basic maternity leave and before employees start to use flexible working time.

(2) Canada's 17 weeks are for maternity leave in most provinces and territories, the provinces of Québec and Saskatchewan, for example, grant 18 weeks of maternity leave.

Source: OECD (2014) OECD Family database, PF2.5.

99. Maternity leave entitlements have extended over time. In 1970, 24 countries granted an average of 11.3 weeks of employment-protected leave. By 2011 all the 34 OECD grant maternity leave, 18.3 weeks on average, and most provide payment for all weeks on top of employment protection (Chart 2.5). The standard deviation around the OECD average in the number of weeks of maternity leave rose slightly from 7.2 weeks in 1970 to 8.9 in 2011.

2.4.2. Child-related leave that mothers can take

100. Parental leave entitlements offer parents additional opportunities to care for a young child. In general, mothers rather than fathers take parental leave, and they usually take parental leave following the period of maternity leave (OECD, 2014, PF2.2). The effective duration of leave is affected by the income support being available: if leave is unpaid mother's and especially fathers are less likely to make use of it or use it for shorter periods of time. Some systems also allow leave to be taken at a later stage, usually before the child is eight years old (OECD, 2014, PF2.1). Parental leave benefits were frequently introduced as supplementary rights for mothers only, but entitlements have generally been extended to fathers.

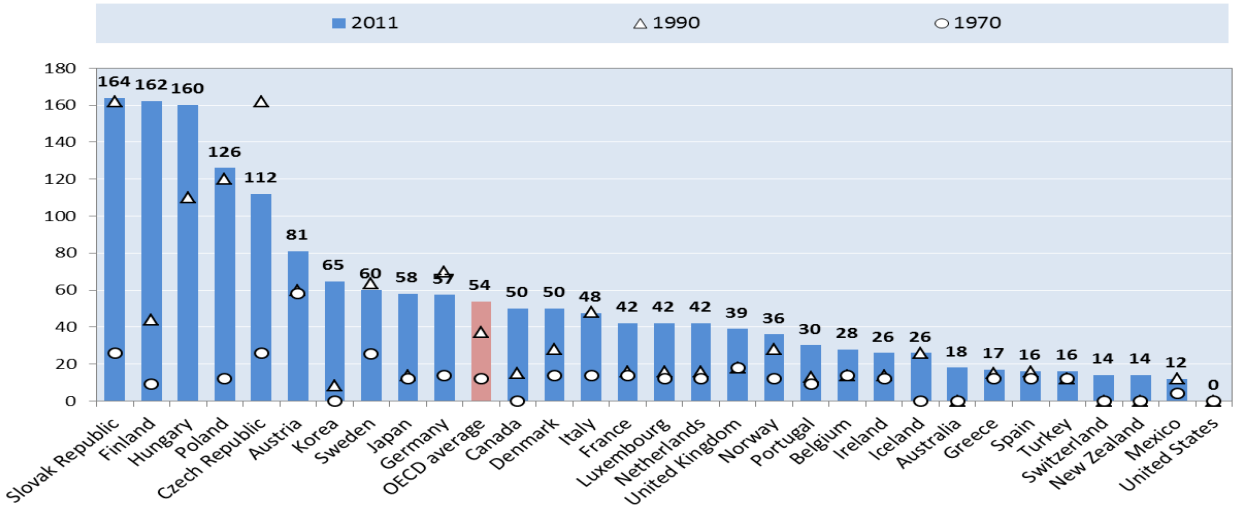
101. There is considerable cross-country variation in the development of parental leave entitlements. In 1970 only four countries offered such entitlements: Austria, Czechoslovakia (now the Czech and Slovak Republics), Italy and Poland. In particular there is a divide between most of the "frontrunner countries": Austria, the Czech Republic, Finland, France, Italy, Hungary, Norway, Poland, the Slovak Republic and Sweden which first introduced parental leave entitlements in the late 1960s and early 1970s, and those which started to introduce entitlements from 1980 onwards (OECD 2014, PF2.5). In 2011, most of the frontrunners entitled working parents to periods of leave (including childcare or homecare leave) lasting more than one year and often between two and three years (except Italy), while countries that introduced parental leave after 1980 generally have shorter leave periods (except Germany).

102. Since 1970, most countries have increased the combined period of paid and unpaid employment-protected maternity and parental leave that mothers can take (Chart 2.6 Panels A and B). In 1970, the average duration of employment-protected leave for mothers was 26 weeks, of which 12 weeks were paid. In 1990 the average duration was 63 weeks (37 paid weeks), and this increased further to 85 weeks in 2011 (about 54 paid weeks). The duration of paid leave gradually increased in most countries; while in Austria, the Czech Republic, Denmark, Germany and Hungary, however, the duration of paid leave was increased and decreased alternately over the past four decades. Annex Chart 2.A1.1 provides information at country level on the variation in total weeks of paid maternity/parental leave since 1970.

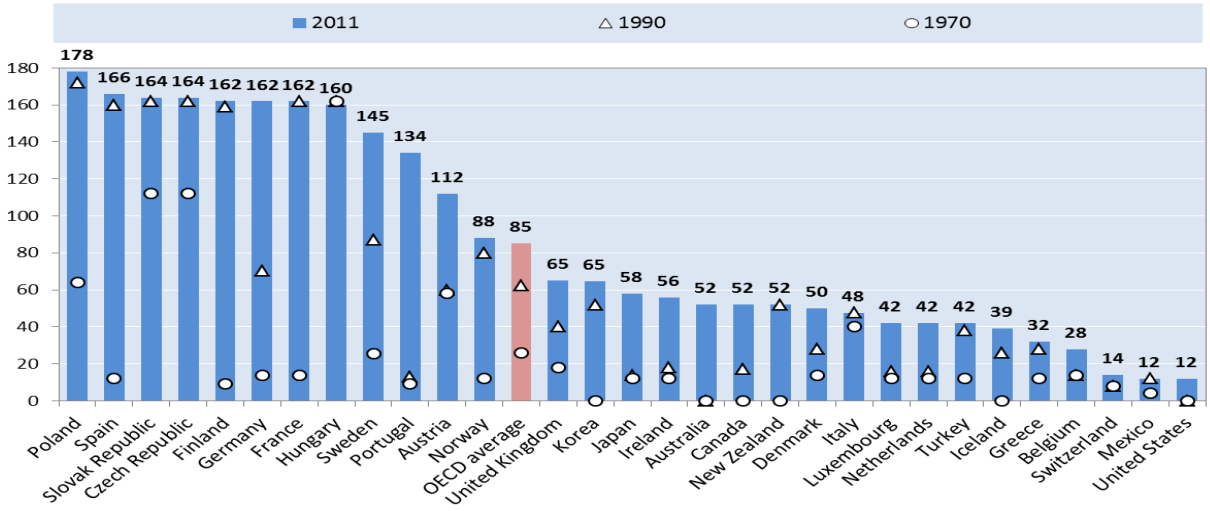
103. Cross-country variation in paid leave available to mothers increased until 2000 as paid parental leave was gradually introduced in 18 EU countries and 24 OECD countries. However, once maternity and parental leave systems became more established and countries with shorter entitlements started to increase these, there has been some convergence in the 2000s (Table 2.1). The standard deviation of the duration of paid maternity and parental leave available to mothers declined from 52 weeks in 2000 to 34 weeks in 2011 (Table 2.1). For EU-Countries it is unclear to what extent convergence may be related to the introduction of the Parental leave directive in 1996, then revised in 2010 (EU, 2010). It is very difficult to find a correlation between the evolution of leave duration and the adoption of the directive, because changes in national legislation may occur with different time-lags and because most EU countries already had legislated leave entitlements longer than those recommended by the EU directive. Falkner *et al.*, 2002, do argue, however, that the introduction of the EU directive affected leave legislation in other aspects than duration.

Chart 2.6: Weeks of paid and employment-protected maternity and parental leave available to mothers [1]

Panel A. Number of paid weeks of leave available to mothers, 1970, 1990 and 2011



Panel B. Number of employment--protected weeks of leave available to mothers, 1970, 1990 and 2011



1. The figures presented here combine weeks of maternity leave and weeks of parental leave that mothers can take after maternity leave. For Panel A, all paid leave available to mothers, as maternity or parental leave, are considered and in the case of several payment options, the shortest period with the highest payment rate is taken into account, and it is thus assumed that leave-takers do not take homecare or childcare leave (even if employment-protection may be guaranteed for such a prolonged period – see Panel B). For example, Germany has an employment-protected family leave entitlement of up to three years, but the paid-leave period is limited – an income-related parental allowance ("Elterngeld") can be paid for a period of 12 months, plus a two-month bonus if the father takes at least two months leave, but payments may also be spread over 24 (+4) months. For Panel B, all employment-protected leave available to mothers, whether paid or unpaid, are considered, although the likelihood that leave is used diminishes with the availability of income support. In practice the theoretical overall leave period often consists of different elements. For example, mothers in Sweden can take leave 2 week prior to childbirth, or 7 weeks in case employment conditions put the fetus at risk. In Sweden parents are entitled to leave until the child is 18 months (78 weeks). In addition, parents are entitled to 480 days of paid leave (60 non-transferable days for the mother; 60 non-transferable days for the father and 360 days to be shared). If these paid leave days are shared equally then the mother has 34 weeks, while if her partner transfers the shared period of leave in full to the mother she can use such paid leave for 420 days (60 weeks), In all. At maximum, mothers can use leave days in Sweden for 145 weeks (7+78+60).

Source: OECD (2014) OECD Family database, PF2.5.

104. On the whole, changes in leave legislation since 1970 consist of increases in the duration of entitlements to employment-protected paid leave. Very few countries cut the duration of paid parental leave entitlements. In Sweden the duration of paid leave (and the payment rates) decreased in view of the recession in the early 1990s. Since the outbreak of the crisis in 2007/08, 7 OECD countries have either tightened eligibility criteria or reduced payment rates, most notably in Iceland, but so far duration of leave has not been shortened. More recently, Austria, the province of Québec in Canada, the Czech Republic and Germany have introduced flexible leave options to allow parents to take leave for shorter durations at higher levels of income support.

2.4.3. Father-specific leave entitlements: paternity leave and father-quota in parental leave

105. Unless earnings are replaced in full during the period of leave, it makes economic sense for a household to have the person with the lower earnings take most of the available leave – and this is very often the mother. As such, parental leave policies effectively perpetuate gender differences in the provision of care and unpaid household chores. Also, since women are more likely to take leave than men, employers may feel less inclined to hire and invest less in them. A more balanced use of leave entitlements by both parents supports both gender equality and improved female labour market outcomes; there is also some evidence that fathers who take leave, especially when taking two weeks or more, are more likely to carry out childcare activities and that children with highly involved fathers tend to perform slightly better in cognitive test scores (Huerta *et al.*, 2013). Introducing and extending entitlements to parental leave for the exclusive use by fathers can help increase fathers' use of leave arrangements (OECD, 2014, PF2.2 and Ray *et al.*, 2010).

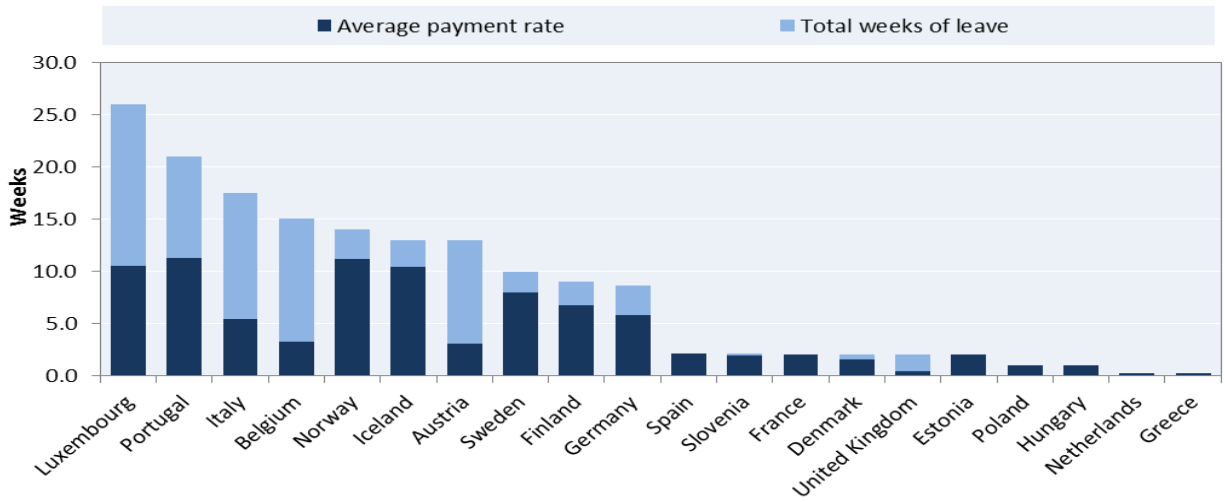
106. In many OECD countries father-leave entitlements were only legislated in the 2000s, and by 2011 about one-half of OECD countries had separate paternity leave entitlements allowing fathers to take leave for the first 5-15 days immediately following childbirth (Chart 2.7). In addition, some countries earmark part of the parental leave for the exclusive use of each parent, with no possibility of transferring it to the partner.

107. Luxembourg grants 26 weeks of paid parental leave as in individual entitlement to each parent at 40% of average earnings, while in 2011 Iceland allotted 13 weeks to each parent, with payment rates in Iceland are around 80% of earnings for parents up to a threshold. In Belgium fathers are entitled to 10 days paternity leave (3 days at 100% earnings with the remaining 7 days in at just 3% of earnings) and an additional 3 months parental leave at 20% of average earnings as part of an individual entitlement for parents. Similarly in Italy, fathers receive a short period of 1 day for paternity at 100% of average earnings and an additional 4 months of parental leave at 31% of average earnings as part of an individual entitlement for parents. In Germany, 2007 reform of parental leave introduced "bonus months" for partners (often fathers.) if they took leave in addition to the main leave-taker (often the mother) in a household, as a result the proportion of fathers taking leave has risen more than eight-fold from 3.3 per cent in 2006 to 27.8 per cent for children born in the third quarter of 2011 (Blum and Erler, 2013). In Portugal has "father's only leave" up to 1 month (or paternity leave since introduction in 1999 until reform in 2009) is now taken by almost all fathers for some period of time, the additional bonus month introduced in 2009 by just over 20% of fathers (Wall and Leitão, 2013). Sweden introduced one month of parental leave for each parent in 1995, which was extended to two months in 2002. In 2008, a gender equality bonus[19] providing financial

[19] The Gender Equality Bonus offers a financial incentive to families to divide Parental leave more equally between the mother and the father. In 2013, both parents received SEK 50 (EUR 6) each per day for every day they use the leave equally (Duvander and Haas, 2013). The bonus applies to the 390 days of earnings-related leave after the two reserved months are used by each parent (i.e., 270 days). When parents share the leave equally the bonus is worth a maximum of SEK 13,500 (EUR 1,573).

incentives to parents to share the period of leave more equally was introduced but it's initial effect on sharing of leave was weak (Duvander and Johansson, 2012). Reforms introducing such "quotas" or bonus months contribute to increased take-up among fathers. lead to increased have contributed to lead to increased take-up of leave among fathers, be efficient in encouraging fathers to take some period of leave, but in spite of these incentives, in many countries fathers take less leave than what they are entitled to. Moss (2010) estimated that their overall take-up falls between 20% and 30% short of potential use.

Chart 2.7: Weeks of paid leave entitlements reserved for fathers, 2011



Note: Estimates of the weeks of entitlement include paid Paternity leave and paid father-specific "quotas" or "bonuses" in parental leave entitlements. As fathers are unlikely to use leave arrangements during which there is no cash income support these are not included here (e.g. there is unpaid leave for fathers in the Netherlands - 26 times the number of working hours per week on a part-time basis unless the employer agrees to full-time leave; Slovenia - 75 days unpaid leave; or, the United Kingdom - 18 weeks per child). In Canada the federal government provides maternity and parental leave benefits through the Employment Insurance (EI) programme; fathers can take use parental provisison, but the scheme does not provide for a specific period of paid leave reserved for fathers. In the province of Québec the Québec Parental Insurance Plan provides for 5 weeks of leave reserved for fathers paid at 70% of average weekly income (http://www.rqap.gouv.qc.ca/travailleur_salarie/choix_en.asp).

Average payment rates: For example, in Portugal the first 8 weeks of leave for fathers is paid at 100% of earnings, while supplementary leave is paid at 25% of 13 weeks. In all, the average is almost 54% of last earnings over the whole period.

Source: OECD (2014) OECD Family database, PF2.5.

108. Many countries have also recently increased entitlements to paid parental leave for fathers. For example, the Australian parental leave scheme includes since 2013 "Dad and Partner Pay" for up to two weeks, paid at the rate of the national minimum wage. In addition to the 11 days of 11 working days leave of paternity leave, on 1 July 2014 France will introduce a bonus system in its parental leave scheme which will entitle fathers to an additional 6 months of parental leave with income support around one-sixth average earnings during this period. Policy continues to move forward in the Nordic countries. In Finland, reform of father's leave entitlements gives fathers an individual right ("quota") to 9 weeks of leave as of 2013, and in Norway for children born after 1 July 2013, parental leave is in the following three parts: 14 weeks for mothers, 21 weeks to be shared and 14 weeks for fathers, paid at 100% of earnings. Iceland continues to lead the way; between 2013 and 2016 the Icelandic parental leave system will change from three months reserved for fathers, three months reserved for mothers and three months to be shared by parents into five months for fathers, five months for mothers and two months shared, as paid at 75% of last earnings up to maximum threshold of EUR 2180 in 2013 (Eydal and Gislason, 2013). This is equivalent to about 55% of average earnings (OECD, 2013d).

Box 2.4. Trying to gauge the importance of factors affecting the development of leave policies

Different policy objectives are balanced in the design of leave entitlements. In particular, concerns for children's well-being may need to be weighed against the potential effects of leave entitlements on parental labour market outcomes. Huerta, *et al.* (2011) found that a return to paid work by mothers within six months after childbirth may negatively affect child cognitive development. These effects, however, are small and not universally observed, and other factors such as family income and the quality of interaction with children have a much greater effect on child development. Short leave periods have a small positive effect on female labour force participation, while prolonged periods of paid leave negatively affect female participation rates and earnings (Thévenon and Solaz, 2013). Long leave, however, may provide income support to mothers of young children in times of high unemployment (Kamerman and Moss, 2009 and Martin, 2010). National wealth and public budget constraints also play a role in setting payment rates and the duration of paid leave: providing income support during parental leave is generally less expensive than providing childcare support for very young children, especially when child-to-staff ratios are relatively low and childcare is most expensive per child (OECD, 2005).

The relative influence of these factors on leave entitlements can be measured with a regression analysis where the existence and duration of paid leave is explained by variables capturing the differences in labour market situation (employment rates, unemployment rates, part-time employment, strictness of employment protection), country level of development (GDP per capita), pressure on public budget (deficit), political forces represented in government and parliaments, and the percentage of women among parliament members. The table reports model specifications where leave entitlements are measured respectively as the duration in weeks of paid maternity leave, the existence and duration of paid parental leave and existence of paid paternity leave. However, issues around multicollinearity and reverse causality (despite using lagged variables) as well as data issues are likely to affect the robustness of the results - which should therefore be interpreted with caution. In addition, childcare policy is likely to affect parental leave, but it is not included in the model because the time series on childcare coverage has gaps across countries.

In spite of these caveats, the model specifications appear to suggest:

- Increases in female employment rates are associated with extensions in the duration of paid maternity and parental leave (respectively paternity leave), while the same association is found between the duration of paternity leave and male employment rates. By contrast, increases in part-time employment are negatively associated with maternity, paternity and parental leave, suggesting that at least to some extent, part-time work and child-related leave are substitute tools for parents in their quest to reconcile work and care commitments.

- There is a negative association between female employment rates and the provision of paid parental leave, which might be related to the fact that many countries introduced these entitlements before 1990, at a time when female employment levels were already substantial. High male employment levels have not contributed to the provision of paid paternity leave, but they seem to have a positive effect on the duration.

- Higher birth rates appear to be associated with both the probability for a country to have paid parental leave and relatively long durations of paid leave (NB the causality should not be read the other way). By contrast, a negative association is found between birth rates and the duration of maternity leave, or the existence of paid paternity leave.

- There seems to be a strong positive association between unemployment rate and the duration of leave periods.

- More stringent employment protection are more likely to be associated with increases in the duration of paid maternity and paid parental leave as well as short periods of paternity leave.

- Richer countries are more likely to have and increase maternity and parental leave, but this seems negatively correlated with paternity leave (perhaps because of its short duration generally).

- Larger deficits in government spending are associated with reductions in the duration of maternity and paternity leave (with relatively high payment rates), but there is a positive association between deficit levels and the duration of paid parental leave.

- Political contexts matter: periods of parental leave are much more likely to be increased by "right-wing" parties (which are more likely to take a traditional stance on the role of mothers and their children), while the presence of more women in parliament has a negative effect on the provision of paid parental leave.

The determinants of the provision and duration of paid leaves

	Maternity leave	Parental Leave			Paternity leave	
	(1)	(2a)	(2b)	(3)	(4)	(5)
	Duration in weeks	Provision of protected leave	Provision of paid leave	Duration in weeks	Provision of paternity leave	Duration in weeks
Female employment rate (aged 25-54)	+ (***)	+ (***)	+ (***)	+ (***)		
Male employment rate (aged 25-54)					- (**)	+ (***)
Birth rates	- (***)	-- (**)	- (*)	++ (***)	- (**)	-- (***)
Unemployment rate	- (***)	=	=	++ (***)	- (**)	+ (***)
Incidence of part-time on female employment	- (***)	- (***)	- (***)	-- (***)		
Incidence of part-time on male employment					=	- (**)
Strictness of protection legislation	++ (***)	-- (**)	=	++ (***)	++ (***)	-- (***)
GDP per capita	++ (***)	=	=	-- (***)	=	-- (***)
Deficit in government spending	- (***)	=	=	- (***)	+ (*)	- (***)
Government party orientation	+ (***)	=		-- (***)	=	+ (**)
Percentage of women in Parliaments	+ (***)	+ (**)	+ (*)	-- (***)	=	+ (***)

A positive/negative sign indicates an effect which increases/decreases the outcomes. "+" (or "-") indicates that the standardised coefficient is positive (or negative) but is less than 50% (0.5) for one standard deviation change in the unit, and "++" (or "--") if the standard coefficient is 50% of more (The threshold of 50% (0.05) is somewhat arbitrary. It implies that every time the independent variable changes by one standard deviation, the estimated outcome variable changes by 50% of a standard deviation, on average, given all other predictor variables remain the same.). Please refer to Table 2.A4.1 for the effect sizes.

Values in parenthesis (***, **, *) indicate that the estimated coefficient is significant at the 1%, 5% and 10% levels respectively.

"=" indicates insignificant estimates (less than at the 10% level), regardless of the value of the coefficient.

Source: OECD calculation of data on family policies and leave provision from OECD (2014) OECD Family database.

2.5. Early childhood education and care (ECEC) – childcare and pre-school services

109. Along with child-related leave, childcare and pre-school services are important policy tools that can help parents reconcile work life and family life commitments when children are young. These policy tools can help boost maternal employment during the early years of a child's life and it is no coincidence that the increase in female labour force participation (see Section 1.4) went hand-in-hand with the development of work-family life balance policies, of which affordable good-quality[20] childcare is an important element (Thévenon, 2013).

110. The development of formal childcare[21] policies is related to the work-family life balance policy objectives. Countries differ in the emphasis they put on the underlying objectives which include gender equity, having children, supporting labour supply and promoting child well-being and child development (OECD, 2011a, Chapter 4).

20. Due to limitations in data, the quality of childcare (or trends therein) is not discussed here. The OECD is currently carrying out a work programme on policies which monitor and improve quality in early childhood education and care services. Details of the project are available at www.oecd.org/edu/earlychildhood/quality.

21. Formal childcare arrangements include: care in daycare centre, registered childminders based in their own homes looking after one or more children and care provided by registered carers at the home of the child.

2.5.1. Spending on childcare and pre-school services

111. Many countries devote a major share of public spending on in-kind services to formal childcare and pre-school (ECEC) services, and often the observed rise in spending (see Section 2.2.1) coincides with the expansion of ECEC-services. Public spending on childcare and pre-school services from birth up to the start of compulsory schooling (children aged 0-5 years), as a percentage of GDP, varies considerable across countries (Chart 2.8 Panel A). Spending is highest in France, the Nordic countries, New Zealand and the United Kingdom at above 1% of GDP. These countries are also among the countries with highest participation in childcare for very young children (Chart 2.9), with the exception of Finland because of the widely used entitlement to homecare leave for children up to age 3 in that country.

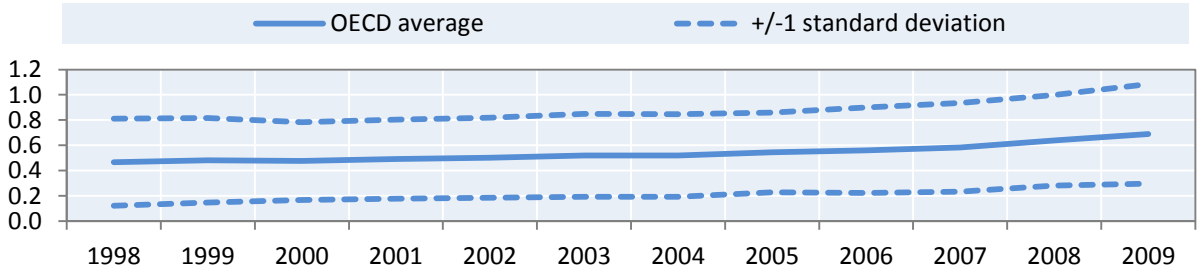
112. Relatively low child-to-staff ratios (contributing to relatively high wage costs per child in care) in Nordic countries and high intensity of use (around 30 hours per child per week) help explain why spending per child in formal care is higher in Nordic countries than in most OECD countries (OECD, 2014, PF4.2).

113. Spending as a percentage of GDP has increased over the past decade in all OECD countries, except Greece, Luxembourg, the Slovak Republic and Slovenia (Chart 2.8 Panel A). On average across the OECD, public spending on ECEC as a percentage of GDP increased by 0.2 percentage points from 1998 to 2009.

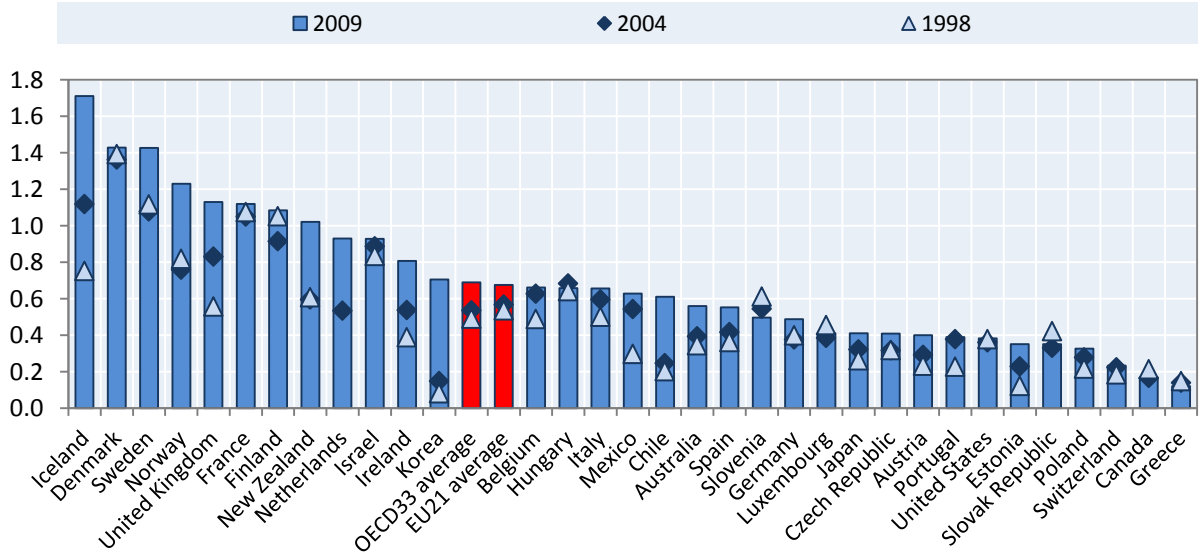
114. There has been little convergence between the countries in the proportion of GDP devoted to ECEC services, as the pace of increase across countries has varied (Chart 2.8 Panel B). In the longer term, low-investment countries may catch up with high childcare investment countries, but that has not happened yet. In fact, there was a slight divergence in childcare investment in the latter half of the past decade, as the standard deviation increased from 0.3% of GDP in 2005 to 0.4% in 2009.

Chart 2.8: Public spending on ECEC has increased in most OECD countries over the past decade

Panel A. OECD average public spending on childcare and pre-school services for children aged 0-5 years, and standard deviation, percentage of GDP, 1998-2009



Panel B. Public spending on childcare and pre-school services[1], percentage of GDP for children aged 0-5 years[2], 1998[3], 2004 and 2009



1) Expenditure data on childcare across the OECD are unlikely to include all local government spending, as local authorities may not report such outlays centrally. Hence, the data in this chart are likely to underestimate public spending on childcare, particularly in federal countries, such as Canada and Switzerland.

2) For comparative purposes, spending on pre-school services was adjusted for cross-national differences in compulsory age of entry into primary school. For example, in Nordic countries, where children enter primary school at age 7, expenditure on 6-year olds was excluded from these figures. Similarly for countries where children enter school at age 5 years (for example, Australia, New Zealand and the united Kingdom), pre-school expenditure data were adjusted by adding up the expenditure corresponding to 5-year old children enrolled in primary school.

3) Data on Pre-school education in educational settings as in the OECD Education database is not available for the years prior to 1998.

Source: OECD (2013a) *OECD Social Expenditure database*.

2.5.2. Participation in formal childcare and pre-school services

115. In most OECD and EU countries participation rates of children aged 0-2 years in formal childcare and 3-5 in pre-school have increased over time (Chart 2.9) with more mothers participating in the labour market as supported by increased public spending on childcare. Overall, participation in pre-school for ages 3-5 is substantially higher than participation in formal childcare as for ages 0-2 many parents take advantage of child-related leave (see above) to take care of children at home during their early years. The

increase in childcare participation has been in line with increased public spending among countries, as countries with greater public investment in childcare see higher participation rates (Chart 2.A3.1).

116. Around one-third of children aged less than 3 years participated in some form of formal childcare arrangement in 2010 on average across the OECD (Chart 2.9 Panel A). Participation rates were greater than 50% in Korea, the Netherlands, Denmark, Iceland and Norway while they were below 10% in Bulgaria, the Czech Republic, Mexico, Poland, Romania and the Slovak Republic. Formal childcare participation has been increasing in all countries, but so far there has been little sign of convergence in enrolment rates across countries; the standard deviation around the OECD average has remained fairly stable at between 17-18% over the past decade.

117. There remains considerable variety in the intensity of childcare participation, with children in Nordic countries often participating on a full-time basis, while part-time attendance is much more common in the Netherlands, for example. Accounting for the intensity of use, differences in childcare enrolment rates and their "full-time equivalent" (based on 30 hours of care per child per week) for children aged under 3 years, are largest in Australia, the Netherlands and the United Kingdom (OECD 2012a, PF3.2).

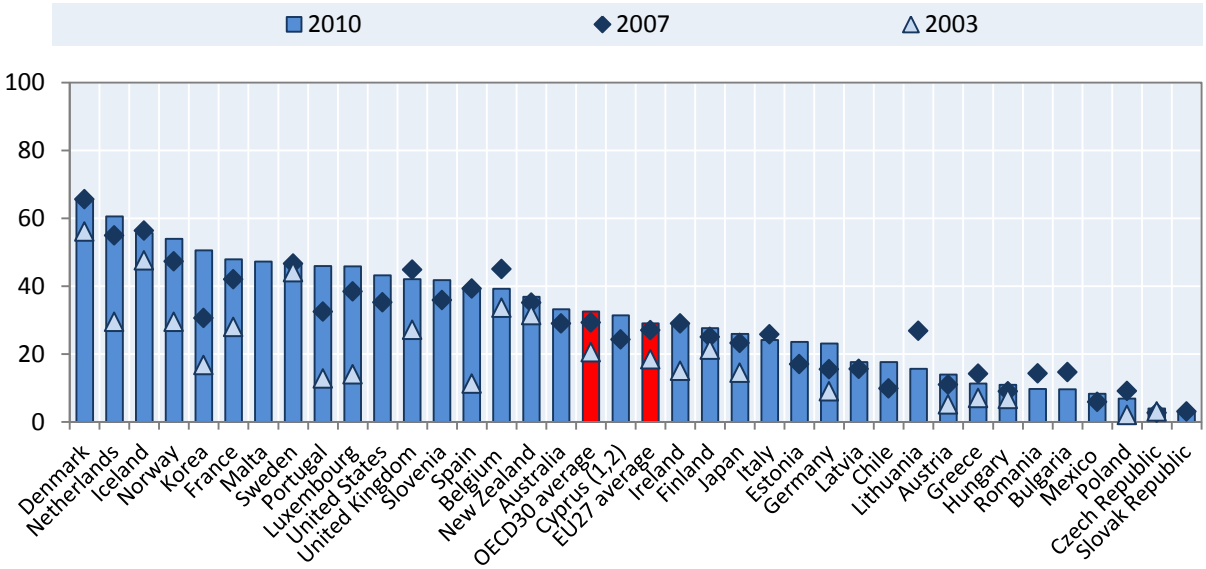
118. In most OECD countries, pre-school education for 3-5 year-old children is heavily subsidised or provided for free. Consequently, on average nearly 4 in 5 children were enrolled in pre-school services in 2010 across the OECD (Chart 2.9 Panel B), up from 64% in 1998. The enrolment rate was highest in Belgium, France and Spain with nearly all students aged 3-5 years attending pre-school, while it is lowest at less than 50% in Canada, Greece and Switzerland, and particularly low in Turkey at just 27%.

119. Pre-school enrolment rates have also increased in most countries across the OECD (except for countries with already near universal enrolment rates). However, while childcare enrolment rates continue to vary considerably across countries, there has been substantial convergence across the EU and the OECD. The standard deviation around the OECD average decreased drastically from a high of 25% in 1998 to less than 19% in 2010. This decrease was mainly driven by countries with historically lower enrolment rates, such as Mexico, Poland and Turkey, making the largest gains as many countries at the top, such as Belgium, France, Italy and Spain, already had near universal enrolment rates (greater than 90%) and little room for improvement.

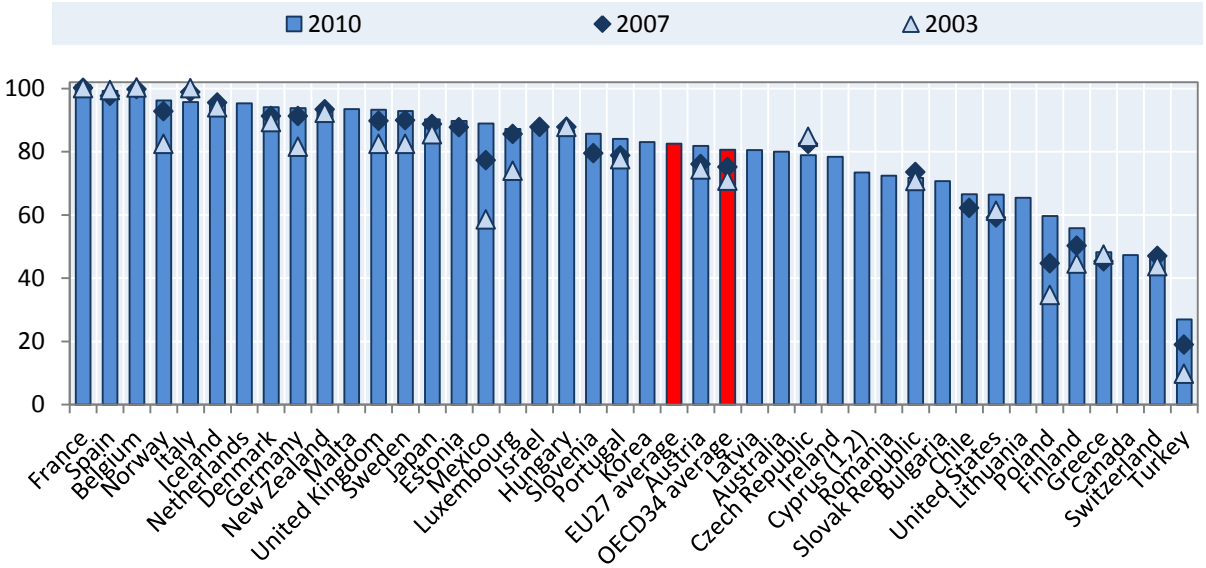
120. The simultaneous increase of formal childcare arrangements and child-related leave entitlements suggests that taken together these forms of support filled a gap in families' needs. Some substitution between parental leave and childcare clearly exists; participation in formal childcare by those less than 2 years of age remains particularly limited in countries with paid leave entitlements of one year or more. For most countries, however, the childcare participation rate has increased while the duration of paid leave entitlements has remained around one year or less (Chart 2.10). But on the whole, increased female employment is associated with increased formal childcare participation rather than a prolonged period of child-related leave: in 2010, in over two-thirds of the OECD countries at least 1 in 5 children aged less than 3 years attended formal childcare, while just 4 countries provided more than 100 weeks of paid leave for mothers (the Czech Republic, Hungary, Poland and the Slovak Republic).

Chart 2.9: Participation in formal childcare and pre-school services has increased in most countries

Panel A: Average enrolment rate of children aged 0-2 years in formal childcare, percentage, 2003, 2007 and 2010



Panel B: Average enrolment rate of children aged 3-5 years in pre-school educational programmes, percentage, 2003, 2007 and 2010



1. and 2. See notes 1 and 2 to Chart 1.1.

Source: OECD (2014) *OECD Family database*, PF3.2, provisional data.

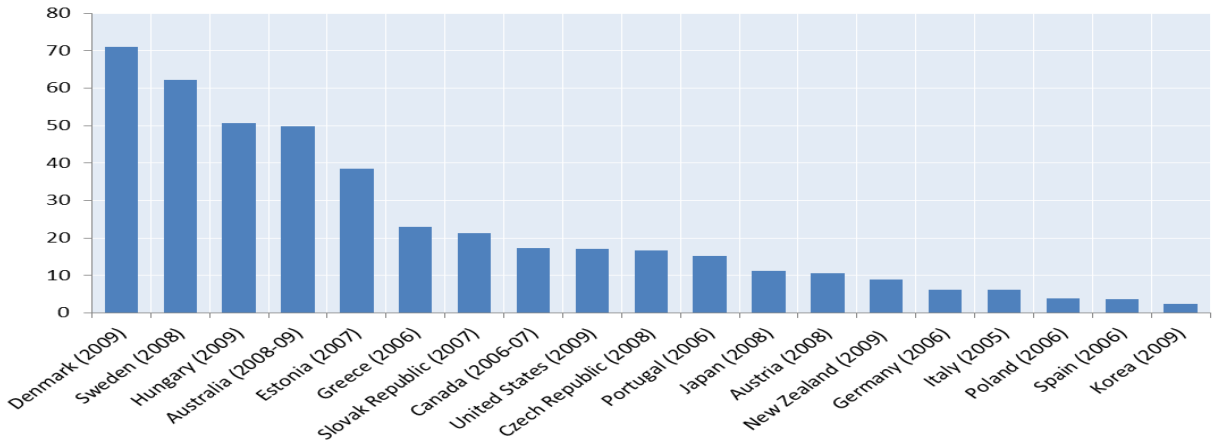
Box 2.5. Out-of-school-hours care

Childcare issues do not stop when children enter primary school. A full-time working week is not directly compatible with school hours, and working families therefore need to find care solutions in the morning, at lunchtime, after school hours and during school holidays. The number of children affected is considerable; for example, evidence from the United States suggests that 26% (or 15 million) of children between 6 and 18 years old are left alone or unsupervised after school hours. Among the unsupervised children, the majority are in high school (9.2 million), but a substantial number are in middle school (4.2 million) and elementary school (1.7 million) (After School Alliance, 2009).

To some extent, parents in couple families may be able to find solutions by adjusting start and finishing hours at work (see below), but sole parents are less able to do so. Informal care solutions are important, but increasingly OECD countries provide formal out-of-school-hours (OSH) care services at some point during the day, as well as during school holidays, although the availability and nature of such services may differ. They are frequently, but not always, based in school facilities or youth centres, and provide recreational activities and/or help with homework.

Use of out-of-school-hours care services varies widely across countries

Proportion of children aged 6 to 11 years attending OSH care services, 2009[1,2]



1. Data refer to children aged 5-11 in Germany, 6-11 in Australia, 5-13 in New Zealand, 6-9 in Canada, 6-13 in Italy, 6-14 in the Czech Republic and the Slovak Republic.

2. The year to which the data refer to is shown in brackets for each country.

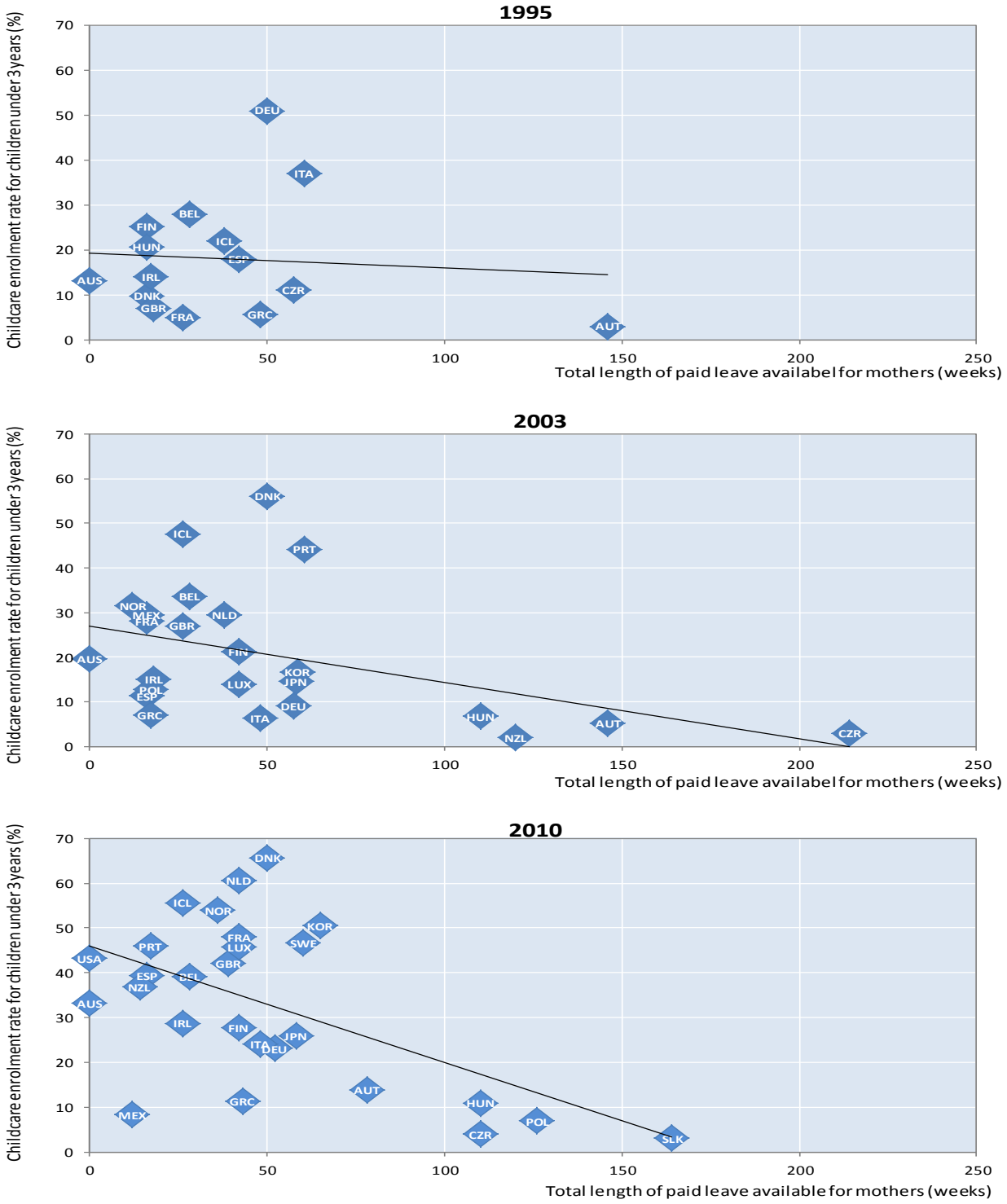
Source: Panel A: National Statistical Offices, 2010; Canada National Longitudinal Survey of Children and Youth, 2006-07; New Zealand Childcare Survey, 2009; United States: After School Alliance (2009).

In most countries, OSH-type schemes are still in the early stages of development and the lack of data availability (let alone time-series to measure trends across countries) reflects the absence of capacity to a large extent. In Germany, Italy, Korea, Poland and Spain, coverage is below 10% of children in primary school. But in some countries such as Estonia, coverage is extensive with around 40% of children in primary school using an OSH-care service, and in Australia, Denmark, Hungary and Sweden coverage is even higher at above 50% (see chart). Across countries OSH services are most used by 6- to 9-year-olds: enrolment rates for teenagers drop sharply as they are starting to become independent and prefer to spend their time with their peers outside an organised venue (OECD, 2014, PF4.3).

Children from lower income families, sole-parent families or ethnic minority backgrounds participate less in OSH services than their better-off peers (Harvard Family Research Project, 2006; MORI, 2009; and Peters *et al*., 2009). The mix of reasons for not using these services includes cost, lack of transport and migrant mothers staying at home. However, children of disadvantaged socio-economic groups who are most at risk are likely to benefit most (socially, emotionally and academically) from OSH activities (OECD, 2011).

Chart 2.10: The increase in formal childcare participation outpaces increments in the duration of paid leave

Childcare enrolment rates and length of available paid leave for mothers, 1995, 2003 and 2010



Source: OECD (2014) OECD Family database, PF2.5 and PF3.2.

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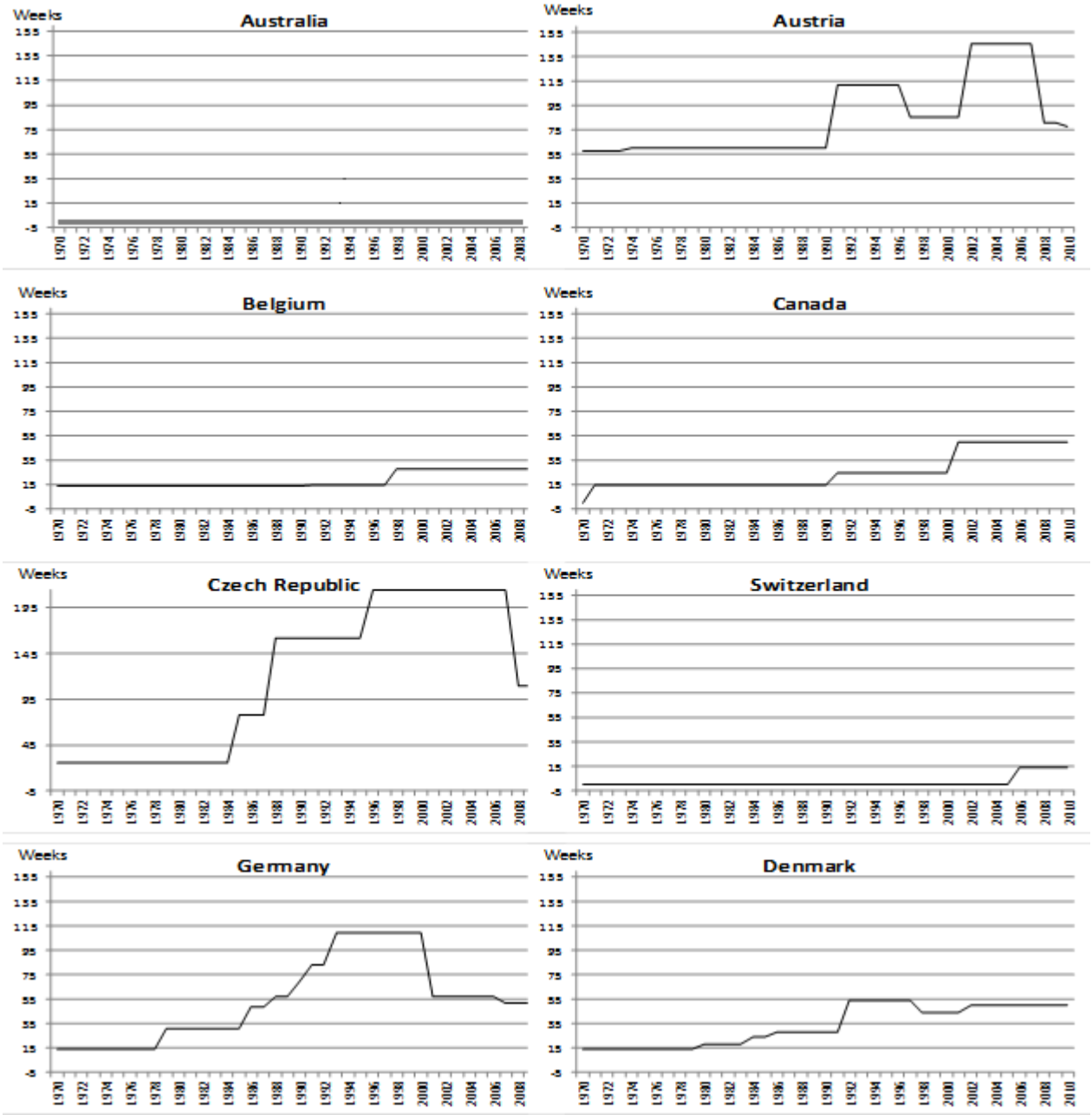
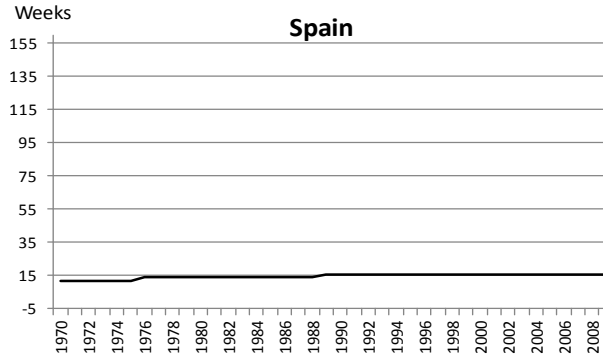
ANNEX 2.A1. TRENDS IN PAID LEAVE ENTITLEMENTS AVAILABLE TO MOTHERS

Chart 2.A1.1: Weeks of paid maternity and parental leave available to mothers, 1970 - 2010




Weeks
Spain
155
135
115
95
75
55
35
15
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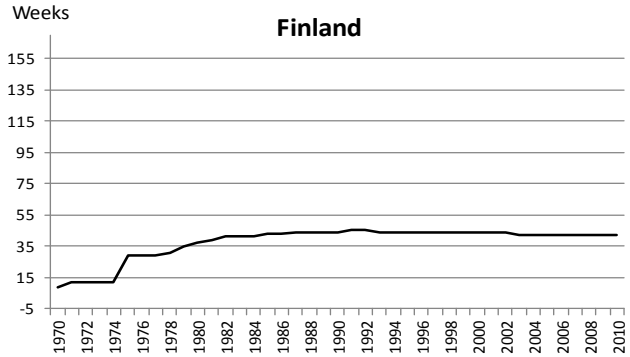
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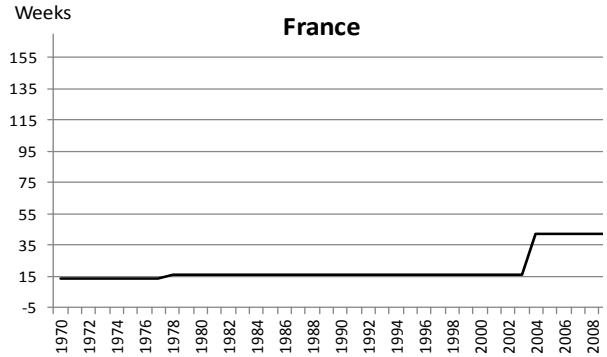
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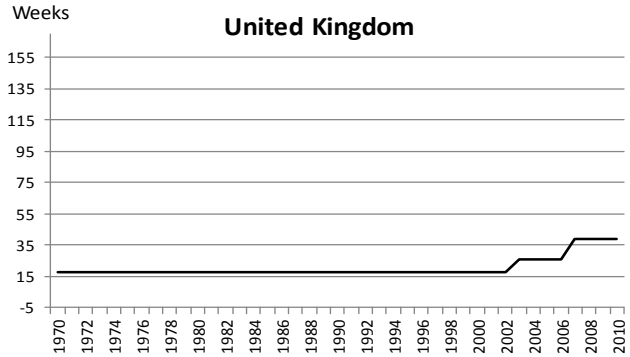
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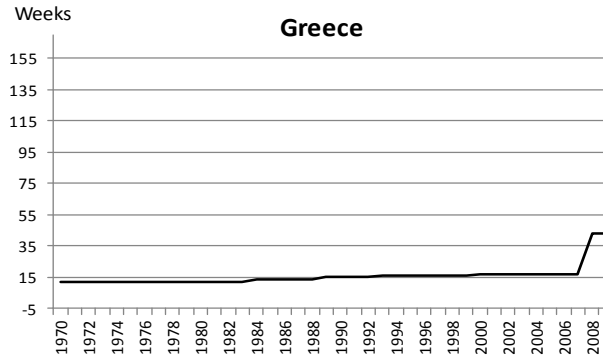
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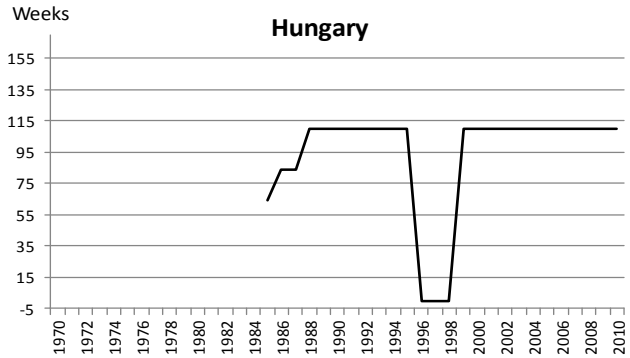
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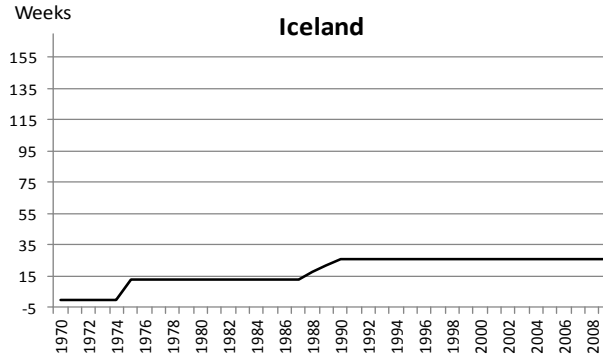
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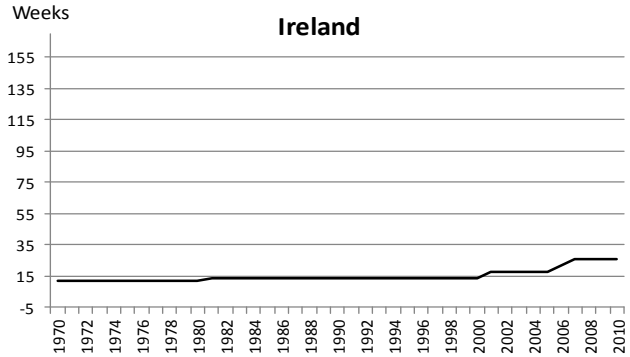
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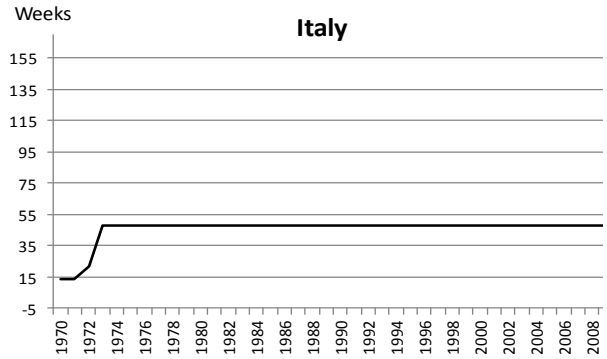
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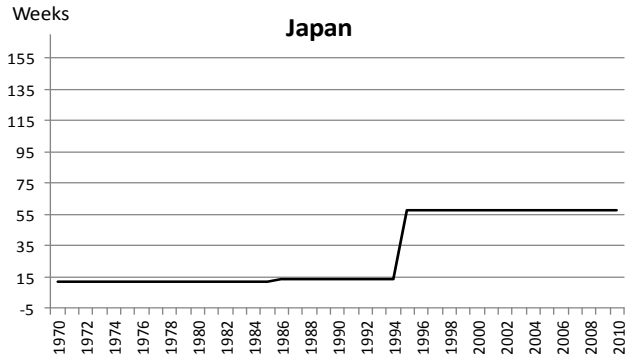
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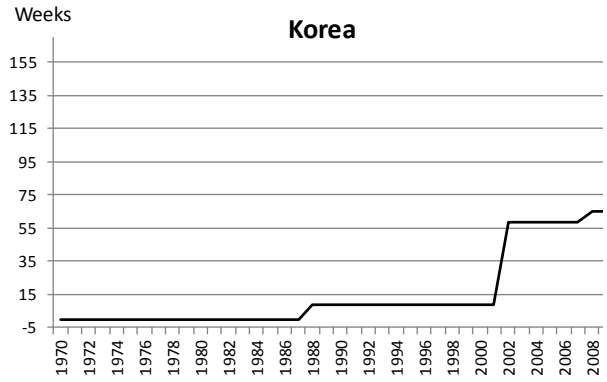
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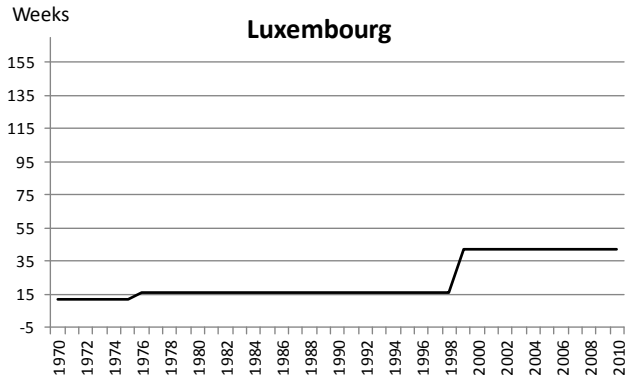
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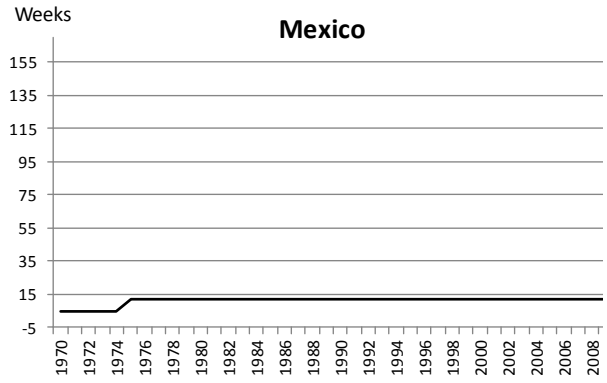
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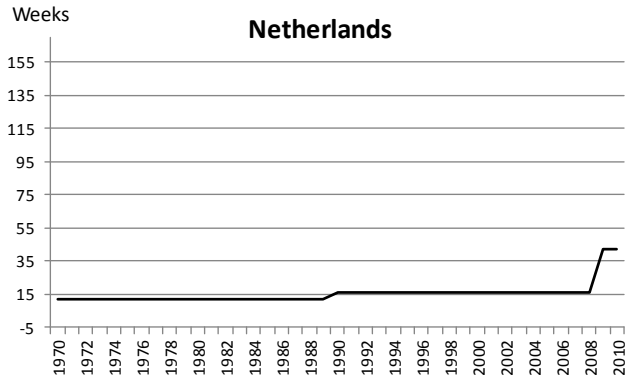
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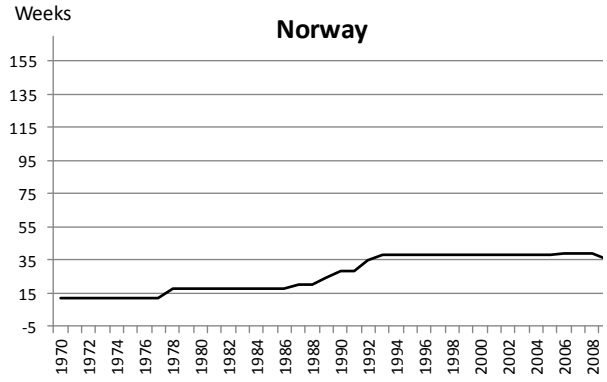
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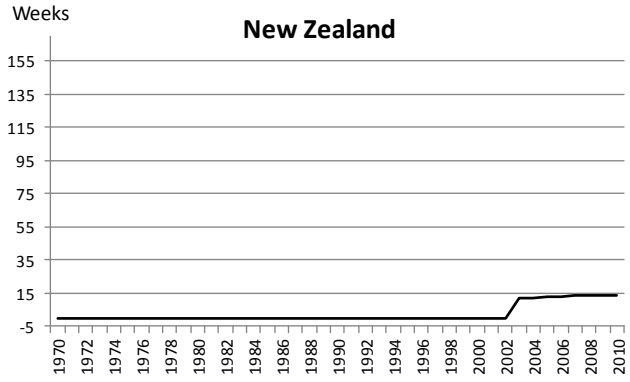
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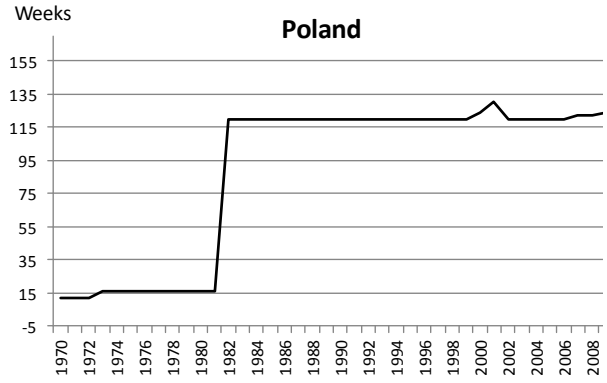
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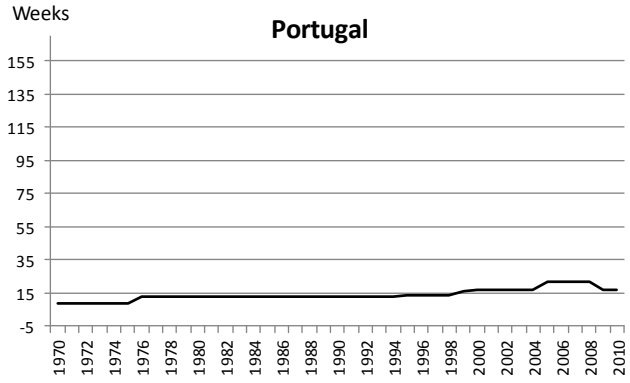
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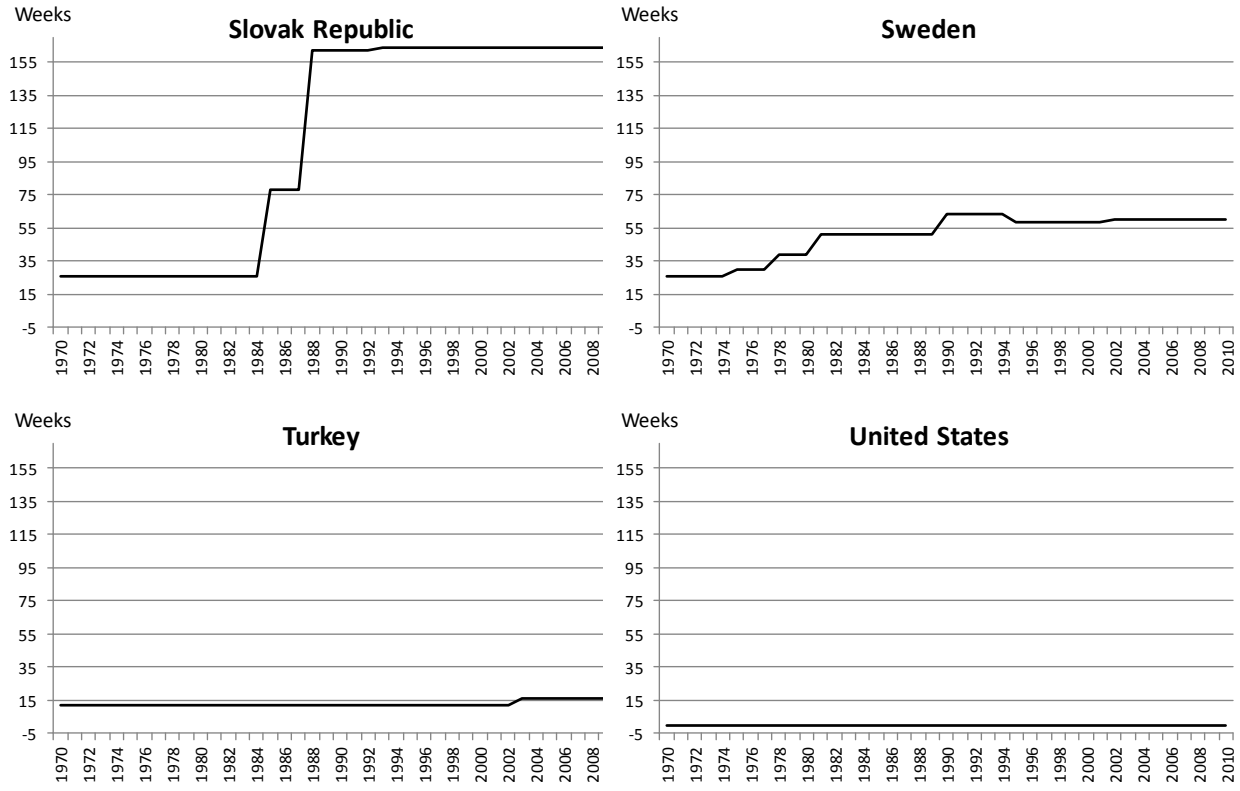
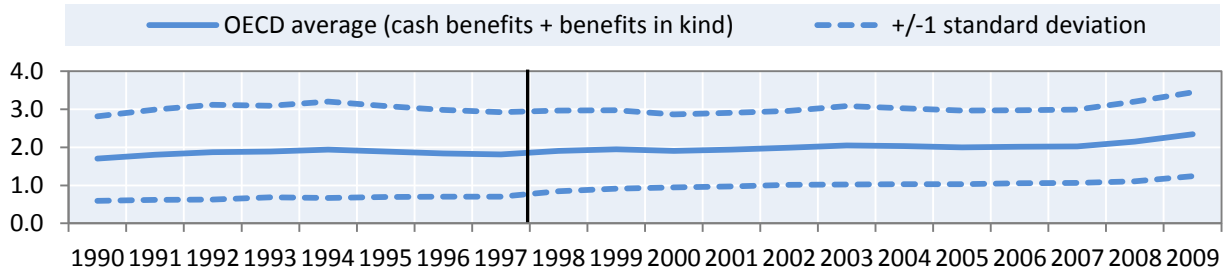


Source: OECD (2014) *OECD Family database*, PF2.5.

ANNEX 2.A2. PUBLIC SPENDING ON FAMILY BENEFITS: CASH AND IN-KIND

Chart 2.A2.1: Public spending on family benefits in the form of cash benefits and in-kind spending

Public spending on family benefits, percentage of GDP, 1980-2009



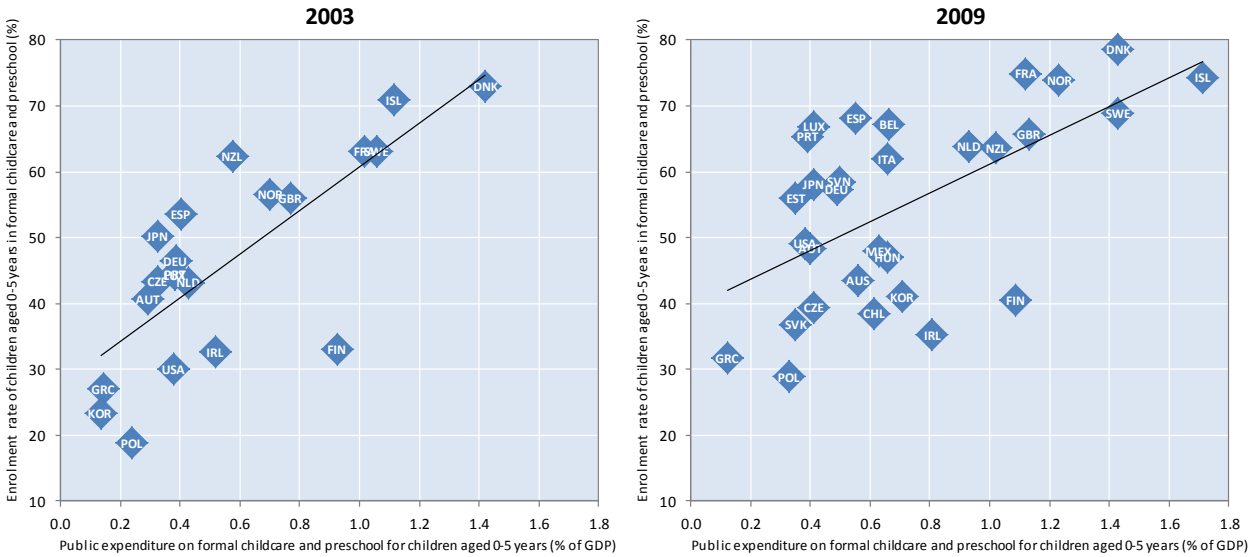
There is a break in the time-series between 1997 and 1998 as data on spending on pre-school services is not available prior to 1998.

Source: OECD (2014) OECD Social Expenditure database.

ANNEX 2.A3. PUBLIC SPENDING AND ENROLMENT IN FORMAL CHILDCARE

Chart 2.A3.1: Public investment in formal childcare generates high participation rates in childcare

Public expenditure and enrolment rate in childcare and pre-school among children aged 0-5 years, 2003 and 2009



Source: OECD (2014) *OECD Family database*, PF3.1 and PF3.2.

ANNEX 2.A4. DETERMINANTS OF CHILD-RELATED LEAVE PROVISIONS

Table 2.A4.1. The determinants of the provision and duration of paid leave to care for a child

	Maternity leave	Parental Leave			Paternity leave	
	(1)	(2a)	(2b)	(3)	(4)	(5)
	Duration in weeks	Provision of protected leave	Provision of paid leave	Duration in weeks	Provision of paternity leave	Duration in weeks
Lagged value of the dependent variable.	0.825 (244.77)***			0.551 (54.00)***		0.660 (54.04)***
Female employment rate (aged 25-54)	0.036 (36.53)***	0.123 (3.51)***	0.113 (3.62)***	4.767 (428.96)***	..	..
Male employment rate (aged 25-54)		..	..	..	-0.232 (2.92)**	0.888 (406.17)***
Birth rates	-0.036 (6.31)***	-0.668 (2.86)**	-0.409 (2.55)*	0.917 (13.51)***	-0.246 (3.09)**	-1.480 (86.93)***
Unemployment rate	-0.034 (4.94)***	0.032 (0.54)	0.101 (1.92)	1.545 (19.14)***	-0.313 (3.00)**	0.282 (14.31)***
Incidence of part-time on female employment	-0.042 (17.93)***	-0.060 (4.34)***	-0.081 (6.07)***	-2.330 (90.89)***	..	..
Incidence of part-time on male employment		..	..	..	-0.148 -0.98	-0.124 (2.67)**
Strictness of protection legislation	0.733 (34.57)***	-0.639 (3.05)**	-0.309 (1.58)	5.904 (17.96)***	1.814 (6.87)***	-2.668 (38.34)***
GDP per capita	3.385 (512.60)***	0.168 (0.35)	0.367 (0.77)	-20.843 (261.53)***	-0.143 (0.33)	-2.694 (142.55)***
Deficit in government spending	-0.067 (15.88)***	0.067 (1.3)	0.077 (1.61)	-0.481 (7.54)***	0.154 (2.50)*	-0.106 (8.60)***
Government party orientation	0.038 (17.91)***	-0.352 (1.69)		-1.242 (4.07)***	-0.023 (0.12)	0.205 (2.98)**
Percentage of women in Parliaments	0.137 (5.41)***	0.085 (3.05)**	0.046 (2.18)*	-1.576 (60.45)***	-0.024 (1.03)	0.186 (31.02)***
Number of observations	310	307	327	310	298	311
Pseudo R2	0.51	0.35	0.30	0.36	0.40	0.41

.. Including both male and female employment rates would cause too much collinearity. Hence, it is assumed that, as most of the parental leave is taken by mothers, only female employment rates might have an effect on parental leave (and only male employment rates on paternity leave).

Countries included are: Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Spain, Sweden, the United Kingdom and the United States.

Data on party orientation and women in parliament are taken from the Database on Policy Institutions (http://go.worldbank.org/2EAGGLRZ40). Party orientation equals (1), (2) for centre and (3) for left-wing parties.

The model is estimated with lagged values of independent variables in order to reduce problems due to possible reverse causality. The influence of variables on leave duration is estimated with a Tobit model designed to take into account the left-censoring in the dependent variable. Models also include country dummies.

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