The costs of raising children and the effectiveness of policies to support parenthood in European countries: a Literature Review

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The Costs of Raising Children and the Effectiveness of policies to support parenthood in European countries: a Literature Review

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Content

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Introduction

The Communication on "The demographic future of Europe – from challenge to opportunity" (COM (2006) 571final) approved by the European Commission on October 2006, describes the state of demographic change in the European Union. Notable findings are that the average number of children per woman is low, well below the replacement rate of 2,1 required to maintain population size in the absence of immigration. The communication also points to the effectiveness of family and other policies in creating conditions supportive of those who wish to have children.

The importance of creating conditions favourable to having children is also illustrated by the 2006 Euro barometer on Fertility and Aging, which showed that in general, Europeans (both women and men) declare a wish to have more children than they effectively do have.

Following the communication, the European Council announced in March 2007 the creation of a European Alliance for Families which will be a platform for exchanging experience and good practice between Member States. In the recent Communication “Promoting solidarity between the generations” (COM (2007)244 final) adopted on 10 May 2007, the Commission set out how it intends to support this Alliance. The Council presented its views on the Alliance in conclusions adopted at its meeting on 30-31 May 2007. One major purpose of the Alliance is to help Member States in modernizing their policies aimed at supporting parenthood.

Three main forms of support for families were identified in the Commission Communication of May 2007:

- compensation for the direct and indirect costs associated with the family (benefits or tax relief for those responsible for children or other dependent persons),
- services to parents in the form of education and care for young children, care and supervision for older children and, increasingly, services for dependent people in an ageing society,
- Organization of working and employment conditions (appropriate work schedules and leave) and access to services at local level.

Both the Communication on intergenerational solidarity and the Council conclusions of May 2007 insist strongly on the importance of measures aimed at supporting families in order to enhance the reconciliation of work, private and family life. Indeed, allowing more mothers to remain in employment while raising children could have a major impact on families’ income, thus reducing significantly the indirect costs of parenthood.

The modernization of policies supporting families is likely to be crucial, not only to allow Europeans to have the number of children they wish to have, hence contributing to European demographic renewal, but also to reduce child poverty, which is a priority item on the agenda of the Open Method of Coordination applied to social protection and social inclusion, and to promote equal opportunities for women and men, for parents and for children from various backgrounds. The modernization of family policies is also crucial for the success of the Lisbon Employment Strategy, which will depend to a large extent on a higher level of participation of women in the labour force.

The purpose of this report is to produce an overview of available knowledge about the following issues:

- the costs (to parents) of parenthood and of raising children in European Countries;
- the effectiveness, in the short and long term, of various policy measures in avoiding or compensating for those costs;

- the impact of different policy instruments aimed at supporting families according to various policy objectives, e.g. achieving family projects, reconciling family and working life, reducing child poverty, raising the levels of education and well being of children, and increasing equal opportunities.
- the wider economic and social costs and benefits of policy interventions in support of families.

The current state of knowledge on the following issues is presented as follows in this review report:

- The costs of children and the challenges for public policies supporting parenthood (chapter 1); author: O. Thévenon
- The policy instruments used in the EU to support families and reduce the costs of parenthood (Chapter 2); authors: A. Math and O. Thévenon
- The impacts of these policies on families:
    - On fertility and the decision to have children (chapter 3); authors M-Th. Letablier and O. Thévenon
    - On parents' participation in the labour market, gender equality and work-life balance (chapter 4); authors: M-Th. Letablier, A. Luci, O. Thévenon
    - On children's well-being (chapter 5): M-Th. Letablier and O. Thévenon

- The wider economic and social costs and benefits of such policies (Chapter 6); author: A. Luci.

The review of literature presented in this report attempts to make the tools, goals and impacts of family policies more clear and comparable across countries, in order to facilitate the circulation of knowledge between Member States, notably in the context of the European Alliance for Families and the newly established High Level Experts Group on Demography Issues. The report provides a review of recent literature and available data material on the direct and indirect costs of raising children in the European Union (using international as well as particularly important national studies). Ground breaking studies from countries outside the EU, of particular interest from a methodological point of view, are also included in the review.

Focus is on the following kinds of costs of having and raising children over the long and short term:

- Direct financial costs, *e.g.* for housing, health care, education, child care,
- Indirect financial costs, *e.g.* for lost income, lost pension rights, lost career prospects etc. , also taking into account the impact on gender roles and gender equality. The costs of raising children are examined at the different phases of their development, from birth through to the age at which they become autonomous.

The overview also summarizes knowledge on the main determinants of costs, including, the effects of the number of children, the socio-economic status of parents, and the family structure. Significant differences in cost levels and structures across Member States are identified. The overview also identifies gaps in the available knowledge, and highlights some issues for future research that have the potential to contribute to a better understanding of the policy impact and to better comparability across the European Union.

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Overview of the main results

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The literature reviewed in this report starts with the evidence that the "cost of children", measured as the loss of standard of living due to the presence of children in the household, is relatively high: children account for between 20 and 30% of the budget of the households, but this cost depends on several factors such as family income, age of children, education, and the bargaining process within the household. Although quite large already, this standard estimation underestimates the actual cost of raising children, since it does not consider the indirect costs associated with time allocation to children, labour market interruption and potential other consequences of children for parental career prospects. Since only children up to the age of 14 are taken into account, such an estimation also understates the cost in education, or housing, etc. associated with the presence of an adolescent or the transition to adulthood (see details in Chapter 1).

The overall cost of children thus includes many dimensions that have to be clearly identified in order to assess the impact of policies designed to help parents bear that cost. Such an assessment requires entering into the black-box of the household in order to understand how policies impact on parental decisions relating to children and to their own well-being. The objectives fulfilled by policies are also of crucial importance to assess their impact.

Six broad categories of objectives are generally assigned to family support policies, with variable emphasis from one country to another:

- Compensation for the cost of children, in order to limit the gap in standard of living between households with and without children
- Reduction of poverty faced by families and children
- Promotion of children's well-being, and of their cognitive and social development
- Support to fertility, by helping adults to have the number of children they want.
- Increase in female employment rates and reconciliation between work and family life. In that case, support to families is not only supposed to "compensate" for the cost of children, but to "enable" parents to combine work and care.
- Promotion of gender equity, especially concerning childcare and labour market outcomes

These objectives are not independent but can be conflicting, and since their importance can vary from country to country, any assessment of policy impact will depend on the levels of priority given to these objectives and how they are packaged together. This means that, irrespective of their cost, policies cannot be considered as efficient if they fail to achieve a satisfactory balance between the outcomes associated with the different goals assigned to policies supporting families. Hence, policy "costs" have to be considered with regard to their long run returns. Policies that aim at reconciling work and family life are expected to generate such long run rewards, the important required initial investments none withstanding.

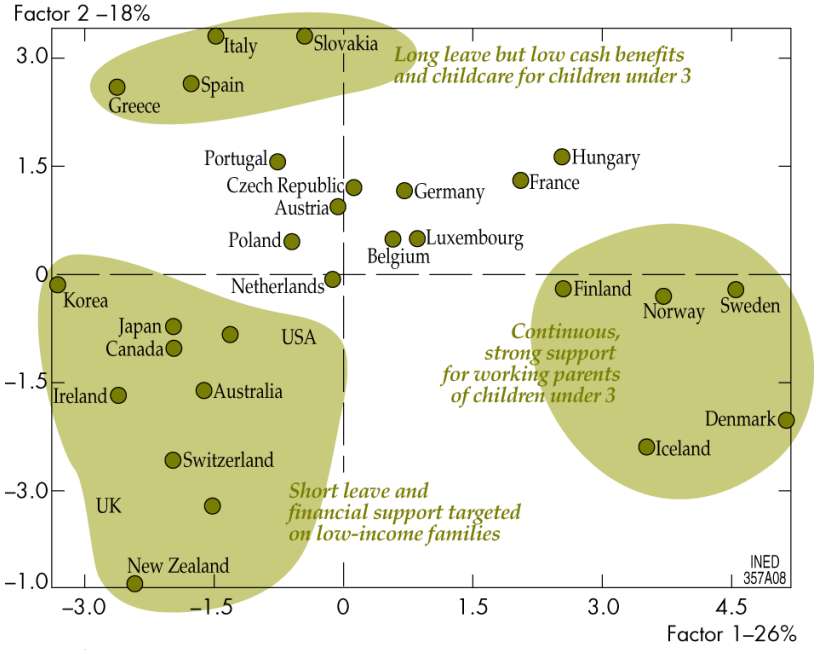
One important issue in making such an assessment is to define accurately the scope and boundaries of family policy (chapter 2). Three broad sets of measures are generally regarded as the 'core' of family policies:

- cash support to families (through benefits and/or tax relief);
- support in kind or services in the form of education, care and supervision for young and older children;
- family-related leave and child rearing payments provided to parents who care for their children (maternity leave, paternity leave, parental leave, leave to care for a sick or handicapped child).

Figure 1 gives a comparison of how the instruments of the "core" of family policies are combined in OECD countries:

- Nordic countries are found to provide the most comprehensive support for working parents with children under age 3, and continuous support combining well paid maternity/parental leave and relatively high provision of childcare services from age 1. Rates of both female employment and fertility are among the highest, while poverty (including child poverty) rates are comparatively low (before and after transfers).
- Compared to this situation, the Anglo-Saxon countries are characterised by short and low paid leave, while financial support is highly targeted to low-income families. Here, fertility rates are quite high, as are female employment rates, but women with children under age 6 work frequently in part-time employment. Poverty rates are also quite high.
- By contrast, Southern European countries are characterised by a long period of unpaid leave, low cash benefits and less developed provision of childcare services for children under age 3. Here, comparatively low scores are observed for both fertility and female employment rates, while poverty rates are quite high.
- Continental Eastern European countries are roughly situated between the above groups, although their situations are quite diverse.

Figure 1: Contrasted patterns of support to families in OECD countries



Source: Thévenon (2008), *Population and Societies*, 448

A larger range of other policy instruments can also be included in the perimeter of 'family policies': social welfare provisions other than "family/children" ones, i.e. not exclusively focusing on families with children, but having a clear effect on them. Such provisions include:

- child supplements in housing benefits and social assistance benefits,

- health insurance coverage for children,

- supplements for pensions;

- tax relief not exclusively focusing on families with children, such as joint taxation of married couples;

- education expenditure that may be also important;

- working and employment conditions other than leave, whether they are determined by legislation or by collective bargaining are also to be considered.

The data on social welfare expenditure provided by Eurostat (ESSPROS) and the OECD (SOCX) can be used to compare the three core measures of family policies (cash support, replacement income during maternity and parental leave for mother of small children and in-kind benefits). With regard to "family/children" benefits, there are large differences between European countries. The dispersion of levels of commitment, measured by the level of expenditure, is higher than for any other social protection function, ranging from 0.8 % of GDP in Poland up to 3.8% in Denmark in 2005. Furthermore, there are strong differences in the relative weight given to the different kind of support (benefits in kind, benefits in cash, and payments during leave). Family policies comprise a mix of policies that complement and interact with each other. This argues for analyses taking into account the whole package of measures together.

The various databases have strengths and weaknesses, however. The ESSPROS data present strong advantages (good comparability, regular production over several decades, large geographical scope) to analyse and compare family policies, but also serious limits. The ESSPROSS methodology could, however, be improved to capture more accurately the support available for families, within or beyond the scope of social protection. Data could be made more reliable (especially those concerning payments for paid maternity and parental leave); to some extent the differences in support which are not in the "core" of policy could also be documented through:

- *ad hoc* evaluations of the family/children components or supplements that are classified in other social protection functions (sickness/health care, unemployment, housing, old age, social exclusion);

- a broader evaluation of this support would include spending on education and the support received through tax relief, as considered by the OECD;

- the inclusion of employer's support to the family of their employees.

One of the limits also stressed in the report is the impossibility of connecting the information on spending with the outcomes for family standards of living. The model family method has proved particularly well-suited to analyse the impact of social policies on family income, but an interesting topic would be to determine the correlation between the amount spent, and the extent to which the economic situations of families are improved.

Although such a connection is lacking, cross-country comparison shows that good performance in the different areas (labour market outcomes, poverty, fertility and child development) taken as a whole can be achieved simultaneously. Thus, higher rates of fertility

and of female labour market participation, and lower rates of poverty, are found in countries where policy support to families is comparatively comprehensive, quite continuous over childhood and based on a diversified range of support measures (chapter 3 and 4). Better achievements in all these domains appear to depend on how leave entitlements after the birth of children, with cash support for needy families, the provision of both high quality childcare and after-school care services and flexible arrangements at the workplace for working parents are combined over the family life-cycle. However, the balance between these different types of policy support still varies quite widely, in line with variations in policy orientations and frames.

The definition of an appropriate balance between the different types of support remains a controversial issue, and many questions still remain unanswered. One can, however, try to elaborate general conclusions about policy impact (chapter 1). Two dimensions are in fact at stake when assessing this impact. The first is the issue of policy effectiveness, which considers the extent to which policy has an impact because individuals make use of their entitlements and rights, whatever the result achieved. Assessing the latter raises rather the issue of policy efficiency, which considers whether the support produces the *expected* outcome. The issue of efficiency cannot be considered without reference to policy choices.

A first manifestation of such choices lies in the balance achieved between three objectives fulfilled by income support to families: the compensation for the cost of children, income redistribution, and poverty reduction among families. The first objective encourages the provision of income support that increases with household income, with possible anti-redistributive consequences. By contrast, the aim of reducing inequalities and poverty tends rather to limit the extent to which the compensation increases proportionally with the effective cost.

Given the objective of reducing poverty of families (or reducing inequalities), universal benefit programmes have often proved to be more efficient than targeted support to low-income families. One reason is that universal programmes receive support from a larger range of contributors and the amount of support is consequently larger. Universal programmes are also likely to better resist budgetary cuts imposed during periods of crisis or austerity. Another reason is that targeted programmes can fail to reach families with the largest needs because of multiple transaction costs and because imperfect information hampers efficient target design. In addition, policies that encourage parents, living either in partnership or alone, to enter the labour force are found to be efficient means of reducing the risk of poverty.

This raises the issue of policy “effectiveness”, since individuals can be entitled to rights and benefits without actually taking them up. The available evidence shows that take-up rates can be very low, especially for parental leave entitlement. The increase in the take-up rates of the various benefits and rights supporting families may be one concern for both policy making and future investigation. Further knowledge of the determinants of these rates would however be needed to design more effective policies. Nevertheless, the available evidence suggests that specific programmes which aim at fitting the specific needs of families more closely would positively affect take-up rates. They could include programmes that simplify the application process for obtaining benefits or services, or that propose tailored services to accompany families according to their needs.

The “optimal” balance between the support provided through the entitlement to a post-birth period of leave for working parents, and the support received in cash or in-kind with the provision of childcare services is not straightforward either. Here again, the evaluation of policy impact will depend on the balance achieved between conflicting outcomes. Nevertheless, very broad conclusions can be drawn about the impact of policies on the

different types of outcomes. Particular attention should be focused on how potential conflicts between these outcomes can be reduced.

The guarantee for parents of a period of paid parental leave after the birth of children has been found to have a positive impact on children's outcome, including the reduction of health problems and improved cognitive development (chapter 5). By contrast, research on maternal employment often finds that labour force participation during the child's infancy has a negative impact on cognitive development. However, these results depend on the quality of the time invested by parents to care for their child, and on the quality of services that can be substituted for parental time. Moreover, the employment of parents, notably of mothers, is found to have a positive effect on children living in an "adverse" context, such as those living in a single-parent household. The "adversity" of the context relates also to different characteristics of the family members, their life-style or their environment, with variations from one study to another. It can refer, for example, to the socio-economic background of parents, household composition, home environment, ethnic origin, or to the lack of high quality service of care.

Several considerations lead, however, to limiting the period of parental leave. First, one should not to over-generalise the above results, which are based on US and UK data. The reason why such caution is recommended is that results are only valid in a given context. We do not know, for example, if the outcomes relating to specific family characteristics would be similar in another context. The case of children living in a single-parent household can serve as an illustration. While mother's employment is found to impact negatively on children's outcomes in the US, a positive relation is, in contrast, found in certain European countries. This suggests that the effect of family characteristics is strongly conditioned by the environment: in this case for example, widened access to high-quality childcare services. Keeping in mind such dependence between household characteristics, life-style and the environment is important in order to avoid any inaccurate stigmatization.

The benefit for children of early enrolment in collective care outside the home is also an argument balancing the emphasis put on parental time in the development of their children. For example, there is also evidence that high-quality formal day care in the year prior to kindergarten increases school readiness and non-cognitive development. This observation leads some authors like Heckman and Masterov to emphasize the "productivity" of the investment in early childhood, especially in the direction of disadvantaged children. As stated by the two authors, "*investing in disadvantaged young children is a rare public policy with no equity-efficiency trade-off. It reduces the inequality associated with the "accident" of birth and at the same time raises the productivity of society at large*". The authors also underline the self-productivity of early investment. Thus they consider that this investment may be the most effective policy for improving the human and social capital of a society: "*at lower cost to society, bolstered families will produce better educated students, more trained workers and better citizens*".

Furthermore, although early enrolment of children, i.e. within the two first years of life, in a childcare centre or preschool is not proven to be beneficial for the child in all cases, several studies suggest that child development (measured either by performance at school or by non-cognitive development) is at least not worse in this case than when they are cared for by their parents for the first three years, provided they have access to a high standard of childcare. This statement is especially true for "disadvantaged" families, such as those headed by a single parent, for whom early enrolment of children in childcare services is also found to increase the opportunity of labour market participation, and thus to prevent the risk of poverty (which is detrimental for the well-being of all the family members including children). In any case, access to a high standard of childcare service is crucial to achieving a situation that combines positive impact on both sides of labour market position of parents and children outcomes.

In order to promote access to high quality services, many countries have implemented programmes to support both the development of services and the solvency of households. Some authors have even reported a shift in cash payment to parents to support such broadening of access to childcare in several European countries. One debate is, however, whether the support to families should be provided in cash or in kind.

Support in cash is often argued to provide the main advantage by giving parents the opportunity of a “free choice” of the care solution and by encouraging childcare providers to meet the needs of parents.

However, an emphasis on in-kind support can be defended for three main reasons:

- First, the provision of in-kind programmes can guarantee that the support is actually used by parents to obtain quality childcare services. It can also guarantee that the level of service provided is quite homogeneous whatever the socio-economic status and the place of residence of the family. This argument is based on the traditional paternalistic view of social welfare.

- Second, in-kind programmes are useful to overcome the risk of inefficiency associated with the provision of cash benefits, especially when those benefits are targeted.

- Finally, the development of cash payments often includes subsidies for parents who care for their children themselves during their first years. The existence of such a diversified set of subsidies creates inequalities however: women who are disadvantaged because of their labour market position or the lack of affordable high-quality childcare services are often encouraged to receive parental care allowance, while those with a higher socio-economic position are more tempted to take up benefits supporting the use of formal childcare.

Thus, although cash payments make it easier for governments to respond to the choice agenda, they also imply a diversity of support that has an ambiguous impact on labour market performance, and creates (or reinforces) inequalities.

This observation serves as a transition to a further argument in favour of limiting the period of parental leave: the incidence of parental leave on labour market outcomes of parents (chapter 4). There is now a large body of research showing that career interruption due to children and/or a long period of leave has a substantial negative impact on wage progression and career prospects. Moreover, parental leave is not gender-neutral since women are the main users of parental leave rights. So the objective of gender equity rather supports the idea that the period of parental leave should be kept relatively short. While there is no agreement on what “short” means, some research has found that a period of leave which exceeds one year has a negative impact on the wage level and its future progression. Moreover, attention to gender equity is also a motivation to increase leave take-up by fathers and to encourage equal sharing of parental care between parents. The evidence on how to increase take-up rates is very scarce, however. Nevertheless, three parameters appear to be important: a replacement income proportional to the individual wage; the existence of a non transferable period of leave; and the possibility of dividing the leave into several periods.

Finally, the cost of policies supporting families are often advanced as an argument to limit spending on childcare provision, especially in periods of budgetary restriction and economic austerity. Such a one-sided view, however, remains blind to the potential returns. For that reason, it is certainly preferable to speak with authors like Esping-Andersen or Heckman about “investment” in order to stress two characteristics: first the fact that the amount invested can be expected to generate higher returns in the future; second that children can

be considered as a capital, i.e. an “object” whose value decreases if not cared for, but which generates self-productivity when we invest in it.

The existence of such returns on investments is documented by the literature, but the evidence remains relatively scarce given the difficulty of properly evaluating these returns over the long-run. Results are also rather sensitive to the assumptions underlying such calculations. This being said, examples of such estimations can be given. Cleveland and Krashinsky (1998 and 2003) found that public childcare investment in Canada in 1998 for all children between ages 2 and 5 cost an estimated 5.3 billion of Canadian $ but generated estimated returns of 6 billion of Canadian $ through increased female employment (leading to increased productivity, and economic growth, tax revenue, etc.). For the United Kingdom, PriceWaterhouseCoopers (2003) report a 9% growth in female employment, and ensuing GDP growth, at an initial cost of GBP 3 billion. A recent evaluation concerning Zürich in Switzerland concludes that each franc invested in a childcare centre generates a return of 3 francs through the tax collected after the increase in labour supply. In the same perspective, for the Danish case, Esping-Andersen (2008) considers that there are important rewards for public investments in childcare to prevent over-long career interruptions after childbirth. Returns on investment can be roughly estimated at 43% of initial spending in childcare.

These cost/benefit evaluations can appear as a trivial exercise given that a wider range of outcomes is in fact concerned, and that such evaluations should be made over the longer term. Their interest is however to show explicitly the collective returns generated by such investments. The fact that most of the returns (such as the additional productivity and tax revenues) are received at the collective level may stand as a strong motivation to mutualize the cost of children and to develop public policies supporting families.

Although empirical evidence on the exact effect of policies is lacking, the relationships between the increase in female labour force participation, fertility and economic growth suggest that investments in work and family life reconciliation policies generate profitable dynamics (Chapter 6). There exists a series of theoretical arguments suggesting that gender-specific differences in education reduce a country’s growth. Other theoretical studies investigate the question of how employment and earned income of women promotes growth over generations. A series of empirical investigations have also been conducted on the impact of women’s education, employment and income on macroeconomic growth. Recent theoretical and empirical studies agree that gender-related differences in education, employment and income hinder economic growth. Therefore the indirect costs of children are not only to the disadvantage of mothers and of children’s welfare, but beyond this, the indirect costs are to the disadvantage of the society as a whole. Policies fostering the reconciliation between human capital accumulation and family life can thus be expected to impact positively on growth dynamics in the long run. Moreover, policies that promote a more equal division of professional, household and child care responsibilities between mothers and fathers are, we suggest, a step towards macroeconomic sustainability.

To sum up, the overview presented in this volume tends to conclude that helping parents to bear the cost of children can be positive for all the outcomes considered, provided that policies are designed to reconcile the different aspects of parents’ and children’s lives. We found first evidence that diversified support in paid leave entitlements, in cash benefits and in service provision is certainly a first requirement to achieve such outcomes. A period of parental leave that provides time for parents to care for their children is certainly beneficial for children and for parents who thereby avoid the stressful problem of reconciling work and family life during this period. However, policies that support a rapid return to work have a positive influence in reducing poverty and can have positive impacts on children, provided that high quality and affordable childcare solutions are available. This support is especially important for low-income families, or single parents, for whom the positive impact of early child enrolment in childcare centres or in preschool on both female labour market status and

children's outcomes is clearly acknowledged. The continuity and complementarity of the support, without gaps during the childhood period, are also important dimensions for achieving a combination of positive outcomes: for example, taking a parental leave will not have a detrimental impact on the labour market position of the leave-taker if (i) both parents are encouraged to share the leave, (ii) childcare services are available and affordable at the end of the leave (iii) work schedules are adjusted to family life. The better outcomes observed in countries where support is more comprehensive is also certainly not independent of the capacity of institutions to act as "complementary goods", i.e. the effect of each of them strictly depends on the presence of a consistent set. The challenge is thus to design this set in a way that produces positive outcomes on all aspects simultaneously.

Nevertheless, the provision of such comprehensive support is certainly costly, since the total amount spent for families is already estimated to reach about 4% of GDP in countries where provision is the highest. In this context, most of the European countries may be not able or willing to spend higher amounts to support families. Any kind of programme which promises "universal" access to all the benefits and services has a very low chance of receiving political support. Nor are tax payers likely to give their support to such programmes. This does not mean, however, that all sets of "universal" programmes should be forgone and replaced by "targeted" support. Targeted support is indeed found to be less effective for eradicating poverty, and fails to reach the neediest part of the population. A more realistic and efficient support system would comprise two pillars:

- One first pillar providing "universal" cash and in-kind support to cover basic needs. On one hand, a universal cash benefit would aim to limit the risk of poverty; on the other hand, the provision of a universally-based minimum of childcare services goes some way towards guaranteeing more egalitarian conditions of care and more egalitarian preparation for schooling among young children.
- A second pillar, proposing "targeted" benefits and/or services to meet specific needs and to supplement support in the direction of the population with the highest needs.

Several advantages of a two pillar policy support are proposed in the literature:

- By maintaining a range of universal support measures and covering all categories of families, such a combination is likely to receive more widespread support, even during periods of economic austerity.
- Maintaining a set of universal support measures limits the stigmatisation of families receiving support.
- The combination of the two pillars is likely to create confidence about the sustainability and durability of the system. This confidence is certainly needed to ensure that people use the existing support, and that policy delivery is effective. Confidence also partially explains the success of policies supporting families in countries like the Nordic states or France with a long tradition of government intervention.

One should nevertheless not conclude without pointing up the limits of policies, which should also be kept in mind. It is important to note that public policies cannot do everything. Other actors such as employers are also important pieces in the puzzle to assemble an efficient set of institutions. It is important to consider how workplace practices contribute to balancing work, personal and family life, especially when children grow up (i.e. when public support to families is generally withdrawn). Moreover, rather than focusing solely on policies directly supporting families, one should also consider policies encouraging employers to provide family-friendly workplaces. This is especially important given that some support given to employees can have counter-productive effects if employers have to bear its cost. Such considerations, however, go far beyond the scope of the present report.

Chapter 1

Assessing the costs of children: a challenge for policy

Olivier Thévenon

This chapter provides a review of recent literature on the measurement of the cost of raising children. Methodological issues, and results related to the estimation of both the direct and indirect costs, are presented in the first section. This overview stresses the main determinants of the costs and their relationship with family size, parents' socio-economic status, and other characteristics of household composition (e.g. single parenthood, or support from grandparents). The available empirical estimations of these costs in the European Union are then reviewed in order to illustrate the importance of policy dealing with the different components of the costs of having children, and their evolution over the family life-cycle. While costs of children at younger ages are fairly well documented, the costs associated with the transition period into adulthood are far less so, except in certain countries. The second part of the chapter presents the challenges for public policies which aim to deal with these costs.

The measurement of the cost of children: methodological issues

Most analyses of the economic cost of children and its impact on work and family behaviour have their root in the fertility decision model pioneered by Becker (1960), where demand for children is a function of their costs and of individuals' (or couples') preferences, for a given level of income. Underlying this model is the idea that children are a special type of good, i.e. a long-lived asset that produces a flow of welfare that enters into the utility function of parents. Within this framework, cash benefits and tax credits to families with children can reduce the "private" cost of children. This reduction is expected to have a positive impact on fertility (see chapter 3). Policies reducing more specifically the cost of childcare and/or facilitating the work and family-life balance are expected to impact positively on the development of female employment (chapter 4 and 5).

Direct and indirect costs, individual vs. collective costs

Costs of children and their measurement are of crucial importance in determining the state's contribution to the reduction of these costs to parents. Identifying what parents pay directly for raising their child is however not sufficient. It is also necessary to include implicit child-related costs (higher cost housing, consumption) which have to be taken into account to achieve an estimate of the full cost of children. Basically, these costs may be divided into three groups. Both of the first two groups can be evaluated at the individual level:

- Direct costs which are the additional costs incurred by households with dependent children (i.e. for food, clothing, child care, education housing, etc.).
- Indirect costs that refer to the loss of income incurred by parents as a consequence of the presence of children. They include opportunity costs when the mother drops out of employment or reduces working hours to care for children, or when career prospects decline following birth (family-wage gap). Long terms costs can also be included, such as the costs related to the loss of derived pension rights. These costs are not gender neutral, and therefore accounting for them is also important in order to eradicate gender inequity.

- A second category of indirect costs refers to those implied, at the collective level, by the effect that insufficient investments in childcare or children's education have *indirectly* on human capital and economic growth. Thus, a deficiency of childcare structures can have a negative impact on labour supply through its constraint on relatively highly skilled women, and can consequently hamper economic growth. Such a deficit can also have an impact on fertility decisions with comparable, if not necessarily negative, effects on economic growth (see chapter 5). A deficit in children's health or education can be damaging for future human capital, but also for the transmission of the cultural values and rules of behaviour on which the whole society is grounded. In this context, one motive of public investment in early childhood education and care is to provide services to foster the social and cognitive development of children and to prepare for their future integration into the education system (OECD, 2001; Kamerman et al., 2003; Esping-Andersen, 2008). Positive "externalities" from such investment can be expected for society as a whole, and can lead one to consider children as "public goods".

Measuring the cost of children: a "convention-based" estimation

Measurement of the direct costs of children raises several methodological issues. Estimates of the direct cost of children rely on three main approaches:

- Estimates of the "objective" cost are basically derived from two approaches:
    - a budget analysis that calculates the cost of a standard "basket" of goods and services that a child of a given age is deemed to need.
    - An expenditure-survey approach, which compares the household expenditures of couples with and without children but who have the same standard of living.
- Opinion surveys can also be used to measure a "*subjective*" cost associated with children. Estimates are derived from a representative sample of families through answers to questions about how much children cost.

Expenditure-survey estimates are among the most common and reliable methods. Basically, cost is measured by the loss of a consumption standard due to the presence of children. However, evaluating the direct cost of children is complex, since part of these costs is related to the consumption of collective goods by children, which is not directly observable. The estimation of this full cost also implies that collective consumption is taken into account, according to various hypotheses which can be tested. One challenge in particular is to account for the possible economies of scale involved in consumption when family size increases.

To illustrate this point, one can consider the case of a couple for whom the birth of a child will create new spending to meet the child's needs, but which will be compensated, if household income remains constant, by a decrease in the amount spent to satisfy parental needs. While the costs of children can be approximated to the extra income needed to bring adults back to their previous level of welfare, results differ according to the techniques used to evaluate adults' welfare. The difficulties are basically two-fold:

- the first obstacle relates to the comparison of welfare between households of different compositions;
- the second difficulty relates to the assumptions concerning consumption behaviour that are needed to identify the cost associated with children. The increase in family expenditure is in fact the outcome of decision-making through which families adjust their expenditure following the birth of a child according to a more or less collective process. Individual welfare outcomes depend on this process.

To sum up, the attempt to estimate the direct budgetary cost of children faces obstacles due to the impact of children on consumption patterns: some expenditure components will rise, others will fall, and others yet will be incurred for the first time. Furthermore, the direct costs of children vary with parental income and preferences, with the age and number of children, and with life-style standards. In this context, simple comparison between spending by a couple with and that of a couple without children is misleading for several reasons. One of these reasons is that having a child induces changes in consumption patterns and probably in parental preferences; these changes are also frequently related to changes in labour market status and in the income of parents which have to be controlled for. Moreover, estimating the cost of children raises the problem of determining what proportion of "indivisible goods" (e.g. housing, cars, etc.) should be attributed to a child; a related issue is that an increase in family size is subject to mutualisation of resources that generates "economies of scale" in consumption.

Defining an equivalence scale: a central issue for the estimation of costs of children

Statisticians formalise this idea with the concept of "consumption unit" (CU). Considering a household with several members pooling their resources, each of them reaches a given level of standard of living. If they were living separately, a higher level of individual resources would be necessary to reach the same standard. Thus one can consider that, to reach an equivalent level of welfare, couple families should have the same level of expenditure for the first partner, while the second should spend a lower level of resources, let's say 75% of the previous case. In such circumstances, one may deem that the first partner counts for one "consumption unit" while the second counts for 0.75 CU.

However, the "equivalence scales" that allow one to determine the number of CU in the household (and thus its welfare) vary with the type of good, and with household composition and the related scale returns. Thus, an equivalence scale is a set of coefficients associated with the different types of households. They are used to deflate income or consumption so as to measure them in adult-equivalents. In practice, variations in equivalence scales are estimated according to family size, age of members, and the distinction between adults and children. More detailed scales can be also estimated for specific sub-categories of population (low income families, lone parents, etc.). An equivalence scale is also a measure of the "costs of households' characteristics" obtained by comparing the budget allocation made by households with different characteristics to reach the same standard of living. In particular, equivalence scales provide estimates of the economic cost of children, defined as the supplementary income needed by parents to keep the same standard of living as those without children.

The assumptions required to empirically estimate such equivalence scales are consequently of crucial importance in understanding variations in the estimations of the cost directly incurred by the presence of children. However, the estimation of such scales raises several methodological issues. Different approaches have been considered, with numerous surveys highlighting the underlying advantages, weaknesses and main critical debating issues (Blackorby and Donaldson, 1991; Browning, 1992; Lechêne, 1993; Gauthier, 1994; Ekert-Jaffé, 1994, 1998). As a consequence, the estimation and comparison of the cost of children is based on conventionally accepted scales.

The *Engel approach* is one of the most common methods used to evaluate such an "equivalence scale" and related cost of a child. A unique coefficient is estimated based on the share of expenditure that a family devotes either to food or for clothes. Here the function of food demand is estimated from an econometric equation linking the share of food expenditures in household budget with households' characteristics (number of children, type of dwelling, etc.). The unknown variable here is the level of income of households, while the budget share devoted to food is considered as fixed for households with children and the reference Household to solve the equation. The advantage of this method is simplicity, considering that food expenditure responds to basic needs: its share decreases with income,

and increases with household size; and this increase represents exactly the loss of "welfare" incurred by the increase in family size. One can of course switch the share of food expenditure for the corresponding expenditure in housing, clothing and/or a combination of them. The weakness is that different scales are obtained for each case. The hypothesis that the expenditure share is similar for households with or without children is however controversial (Browning, 1992). As an illustration of this limit, it is sufficient to observe that, for example in France, food expenditures are more than three times higher than average for one-earner-families with three children and for childless couples at age 35 and over (Ekert-Jaffé and Trognon, 1994). Thus, expenditure shares do not only reflect differences in income, but also qualitative differences in consumption, standards of living and possible economies of scale.

Other methods, such as those derived from the *Barten, Prais and Houthakker* or *Rothbarth* approaches, aim to better account for household behaviour:

- Barten (1964) includes the consumption unit directly in the utility functions of the household. The consequence of his model is that any change in household composition is equivalent to a change in the prices of all goods.

- The *Prais and Houthakker* (1955) and *Rothbarth* (1943) analyses aim to take into account the entire range of consumption, topic by topic, and rely on implicit assumptions about the identity of family members consuming a given share of each type of good. The impact of children on the expenditure devoted to food, clothing, transport, leisure, etc. is thus estimated and from this a synthetic indicator is calculated as a weighted sum of the partial estimators. This needs a reference scale for a given good, from which other partial scales can be adjusted. One considers in principle as a reference a consumption good which is not impacted by the presence of children. Spending on clothes for adults is generally considered as such, but more adult-specific goods can be selected such as tobacco or alcohol. One may however consider that consumption on these goods responds to basic needs and that the presence of children does not induce any substitution. The evaluation of the cost of children however varies with the basket of goods that are considered as adult-specific.

Another important restriction is, however, that parents' and children's welfare remains non-distinguished in all these models: thus what is good for children is what parents consider as good for their children, according to their own preference (Deaton and Muellbauer, 1980; Nelson, 1993; Browning, 1992). Moreover, children-specific consumption is generally not included in the Engel model, and has been introduced as a fixed cost by Gorman in a second generation of research.

Empirical evidence on the direct costs of children

An easy and popular estimation of the costs associated with children is, at first glance, provided by the comparison of expenditures by households with children with those by childless households. A recent example of such estimation is given by Bauer and Rettig (2002), with a detailed breakdown by type of consumption, economic situation of parents and age of children, for American people living in urban areas. They compare, for two parent and single parent families, the cost in terms of housing, transportation, clothing, health care and childcare and education. They find that the cost of food is the largest component of the cost of children at whatever age. Childcare and education are the second largest component up to the age of 6 years (whatever the household income) and thereafter transportation costs become predominant. Estimations based on consumption patterns in France also confirm that childcare and education costs as well as some clothing costs decrease with the age of the child (Bellamy, 2007).

However, as previously stated, such a simple expenditure-based approach is misleading because the impact of 'economies of scale' on household welfare is neglected.

Estimations of the cost weighted by adult-equivalent scales are thus needed. Such estimations of these costs exist in several countries (table 1). Although they are based on different methods and values, some general conclusions can be drawn on the variation of costs with households' characteristics.

The cost of children: one quarter of the budget of a childless couple

The first basic result is that the relative cost of a child represents an average of 20 to 30% of the budget of a childless couple, depending on the household characteristics and also on the estimation method (table 1). In France, where the cost of a child has been estimated at different periods, the relative cost of children appeared to be relatively stable over the 1980s and the 1990s.

Moreover, the marginal cost of a child is estimated to decrease with birth parity, due to the economies of scale in consumption consequent on an increase in the size of the household. These "economies of scale" occur especially after the birth of a third child and are mainly due to economies in housing expenditure. In France, the relative cost of a third child seems to have slightly decreased over the 1990s because of increased economies of scale. Consequently, a third child costs relatively less than a first in 1989 and 1995, while the opposite was observed in the late 1970s (Glaude and Moutardier, 1991; Hourriez and Olier, 1997).

Cost increases with the age of children… especially during the transition to adulthood

Another empirical finding is that costs increase with the age of children. The main reason is a change in the composition of household expenditures as the children grow up. Note, however, that the literature has mainly focused on the costs of children before the transition to adulthood, which is also associated with specific needs in leisure or housing expenditure that compete with parents' personal consumption (Ekert, d'Arbonville and Wittwer, 1995). For children before adulthood, the evidence on the relationships between cost and the age of children is relatively mixed: while some evaluation based on subjective scales suggests a rather stable cost from early childhood to the beginning of adolescence, for example in France (Hourriez and Olier, 1997), other estimations using 'objective' scales report an increase with age – but results can be unstable (Glaude and Moutardier, 1991; Van Imhoff and Odink, 1994). By contrast, the increase in cost associated with the transition to adulthood is more clearly identified: a child before the age of 14 costs between 0.10 and 0.20% of household's budget, while older children up to 25 years account for one third of households' budget on average (and as much as 41% when the child is from 20 to 24 years old, e.g. almost equivalent to an additional adult) (Hourriez and Olier, 1997). Changes in consumption patterns are mainly responsible for this increase: the main budget items for young adults concern transport, holidays and education, while spending on food and housing is dominant when the child is younger (Ekert, 1998).

Changes in consumption patterns according to the age of children also raise methodological issues for the estimation of children's costs. For example, since the share of expenditure on food decreases with the rising age of children, Engel's model in which food is considered as a basic need in evaluating the cost of children provides an artificially low estimation of this cost for children over 16 years of age. For this reason, many authors are inclined to estimate the incidence of age on cost from surveys on subjective well-being. Here the end of adolescence emerges as a crucial stage.

A U-Shaped cost?

The sensitivity of equivalence scales to household income is also an issue assessed using empirical evidence. Results are however relatively mixed because (i) they depend on the field of expenditure under consideration, (ii) they are sensitive to the estimation method (i.e. based either on objective or subjective cost), and (iii) they show a rather non linear relation (Deaton and Muellbauer, 1980; Ekert and Trognon (1990); Glaude and Moutardier (1991);

Wittwer, 1993; Hourriez and Olier, 1997; Ekert, 1998). Here again, results for France can serve as an illustration.

Results are affected in the first place by the type of expenditure being studied, as illustrated by Ekert and Trognon (1994) and by Glaude and Moutardier (1991). In both studies, a negative or null correlation between the scale coefficient and household standard of living is found when food expenditures are considered. By contrast, a positive correlation appears when authors consider expenditure on clothes. Wittwer (1993) also emphasizes such a differentiation of results: the food-related scale coefficient does not seem to vary with income, while the impact of children on the relative share of housing expenditure increases strongly with income: higher income households thus appear to increase their housing expenditures more systematically when household size increases. Wittwer also found that the total cost of children increases, *ceteris paribus*, with households' income: the share of expenditure allocated to children increases with household budget. This result argues for the existence of a strong "quality effect" implying that richer households can more easily afford to "invest" in children's welfare, as is depicted by Becker's economic theory.

However, this result has several limitations:

- First, childcare and education spending are generally not considered in these studies, although they are the most relevant expenditures for assessing the effective investments of parents in children's "quality".

- Second, the above identified relationship can bear different interpretations. In particular, the increase in the share of expenditure allocated to children with increasing household income can be related to changes in households' preferences or lifestyle rather than to an increase in the objective cost of children (Blundell and Lewbel, 1991; Lechêne, 1993). Policy implications may be radically different, since only the first interpretation would support an argument for compensation.

- Third, the sensitivity of the cost of children to household income varies within the scale of earnings. Ekert and Trognon (1994) or Ekert (1998) find, for example, that the cost of children varies especially at the extremes of income distribution. With regard to food expenditures, one child can be more costly than one additional adult for the poorest families, while the cost is decreased by one third for the 30% richest families. The sensitivity to income varies, however, with the field of expenditure.

- Fourth, some estimates based on subjective cost produce a rather different picture. Ekert (1998) finds that a slight increase in cost with household income cannot be rejected. However, this global feature hides important variation within income distribution. By contrast, Hourriez and Olier (1997) obtain a relative subjective cost which decreases with household income. Whether this relation is due to effective cost or to varying perceptions is, however, not known.

- Finally, the ''costs of children'' are perceived here essentially as market consumption costs. This ignores the fact that an important, possibly preponderant element of child costs takes the form of parental time, which must be diverted from alternative uses such as market work, other household production activities, and leisure, to care for children. Including the "time costs" of children can double the estimation of the overall cost of children, which may vary according to the distribution rule within households (Apps and Rees, 2002).

The limits of cross-country comparisons

Finally, it is not easy to compare the cost of children from one country to another, since equivalence scales allow comparison of the relative differences in standard of life within one country, i.e. given some cultural characteristics and habits that shape common patterns of consumption. The impact of children on consumption patterns may thus vary according to cultural norms, but also according to differences in the accessibility and affordability of resources for children. Comparison based on purchasing power parity definitions of prices

and standardised equivalence scales, such as the Oxford or the OECD revised scales, can only give a proxy of cross-country differences. These scales are "normative" and are not based on the estimations of households' needs. The OECD revised scale counts the first adult in the household as 1 consumption unit, a supplementary adult as 0.5 and children under 14 years old as 0.3 CU[5]. Compared to the previous scales, the weighting of children was minimised in the evaluation of household welfare (i.e. the returns to scale should be larger)[6]. In spite of this revision, one extreme is to consider all children as equal in the household budget, without any differentiation by birth parity and age of children[7]. However, one can see from the table below that the scale may still overweight the incidence of a first child, and may underestimate the economies of scale related to the extension of the family (that appear especially in France from the 3rd child onwards). Furthermore, the scale underestimates the needs of households with children of 14 or more years old. The comparison of household welfare, and especially of poverty rates, can be impacted by such bias: the understatement of economies of scale tend to underestimate the poverty threshold and the associated rates (Burkhauser *et al.,* 1996; Accardo, 2007).

An increasing cost due to demographic changes?

Some general conclusions on the macro-impact of children on consumption patterns can be derived from the above-mentioned micro-based results when cross-country differences in family structures are taken into account. Thus, one result is that some expenditures are highly elastic to family size, such as those related to food, clothes, leisure, or services; by contrast, the relative share of the budget that concerns housing, cars or domestic cleaning are only slightly sensitive to family size. A consequence is that, for a given level of income per inhabitant, countries with a larger number of large families will spend relatively more on clothes, and less on housing. The share of expenditure on housing is consequently higher in countries such as the Northern European countries and Germany where households are smaller on average (and where housing is also relatively expensive), while in Mediterranean countries where households are often larger, the share of expenditure on clothes is larger. The decrease in household size over recent decades due to the combination of an ageing population, decreasing fertility rates and rising divorce rates tends however to increase the need for housing which is already, and is expected to continue to be, a growing share of households' expenditure.

[5] The Oxford equivalence scale counts each supplementary adult as 0.7 CU and each supplementary child as 0.5 CU.

[6] The main reason for this change is that the Oxford and old OECD scale were elaborated in a period with different consumption patterns. In particular, expenditures for food and clothes were the most important, while housing-related expenditures represented a lower share of household budget. The share of this latter component in household budgets has now increased but is subject to return to scale.

[7] Here again, the estimations for France can be quoted as an illustration. When a linear scale is considered, results confirm the relevance of the OECD revised scale (Hourriez and Olier, 1997). However, compared to the "best" (non linear) scale (i.e. the scale that best fit data), the OECD scale slightly overweights the needs of two or three member households, and underweights those of larger households. A better solution would consist in considering the second adult as 0.4 CU, children under 14 years old as 0.3 CU and other adults, including children of 14 years and over, as 0.6 CU.

Table 1: Equivalence scale for children (compared to a childless couple)

Reference	*Country and year of studies*	*Criteria for measuring standard of living*	*Relative cost of children*			*Remarks*
			1 child	2 children	3 children	
Glaude and Bloch 1983	France 1979		0.19	0.34	0.55	
Glaude and Moutardier 1991	France 1979		0.19	0.42	0.69	
	1984-85		0.26	0.59	1	
	1989		0.22	0.57	0.81	
Hourriez and Olier 1997	France	Engel	0.26			
	1979	Rothbarth	0.26			
	1985	Engel	0.29			
	1989	Rothbarth	0.32			
	1995	Engel	0.30			
		Rothbarth	0.25			
		Engel	0.24			
		Rothbarth	0.36			
	1979	Subjective approach	0.20			Strong increase from age 15.
			0.18			
	1985		0.25			
	1989		0.23			
	1995					
Ekert and Wittwer, 1995 ; Ekert, 1998	France 1984	Engel Rothbarth	0-17 years		18-25 years	
			0.30 / 0.34		0.23-0.27 / 0.35	
	1989		0.29 / 0.33		0.26 / 0.30	
	1995		0.20 / 0.23		0.24 / 0.30	
	1984	Subjective approach	0.17		0.38	
			0.21		0.34	
	1989		0.18			
	1995					
De Santis and Righi 1994	Italy 1987	Engel	0.24		0.53	
Van Imhoff and Odink 1994	Netherlands 1980	Engel / Rothbarth	0.39 / 0.05		0.79 / 0.10	Increase with the age of children on Engel estimates
Starzec 1994	Poland 1973	Prais-Houthakker	0.26			
	Poland 1988		0.23			
Ekert, Gardes and Starzec 2000	Poland					
	1987			0.11		
	1990			0.3		
	within estimates			0.25		Treatment of endogeneity
Deaton, Thomas and ruiz-Castillo	Spain 1981	Rothbarth		0.11		0.11-0.12 for children between 5 and 9 years; 0.15-0.18 for

1989						older children
Deiss 1994	Switzerland 1975-1986		0.24	0.43	0.60	
Muellbauer 1977	UK 1968-73	Barten	0.22			
Muellbauer 1980	UK 1968-73	Prais-Houthakker[(1)]	0.52-1			
Mc Clements 1977	UK 1972-73	Prais-Houthakker	0.22			
Ray 1986	UK	General Cost Scaling	0.12			
Boger 1977	Norway		0.51			

Reading: In France 1979, the first child is estimated to be equivalent to 0.19 adult; the child accounts for 19% of the consumption of a childless couple.

As already stated, such an economic approach to the cost of children is useful in comparing how the presence of children affects the expenditures of households with similar incomes. However some limits to this approach should be considered which are due to the implicit hypotheses on which these estimations are based.

A first limit lies in the constraints surrounding the definition of welfare, which faces several limitations. First, preferences are stated as similar for households without or with children; thus any change in preferences due to the birth of a child is ignored. This may be a serious limitation since the presence of children adds a child-specific component in parental welfare function whose impact depends on the "altruism" of parents (Browning, 1992; Browning and Lechêne, 2001). Moreover, the presence of children is itself a source of welfare, counter-balancing the direct cost of raising children. In extreme cases, a "welfare" cost could be reversed from a positive to a negative value. Thus, a more complete approach should include this impact of children on a household's welfare. Controlling for endogenous fertility decisions would lead to a more accurate estimation of the cost associated with children (Ekert-Jaffé et al., 2000; Browning and Lechêne, 2003).

Another way of putting it is that equivalence scales provide estimations of the cost of children based on conditional preferences (e.g. conditional on the presence of children) but do not allow us to compare unconditional welfare (Blundell and Lewbel, 1991; Lechêne, 1993). In this case, the "normative" content of these estimations is limited since it does not provide any measurement of the needs associated with households' characteristics. Alternative approaches based on a "basket of goods" may be considered more accurate in estimating such needs.

Another hypothesis is that the level of consumption of adult-specific goods relates to the standard of living, which implicitly requires that there is no substitution between goods because of the presence of children. In this case, household welfare can be written as the addition of separable functions of parental consumption, children-specific consumption and the socio-demographic characteristics of households (Deaton and Muellbauer, 1980). There are, however, situations where such a property of "separability" is not verified. On the one hand, the presence of children transforms some consumption, such as food consumption, from individual to collective, the relative price of it rising in comparison to adult-specific goods. One can expect in that case the existence of some substitution of collective consumption by adult-specific goods to balance the income effect due to the presence of children. By contrast on the other hand, economies of scale decrease the relative price of collective goods (such as housing) and thus can entail a substitution detrimental to adult-specific goods (Nelson, 1992).

An additional limit is that the above estimation considers the household as a unitary decision entity, and consequently ignore the question of the differential incidence of child costs on adult members of the household. However, consumption decisions result more surely from a collective rational decision-making process. In this case, the allocation of budget to children

and their related cost depends on the sharing rule of income, depending on the bargaining power of household members (Lechêne, 1993; Apps and Rees, 2002; Browning et al., 2004). Literature on intra-family allocation shows that expenditures on children-specific goods are higher when the control of the household by the female partner is higher (Thomas, 1990; Hoddinot and al., 1994; Lundberg, Pollack and Wales, 1997). Recent developments in welfare comparison of households have been extended to account for equivalence scale within the collective approach to household decision-making (Browning *et al.,* 2006). Conditions for a proper identification of the child related equivalence scale are however not yet derived in this framework, given the complexity of deriving testable restrictions.

Finally, this approach to child-related costs is also limited because it only includes direct (consumption) costs; indirect (or opportunity) costs also have to be considered because they can be even higher than those directly identifiable.

The Indirect costs of raising children

If direct costs may be shared among parents, indirect costs due to the loss of individual income following career interruption fall almost exclusively on mothers. The main aspects of these costs are the foregone earnings due to the interruption in labour market participation, or lower career prospects associated with the raising of children. Because they have to allocate time in work or in care, women often interrupt their labour market participation after the birth of a child, and consequently stop their accumulation of human capital which can even be eroded during the period of interruption (Mincer and Polachek, 1974) and only partially restored after returning to work (Mincer and Ofek, 1982). Moreover, anticipating such an interruption, women may be inclined to "self-select" into jobs where the loss of human capital in case of career interruption is limited (Polachek, 1981). The expectation of discrimination in the labour market can also be an important factor reinforcing such a self-selection process.

The literature provides some estimations of these costs and investigates the determinants of the "family earnings gap", *e.g.* of the foregone earnings which can be attributed to the incidence of children. These investigations are useful in order to explain differences in earnings between mothers and childless women, and between men and women (see chapter 4). Comparative analyses of the difference across European/OECD countries are also available (Davies and Joshi, 1994; OECD, 2001; Harkness and Waldfogel, 2003; Davies et Pierre, 2005; Sigle-Rushtown and Waldfogel, 2007).

All these studies agree in the assessment that, among European countries, the UK and (West) Germany are similar to each other, with higher costs than for example France or Sweden. Davies and Pierre (2005) present estimates of the pay penalty associated with motherhood for 11 European countries using the European Community Household Panel Survey (ECHP). They found that significant penalties in pay also exist in Denmark, Ireland, Spain and Portugal.

Why does the family pay gap vary so much across countries? Differences in wage structure and in job characteristics are of prime importance, compared to differential selection into employment (Harkness and Waldfogel, 2003). Differences in the impact of motherhood on career development are nevertheless important. For example, the family pay gap is larger in the U.K. than in other countries because of the higher propensity of U.K. mothers to work in low-paid part-time jobs and also because, even among full-timers, women with children are lower paid relatively to mothers in other countries (Harkness and Waldfogel, 2003; Sigle-Rushtown and Waldfogel, 2007). Davies and Pierre's findings for Germany (using the German Socio-Economic Panel) and the UK (using the British Household Panel Survey) also reveal that career breaks contribute to lower earnings growth. While periods of family formation are associated with lower earnings growth in Germany, in the UK completed spells of family formation are associated with a recovery in earnings growth.

By contrast, the child-specific component of the earning gap is much lower in France for example than in the previous set of countries. The main reason is that children particularly

affect labour market participation, and consequently labour market experience, but have little or no significant impact on the rewards of job experience and on job selection. In this context, the wage gap between women and men is mostly explained by differences in labour market experience (due to the presence of children) and not to differences in the returns on this experience or to a selection effect (which may be partly due to discrimination) (Meurs *et al.,* 2007).

As will be discussed in more detail in chapter 4, differences in work and family-life balance policies are part of the story explaining cross-country differences in the earnings cost of motherhood. On the one hand, these policies can facilitate the combination between work and care by providing parents with benefits, services or time. Thus, balancing policies can limit the impact of children on women's labour market interruption. On the other hand, these policies can also limit the impact of children on self-selection mechanisms and on productivity at work. By doing so, they may help to limit discriminatory practices among employers that affect women's career development.

The other macro-level indirect costs can be less easily estimated, being not directly quantified by the literature. As already mentioned, they concern the impact of children on economic growth through their impact on the development of female employment and fertility decisions. Thus, if the literature investigates the relations between fertility dynamics, female employment and economic growth, no simple quantification of a cost for the society can be derived from these analyses. Chapter 6 will review this literature, arguing that collective returns in "growth" can be expected from investments in childcare and child "human capital".

This economic cost-benefit approach should not minimise the other aspects of well-being that are also at stake. The well-being of children, the satisfaction of parents with their work-life balance, equity across individuals, and more generally the development of "happiness" within the society are also related challenges raised by the evaluation of the costs, benefits and impacts children have for society. All these economic and social aspects have to be considered when assessing the role of policies supporting parents and children.

Why and how policies should deal with the cost of children?

The evidence presented in the first part has shown that standard estimation of the "cost of children", measured as the loss of standard of living due to the presence of children in the household, is relatively high: children account for roughly between 20 and 30% of the budget of the household, but this cost depends on a number of factors such as family income, age of children, education, and bargaining process within the household. Although quite large already, this standard estimation underestimates the actual cost of raising children since it does not consider the indirect costs which are associated with time allocation to children, labour market interruption and potential other consequences of children on parental career prospects. Since only children up to the age of 14 are taken into account, such an estimation also minimises the cost in education, housing, etc. associated with the presence of an adolescent or due to the transition to adulthood.

The overall cost of children thus includes many dimensions that have to be clearly identified in order to assess the impact of policies helping parents to bear that cost. Such an assessment requires entering into the black-box of the household in order to understand how policies impact parental decisions relating to children and to their own well-being. The objectives fulfilled by policies are also of crucial importance to assess their impact.

One can identify 6 broad categories of objectives for policies supporting families:

- Compensation for the cost of children, in order to limit the gap in standard of living between households with and without children
- The reduction of poverty faced by families and children.

- The promotion of children's well-being, cognitive and social development
- The support to fertility, by helping adults to achieve the number of children they want.
- Increase in female employment rates and creating a balance between work and family life. In that case, support to families is not only supposed to "compensate" for the cost of children, but to "enable" parents to combine work and care.
- The promotion of gender equity, especially concerning childcare and labour market outcomes

These objectives are not independent but can be conflicting, and since their importance can vary from one country to another, any assessment of policy impact will depend on the priority given to some of these objectives and on how they are packaged together. The overall assessment of policies relates to the balance achieved between the different areas of outcomes.

Cross-country comparison shows that good performances in the different areas of outcomes can be achieved simultaneously. Thus, higher rates of fertility, female labour market participation, and lower poverty rates are found in countries where support to families is comparatively comprehensive, provided quite continuously over childhood, and based on a wide range of support. Better achievements in all these areas appear to depend on how leave entitlements after the birth of children, support in cash for needy families, the provision of both high quality childcare and after-school care services and flexible arrangements at the workplace for working parents are combined over the family life-cycle. However, the balance between these different types of policy support still varies quite widely, in accordance with the variations in policy orientations and frameworks.

Several socio-economic arguments are emphasized in the literature as legitimising policies supporting parenthood. The existence of positive externalities benefiting parents as well as childless individuals is a first argument for "mutualising" the cost of raising and educating children. These externalities can be due either to the presence of children or to higher children's social capital. First, the presence of children generates such externalities through intergenerational transfers from children to the elderly, such as those involved in pensions systems. Positive externalities on childless individuals' well-being derived from raising children's human and social capital can also be expected through their impact on economic growth or on social behaviour. Thus, benefits can easily be perceived as collective, but there is no guarantee that everybody will share the same willingness to pay for children. In this case, children can be considered as a public good for which state intervention can guarantee that the cost is collectively shared.

However, policy intervention faces several challenges. A first challenge is to define the right balance between the different types of support; this remains a widely debated issue, with many questions still unanswered. Two dimensions are in fact at stake when assessing such impacts:

- The issue of policy effectiveness, which refers to the propensity/ability of eligible beneficiaries of policies to take up their entitlements to rights or benefits. We thus consider here the extent to which policy has an impact because individuals make use of their entitlements and rights, whatever the result is;
- Considering the results themselves raises the issue of policy efficiency, which involves considering whether the support produces the *expected* outcome. The issue of efficiency cannot considered without reference to policy choices.

Achieving an efficient combination of policy instruments also raises other issues.

Balancing compensation for the cost of children with income redistribution

One first issue lies in the balance achieved between three objectives fulfilled by income-support to families: compensation for the cost of children, income redistribution, and reduction of family poverty. The first objective tends to encourage the provision of income support that increases with household income, with possible anti-redistributive consequences; by contrast, the aim of reducing inequalities and poverty tends to limit the extent to which compensation increases proportionally with the effective cost.

How progressive should the compensation provided by the State be in relation to the cost of raising children? The answer would be clearer if the only objective were the full compensation of the economic cost of children, in order to guarantee that the standard of living is not reduced after the birth of children: since, as stated above, this cost increases with household income, the compensation provided by public transfers should increase with household income, proportionally to the increase of the estimated "cost". This argument lies, for example, at the basis of the French system of "quotient familial" that guarantees tax breaks for families with children that increase with household income. This mechanism is set to guarantee "horizontal equity" in the tax system, i.e. households with and without children pay taxes according to their capacity to contribute to the overall payroll. The limits which should circumscribe these tax breaks and the extent to which they should or not focus on larger families is however a debated issue (Glaude, 1991; Sterdyniak, 1992). Giving priority to cost compensation would support an increase in household income, whether full compensation was the objective or not.

Other concerns however,enter into consideration when dealing with the design of support to families with children. Such a design involves more normative arguments and depends on how the issue of cost compensation is combined with other objectives.

One such other consideration is the extent to which the principle of "horizontal equity" is combined with the objective of vertical redistribution in the overall policy of cash transfers. The balance between horizontal and vertical redistribution will depend on the extent to which family policy is considered as part of the redistribution process. In this context, compensation for the cost of children can be balanced with other aspects of redistribution that limit the extent to which policy aims at compensating for this cost. However, these limits involve some "normative" criteria that delimit the "cost" which can be taken as a reference to define an acceptable level of compensation. Several definitions of such costs can be agreed within a society. In this perspective, Albouy and Roth (2003) and Le Minez and Roth (2007) considered the cost of children under "average social conditions", defined as the average for different family compositions of the cost of an additional child for families earning approximately the median income. They show, for example, for the French case that this "normalised" cost is more frequently fully compensated by the overall set of tax breaks and cash benefits available to the upper quartile of families.

A related issue is also how this compensation is combined with the objective of poverty reduction, and especially the reduction of children's poverty. Cross-country evidence shows that transfers contribute importantly to reducing child poverty: in OECD countries these average 16.3% before transfers to 9.2% after transfers (Whiteford and Adema, 2007). Moreover, the fact that all countries with very low child poverty rates (less than 5%) combine low levels of family joblessness and effective redistribution policies supports the view that successful anti-poverty strategies should seek a balanced approach combining improved benefits where necessary with improved incentives to work. There is, however, a large variety of ways in which support to families with children is related to anti-poverty policies. Three dimensions are of importance in mapping the different combinations of state policies to support families: the extent to which family benefits are combined with (or even integrated into) in-work benefits; the extent to which the support is or is not targeted at specific populations or specific needs; the balance achieved between cash benefits and the provision of services.

Combining universal and targeted support

So what is the most appropriate means to reduce income inequality and reduce poverty? The advantages and disadvantages of targeted *versus* universal support to families is another issue discussed in the literature. Basically, at least two arguments are advocated to promote targeted programmes of support. The argument of fairness comes first, to defend programmes that prioritise benefit to the population in need rather than universal programmes that may benefit the whole population equally. On the other hand universal support can particularly benefit those who really need support, while the section of the population with specific needs can be deterred from claiming their entitlements. Budgetary restrictions are also one of the main concerns in deciding whether entitlements or benefits should or should not be, exclusively or mainly, reserved for a specific population. Given such restrictions, the aim of universal programmes is to maintain a minimum level of income for all individuals, at a reasonable cost to government; targeted programmes, on the other hand, are aimed at providing more extensive support to a more limited section of population. The increased pressure on budgets is certainly one reason for the increase, observed in OECD countries, in the share of targeted support within programmes of support. By contrast, means-tested benefits are found to be the first to be cut during a period of recession or economic austerity (Nelson, 2007).

There are, however, several arguments to dispute the efficacy of such targeting. Smolensky and al. (1995) outline several costs that may offset the potential budgetary benefits. One limitation to the adoption of targeted programmes is that they may in fact be administratively expensive, although costs can be reduced by screening out certain categories of recipients and providing benefits in such a way that only the targeted group select into the programme while others select out (Mitchell, 1997).

Another limitation is that targeting may be socially divisive to the extent that it divides society into those who give and those who receive. Conversely, programmes that offer universal benefits may enjoy greater political support. Increasing the scope of means-tested benefits can create a ‘dualisation” of social protection and reinforce the divide between those who receive benefits and those who pay for them. This sort of divide creates the conditions for a self-reinforcing process of disintegration of social protection (Damon, 2008).

A third limitation is that targeting is subject to imperfection (Currie, 2004). Some of those who take up benefits will not deserve them, and some of those who are eligible for benefits will not take them up. A basic reason is that individuals eligible for means-tested programmes face costs which can be sufficient to deter some individuals from using them. People will not take up benefits if these costs outweigh the expected benefits. One illustration of this type of cost is the “stigmatization” of the population receiving social assistance or targeted support. This “stigma” can involve a psychological cost that may deter rational actors from taking up their rights to benefit or specific support (Moffitt, 1985). Paradoxically, targeted policies can produce negative and counterproductive signals about precisely the specificities of the population that these policies are supposed to eradicate. Transaction costs incurred in checking that individuals fulfill the requirement to receive benefit can also deter people from claiming for it. This cost can be highest for precisely those individuals in greatest need and in cases where the beneficiary (the child or young adolescent) is not the person who bears the cost. In the face of this agency problem, it could be rational to provide benefits in kind rather than in cash (Currie and Gahvari (2008). Furthermore, the management costs involved in making the information available to the needy person and in reaching the individuals with the greatest needs may also be very high.

Last but not least, the efficiency of a targeted policy as compared to a universal benefit programme for poverty reduction has been disputed (Goodin, 1987; Palme and Korpi, 1998; Gilbert, 2001; Math, 2003). Better outcomes are found to be achieved where where benefits are distributed on a universal basis.

Enabling parents to work and care with a balanced support in child-related leave, cash benefits and childcare services

The "optimal" balance between the support provided through the entitlement to a post-birth period of leave for working parents, the support received in cash or in-kind and the provision of childcare services is also not straightforward.

Here again, the "optimal" policy package will depend first and foremost on the balance achieved between the different objectives of policy intervention. One important aspect is thus the articulation and emphasis given to either the education of young children or to work-life balance, together with the consideration of equity.

Second, the guarantee for parents of a period of paid parental leave after the birth of children has, been found to have a positive impact on children's outcomes; including the reduction of health problems and an improvement in cognitive development (see details in chapter 5). By contrast, research on maternal employment often finds that paid employment during the child's infancy has a deleterious impact on cognitive development. However, these results depend on the quality of the time invested by parents in caring for their child, and on the quality of services that can be substituted for parental time. Moreover, the employment of parents, notably of mothers, is found to have a positive effect on children living in "disadvantaged" conditions, such as living in lone-parent households. The "degree of disadvantage" of the context also refers to different characteristics of the family members, their life-style or their environment, with variations from one study to another. It can refer, for example, to the socio-economic background of parents, household composition, home environment, ethnic origin, or to the lack of high quality care services.

Several considerations tend, however, to counter-balance the above statement and to support a limit to the length of parental leave. The benefit for children of early collective centre-based childcare stands as an argument against the role of parental time in the development of their children. Thus, there is also evidence that high quality formal day care in the year prior to kindergarten increases school readiness, and also non-cognitive development. This statement leads some authors like Heckman and Masterov (2007) to emphasize the "productivity grounds" of the investment in early childhood, especially in the direction of disadvantaged children. As stated by the two authors, "*investing in disadvantaged young children is a rare public policy with no equity-efficiency trade-off. It reduces the inequality associated with the "accident" of birth and at the same time raises the productivity of society at large*". The authors also underline the productivity of early investment. Thus, they consider that this investment may be the most effective policy for improving a society's human and social capital: "*at lower cost to society, supported families will produce better educated students, more trained workers and better citizens*".

Furthermore, although early enrolment, i.e. within the first two years of life, in a childcare centre or preschool is not proved to be good for the child in all cases, several studies suggest that child development (measured either by performance at school or by non-cognitive development) is at least no worse than when a child is cared by its parents for three years, provided there is access to a high standard quality of childcare. This statement is especially true for "disadvantaged" families, such as those headed by a single parent, for whom an early enrolment of children in childcare services is also found to increase the opportunity of participation in the labour market, and thus to lower the risk of poverty (which is detrimental to the well-being of all the family members including children). In any case, access to high quality childcare services is crucial in order to ensure positive labour market outcomes for both parents and children.

A further argument for limiting the period of parental leave is the impact of parental leave on the labour market outcomes of parents (see details in chapter 4). Thus, there is now a large body of research showing that career interruption due to children and/or a long period of

leave has a substantial negative impact on wage progression and career prospects. The incidence of parental leave is, in addition, not gender-neutral since women are the main users of parental leave. An interest in gender equity therefore tends to support the idea that the period of parental leave should be relatively short. While there is no agreement on what "short" means, some research has found that a period of leave which exceeds one year has a negative impact on wage levels and their future growth. Moreover, the attention to gender equity is also a motivation to increase fathers' take-up of parental leave and to encourage equal sharing of parental care between parents. Evidence on how to increase take-up rates is however very scarce. Nevertheless, three parameters appear to be important: a replacement income proportional to the individual wage; the existence of a non- transferable period of leave; and the possibility of spreading the leave over several periods.

Combining support in cash and in kind

Another important issue in achieving an efficient policy mix is the extent to which support should be provided in-cash or in-kind. In many countries, the extension of support has been mainly driven by an increase in cash benefit. One reason may be the relative reluctance of policy analysts to recommend transfers in-kind, as stated by Currie and Gahvari (2008) who observe that "*Economists have traditionally been sceptical about in-kind transfers, viewing cash as superior in terms of recipients' utility*". However, many possible justifications for in-kind programmes have been put forward in the literature.

In order to promote access to high quality childcare services, many countries have implemented programmes to support both the development of services and the affordability of services. Some authors have even reported a shift in cash payment to parents to support increased access to childcare in several European countries (Lewis et al., 2008). Support in cash is often argued to provide the main advantage of giving parents the freedom to chosse their care solution, and of encouraging childcare providers to meet the needs of parents. However, an emphasis on in-kind support can be defended for three main reasons.

First, the provision of in-kind programmes can guarantee that the support is actually used by parents to obtain childcare services with a minimum standard of quality. It can also guarantee that the service provided is quite homogeneous whatever the socio-economic status and the localition of the family. This argument refers to the traditional "paternalistic" view of social welfare: if members of a society care about the situation of the poorest, then the unconstrained choices of the poorest may at times imply negative externalities for those who care for them (Currie and Gahvari, 2008). Transfers in-kind introduce some kind of social control in order to reach Pareto-efficient outcomes. Note that the paternalistic argument assumes particular force when the intended recipient of a transfer programme is a child but the transfer goes to parents. Parents may not take full account of the utility of their children when making decisions, or they may neglect to factor in externalities. For example, suboptimal spending on children's education may lead not only to poorer individual prospects, but also to slower economic growth.

Second, programmes in-kind serve to overcome the problem raised by the existence of imperfect information (this is the main point raised by Currie and Ghavari, 2008). In this situation, the provision of cash benefits, especially when they are targeted[8], is likely to be inefficient. By contrast, transfers in kind are likely to stimulate "self-targeting" and so to discriminate between needy and non-needy persons[9].

[8] Universal programmes will evidently cover all needy persons, but at a cost of covering those who are not needy as well. By contrast, targeted programmes may well miss some needy individuals. One challenge is therefore to identify accurately those who are needy, although there is no guarantee that governments can so identify them. If cash is offered, all individuals have an incentive to claim they are poorenough to receive it, making cash subsidies an inefficient tool.

[9] To achieve self-targeting, one must offer the public a good that appeals only to the intended recipients. In some instances, the nature of the good may suffice to ensure this. In many other cases, everyone may want to consume the good subject to transfers and one cannot rely on the nature of the good to separate those who should receive it from those who should not. The "trick" to achieving self-targeting in these cases is to "package" the good in such a way as to impose costs on the recipients

Finally, the development of cash payments often includes subsidies for parents who provide early years' care for their children. However the incidence of such a wide range of subsidies creates inequalities: women who are disadvantaged because of their labour market position or the lack of affordable high quality childcare services are often encouraged to receive cash payments, while those with higher socio-economic positions can use childcare subsidies. Thus, although cash payments make it easier for governments to respond to the choice agenda, they also lead to a range of support that has an ambiguous impact on labour market outcomes, and creates (or reinforces) inequalities (see further details in chapter 4).

Designing family policies like "investments"

Finally, the costs of policies to support families are often considered as arguments for limiting the spending on childcare provision, especially in periods of budgetary restraint and economic austerity. Such a one-sided view however is blind to the returns that can be expected. For this reason, it is certainly preferable to speak about "investment", as is the case with authors like Esping-Andersen (2002) or Heckman, in order to stress two characteristics: first the fact that the amount invested can be expected to generate higher returns in the future; second that children can be considered as capital, i.e. as an "object" whose value decreases if not cared for, but which generates "self-productivity" when invested in.

The existence of such returns on investment is documented by the literature, but the evidence remains relatively scarce given the difficulty of properly evaluating them in the long-run. Results are also rather sensitive to the assumptions underlying such calculations. Examples of such estimations may be provided to illustrate this. Cleveland and Krashinsky (1998 and 2003) found that public childcare investment in Canada in 1998 for all children between 2 and 5 would have cost 5.3 billion, but would have generated 6 billion returns by means of an increase in female employment (leading to increased productivity, and economic growth, tax revenue, etc.). For the United Kingdom, PriceWaterhouseCoopers (2003) reports a 9% increase in female employment, and ensuing GDP growth, at an initial cost of GBP 3 billion. A recent evaluation from Zürich in Switzerland concludes that each franc invested in a childcare centre generates a return of 3 francs through the tax collected as a result of increased labour supply. In the same vein, in the Danish case, Esping-Andersen (2008) considers that there are important benefits from public investments in childcare aimed at preventing over-long career interruptions after childbirth. The return on investment can be roughly estimated as 43% of the initial spending on childcare[10].

These costs/benefit evaluations can appear as a trivial exercise given that a wider range of outcomes is in fact concerned, and that such evaluation should be made over the longer term. Their interest is however to show explicitly the collective returns generated by such investments. The fact that most of the returns (such as the boost to productivity, or to tax revenues) are realised at the collective level may stand as a strong motivation to mutualize the cost of children and to develop public policies supporting families. Moreover, long-term returns on these investments in human capital in the form of children and women can be expected from the inter-relationship between the increase of female employment, fertility stabilisation and economic growth (see chapter 6).

(actual and potential). As long as the costs are calibrated to fall more heavily on the non-targeted group, if they choose to participate, only the targeted group will be prepared to endure them and take up the good. Note also that the costs may be in terms of restriction on quantity, or on quality, or on time.

[10] In Denmark, the cost of two years of childcare added to three years of preschool for an household having two children can be evaluated at 72.850 Euros; if a woman earning the average wage keeps her job during this five year period, she will gain 114300 Euros and possibly 200.100 if the whole life-cycle is considered. This implies an additional amount of tax revenue of 40.000 Euros for the 5 years of full-time employement, and of 110.000 Euros over the life cycle. The total returns for public intervention is thus 37.150 (110.000-72.850).

Conclusion

The evidence presented in the first part of this chapter has shown that the standard estimation of the "cost of children", measured as the loss of standard of living due to the presence of children in the household, is relatively high: children account for between 20 and 30% of the household budget, but this cost depends on a number of factors such as family income, age of children, education, and the bargaining process within the household. Although already quite large, this standard estimation underestimates the actual cost of raising children since it does not consider the indirect costs associated with caring for children, labour market interruption and potential other consequences of children on parental career prospects. Also, since only children up to the age of 14 are taken into account in the estimations, it also minimises the cost of education, housing, etc. associated with the presence of an adolescent or due to the transition to adulthood.

The overall cost of children thus includes many dimensions that have to be clearly identified in order to assess the impact of policies to help parents to bear that cost. Such an assessment requires entering into the black-box of the household in order to understand how policies impact on parental decisions relating to children and to their own well-being. The aim of policy objectives is also of crucial importance in assessing their impact.

The chapter has argued that policy to support parenthood should be assessed with regard to the balance achieved between different outcomes relating to income distribution, children's well-being, parental labour market status and fertility decisions. We raised arguments supporting the idea that an efficient policy design should be made up of a mix of parental leave and support in cash and in kind. Universal programmes offering support in kind can be overcome the risk of inefficencies related to 'targeted' programmes with benefits in cash.

To sum up, this overview concludes that helping parents to bear the cost of children can be positive for all the outcomes considered, provided policies are designed to reconcile the different aspects of parents' and children's lives that are at stake. We found evidence that a range of support made up of paid leave entitlements, cash benefits and service provision is certainly a first requirement to achieve such outcomes. A period of parental leave that provides time for parents to care for their children is certainly beneficial for children and for parents, who avoid the stressful problem of trying to achieving work-family balance during this period. However, policies that support a rapid return to work have a positive influence in reducing poverty and can have positive impacts on children provided high quality and affordable childcare solutions are available. This support is especially important for low income families, or single parents, for whom the positive impact of an early formalised childcare (via childcare centres or preschool) on both female labour market status and children's outcomes is clearly recognised. Continuity and complementarity of support, without gaps within the childhood period, also seem important dimensions in achieving a combination of positive outcomes: for example, taking parental leave will not have a detrimental impact on the labour market position of the leaver if (i) both parents are encouraged to share the leave, (ii) childcare services are available and affordable at the end of the leave (iii) working times are adjusted to family life. The better set of outcomes observed in countries where support is more comprehensive is also certainly not independent from institutions' ability to tend to act as "complementary goods", i.e. the effect of each of them strictly depends on the presence of a consistent set of others. The challenge is thus to design this set in a way that produces positive outcomes for all aspects simultaneously.

Nevertheless, the provision of such comprehensive support is certainly costly, since the total amount spent to support families is already estimated to reach about 4% of GDP in countries where it is the highest. In this context, most of the European countries may be unable or un willing to spend higher amounts to support families. Any kind of programme which promises

"universal" access to all benefits and services has only a very low chance pf receiving political support. Tax payers are also unlikely to give their support to such programmes. This does not mean, however, that all sets of "universal" programmes should be forgone and replaced by "targeted" supports. Targeted support is in fact found to be less effective as a programme to eradicate poverty, and to fail to reach the neediest population. A more realistic and efficient support would be a system organised in two dimensions:

- The first dimension providing "universal" support in cash and in kind to cover basic needs. On the one hand, universal cash benefits would aim to limit the risk of poverty; on the other hand, the provision of a universally-based minimum of childcare services would guarantee equal conditions of care and equal preparation for school for all children.

- A second dimension, offering "targeted" benefits and/or services to meet specific needs and to enhance support in favour of the population with the greatest needs.

Several advantages of a two-dimensional framework can be mentioned as a conclusion. First, by keeping a range of universal support, such a combination is likely to receive wider political and public support, even in a period of economic austerity. Maintaining a set of universal supports would also limit the stigmatisation of families receiving support. Moreover, the combination of two dimensions is likely to create confidence about the sustainability and durability of the system. This confidence is certainly needed to encourage people to use the existing support, and so to make the policy effective. It is also certainly partially explains the success of policies to support families in countries like the Nordic ones or in France where there is a long tradition of such support.

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Chapter 2

Family policy instruments helping to cope with the cost of children

Antoine Math and Olivier Thévenon

The Chapter presents an overview of the available knowledge on the relative importance of various forms of support for parenthood. This overview explores more particularly the data provided by the ESSPROS Eurostat database and discusses the validity of the database and methodological issues, suggesting improvements for the future.

Policies helping families to cope with the cost of children take the form of different instruments.

The generally accepted 'core' of family policies includes three broad kinds of measures:

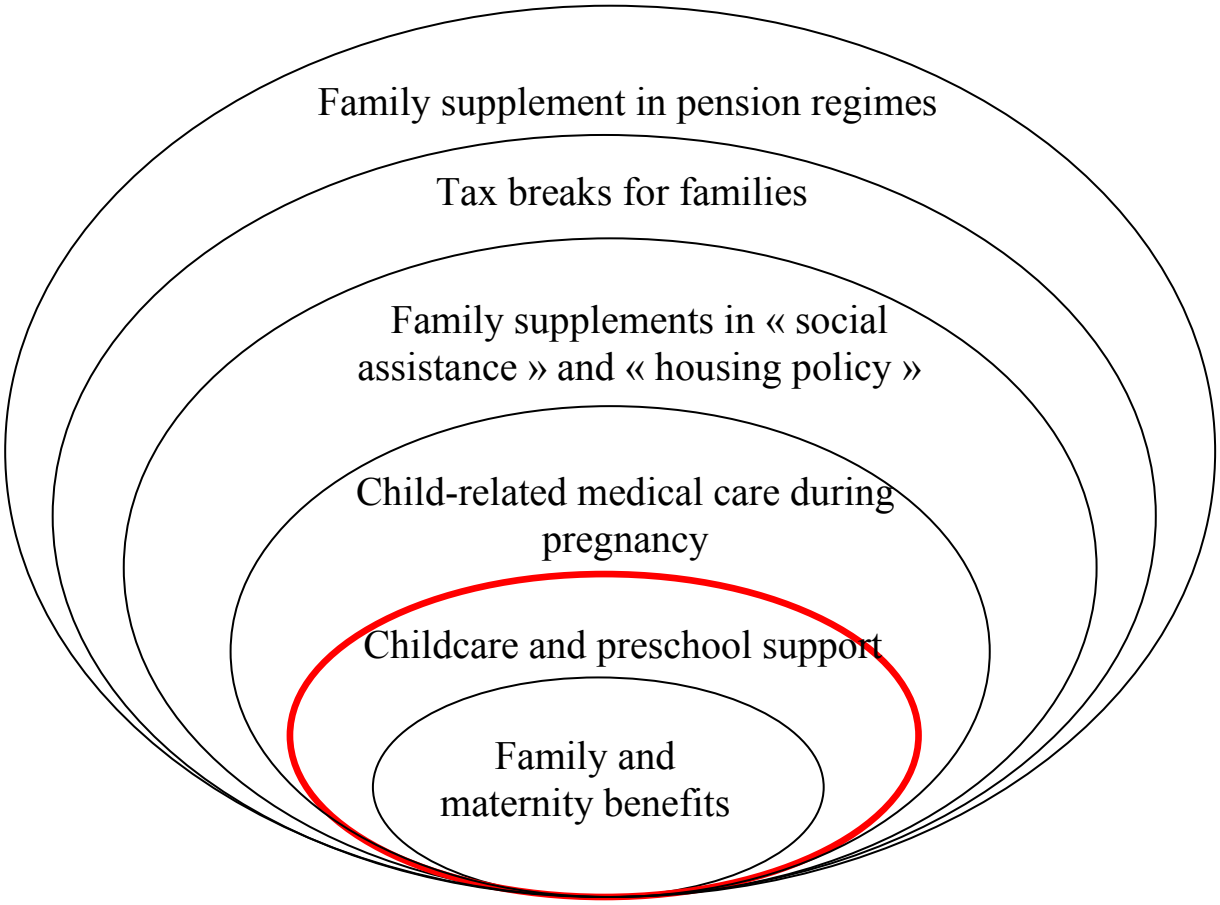
- Cash support to families, through social benefits and/or tax relief that compensate for the costs associated with raising children.
- Support in kind or services in the form of education, care and supervision for young and older children. Policy instruments may take the form of the direct provision of services and/or the subsidisation of services, but may also take the form of tax relief and cash benefits to help families to pay for services.
- Family-related leaves and associated payments provided to parents who care for their children (maternity, paternity, parental leaves, leaves to care for a sick or handicapped child, etc.).

However, there is some disagreement about the range of policy instruments that should also be included in the evaluation of family support. Other provisions are often mentioned in research because they may help households with children and may be included within the perimeter of "family policies":

- Social protection provisions other than "family/children" benefits are excluded from this additional calculation because they do not exclusively focus on families with children, even if they have a clear effect on them: for example supplements for children in housing benefits and social assistance benefits, health insurance coverage for children, supplements for pensions, etc.
- Tax relief not exclusively focusing on families with children, such as joint taxation of married couples.
- Education expenditure is generally not included although it may be important, in particular in countries where it may be a substitute for childcare arrangements for very young children under the age of compulsory school ('play school').
- Working and employment conditions other than leaves, whether they are determined by legislation or collective bargaining.

There is also a debate about how private expenditure (e.g. by employers, childcare providers) should be included to measure the investment in families.

The different "circles" of family policies



In the following, we focus on three "core" kinds of measure to support parents in coping with the cost of children. For each broad set of measures, we will start by presenting the comparative information provided by the Eurostat social protection expenditure database and complement this with some other broad information on the three main sets of policy instruments.

An overview of social spending for families and children in EU countries

The Eurostat social protection expenditure database (ESSPROSS) provides a comprehensive and coherent description of social protection. It was developed in the late '70s by Eurostat jointly with representatives of the Member States. The first methodology was published in 1981, revised in 1996 and small adjustments published in 2008.

This database has several advantages:

- good comparability due to a precise and tested methodology ;
- regular production of data, useful in analysing trends over time
- a large geographical scope with data now concerning 30 Member States, all EUMember States plus Norway, Iceland and Switzerland.

The ESSPROS figures on expenditure are classified in to 8 functions:

1. Sickness/Health care
2. Disability
3. Old age

4. Survivors
5. Family/children
6. Unemployment
7. Housing
8. Social exclusion not elsewhere classified**.**

The “family/chidren” function is defined as “support in cash or kind (except health care) in connection with the costs of pregnancy, childbirth and adoption, bringing up children and caring for other family members”. It includes benefits that:

- provide financial support to households for bringing up children;
- provide financial assistance to people who support relatives other than children;
- provide social services specifically designed to assist and protect the family, particularly children.

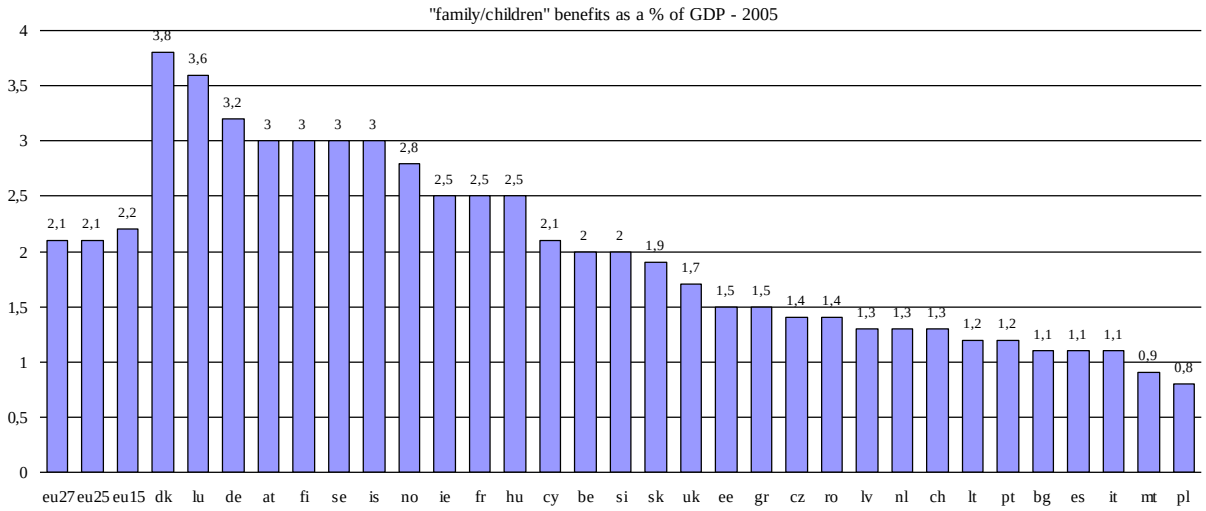
The following table and graphs present the total “family/function” social benefit expenditure that can be obtained from this database from the most recent available data (2005).

As a whole, there are strong differences between countries as regards the « family/children » benefits: the amounts vary from 0.8 % of GDP in Poland up to 3.8% in Denmark in 2005. The EU average is 2.1 % of GDP. As a percentage of total social protection, total family/children benefits amount to 7.7 % in 2005 in the EU, ranging from a minimum of 4,2 % in Italy up to 16.5% in Luxembourg.

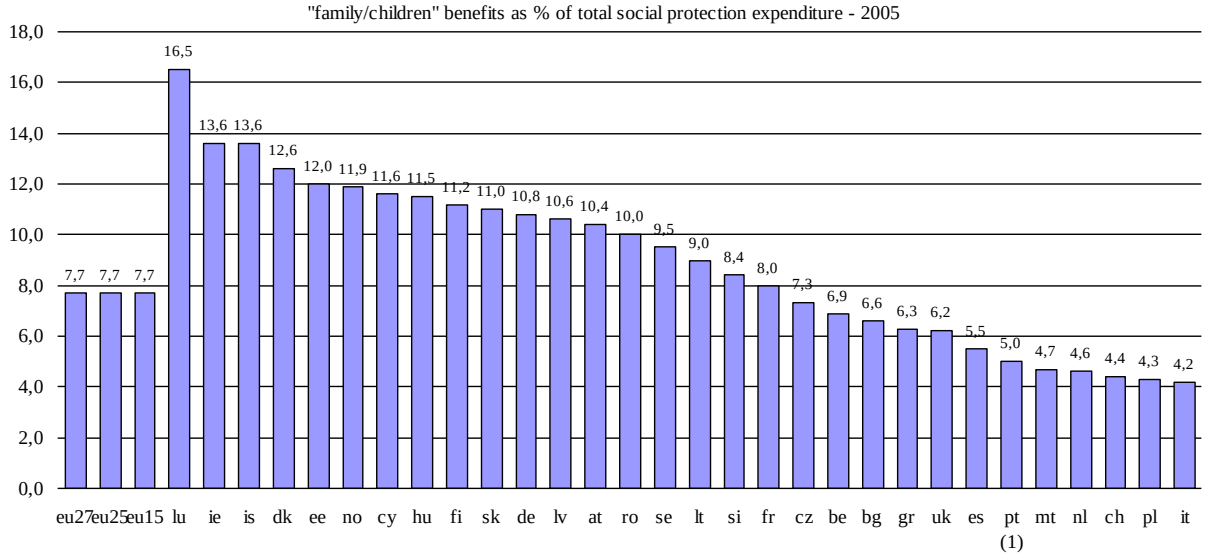
Family/children social protection benefits (as % of GDP) - 2005

	Total	*as a % of total social protection expenditure*	Non means-tested benefits	Means-tested benefits	Benefits in kind	Benefits in cash during leaves (2)	Other cash benefits
eu27	2,1	*7,7*	1,5	0,6	0,6	0,3	1,2
eu25	2,1	*7,7*	1,5	0,6	0,6	0,3	1,2
eu15	2,2	*7,7*	1,6	0,6	0,6	0,3	1,2
be	2,0	*6,9*	2,0	0,0	0,4	0,1	1,6
bg	1,1	*6,6*	0,5	0,6	0,1	0,4	0,6
cz	1,4	*7,3*	0,9	0,5	0,2	0,6	0,6
dk	3,8	*12,6*	3,6	0,2	2,2	0,5	1,0
de	3,2	*10,8*	2,2	1,0	0,8	0,2	2,2
ee	1,5	*12,0*	1,5	0,0	0,1	0,7	0,7
ie	2,5	*13,6*	1,6	0,8	0,3	0,1	2,1
gr	1,5	*6,3*	1,1	0,5	0,5	0,3	0,7
es	1,1	*5,5*	0,8	0,3	0,7	0,2	0,2
fr	2,5	*8,0*	1,6	0,9	0,5	0,4	1,6
it	1,1	*4,2*	0,7	0,4	0,5	0,2	0,4
cy	2,1	*11,6*	2,1	0,0	0,2	0,1	1,8
lv	1,3	*10,6*	1,3	0,0	0,2	0,6	0,5
lt	1,2	*9,0*	1,1	0,1	0,4	0,3	0,5
lu	3,6	*16,5*	3,6	0,0	0,5	0,4	2,7
hu	2,5	*11,5*	2,3	0,3	0,6	0,6	1,3
mt	0,9	*4,7*	0,1	0,7	0,1	0,0	0,8
nl	1,3	*4,6*	1,2	0,1	0,7	0,0	0,6
at	3,0	*10,4*	2,8	0,2	0,5	0,1	2,4
pl	0,8	*4,3*	0,2	0,6	0,0	0,2	0,6
pt (1)	1,2	*5,0*	0,2	1,0	0,5	0,2	0,5
ro	1,4	*10,0*	1,2	0,2	0,2	0,6	0,7
si	2,0	*8,4*	0,6	1,4	0,6	0,4	1,0
sk	1,9	*11,0*	1,9	0,0	0,1	0,5	1,2
fi	3,0	*11,2*	3,0	0,0	1,4	0,6	1,0
se	3,0	*9,5*	3,0	0,0	1,5	0,7	0,9
uk	1,7	*6,2*	1,3	0,4	0,4	0,1	1,1
is	3,0	*13,6*	2,4	0,6	1,7	0,6	0,7
no	2,8	*11,9*	2,7	0,2	1,3	0,7	0,9
ch	1,3	*4,4*	1,3	0,0	0,2	0,1	1,0

Sources : ESSPROS (Eurostat) –in March 2008, many of these 2005 data were still mentioned as provisional or estimated values
(1) 2004
(2) Income maintenance benefit in the event of childbirth, Parental leave benefit (periodic and lump sum), Birth grant.



Sources : ESSPROS (Eurostat)



Sources : ESSPROS (Eurostat)

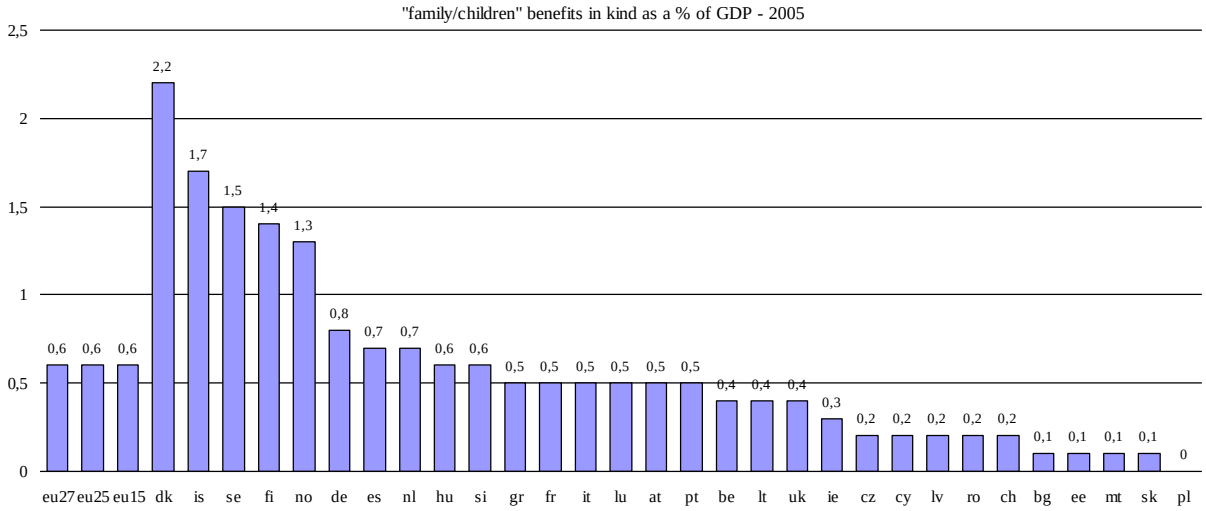
Social protection expenditure includes cash benefits and benefits in kind (public child care services and particular accommodation or home help services). “Family/children” benefits are divided into 9 types of benefits that may be grouped in to three categories, and each of these groups may be used as proxy for analyzing what is widely recognized as the three core measures of family policies: cash support, allowances for raising children during maternity and parental leaves and benefits in kind.

ESSPROS categories of benefits	… that may be used as proxy for
Benefits in kind **1. Child day care** **2. Accommodation** **3. Home help** **4. Other benefits in kind**	**Support in kind or services**
Cash benefits (1) **5. Income maintenance benefit in the event of childbirth** **6. Birth grant** **7. Parental leave benefit**	**Payments in the event of family-related leaves**
Cash benefits (2) **8. Family or child allowance** **9. Other cash benefits**	**Cash support to families** (compensation for the costs associated with the charge of raising children)

Social protection benefits in kind and provision of formal childcare services

Social protection benefits in kind in the "family/children" function include heterogeneous benefits such as child day care, accommodation, home help and other benefits in kind. These benefits are aimed at providing child day care to families as well as other services (accommodation, home help) for deprived families.

These social benefits, as gathered in the ESSPROSS database, represent 0.6 % of GDP on average in the EU ranging from nearly 0 in certain countries up to 2.2 % in Denmark. Nordic countries are distinguished from others by spending much more on benefits in kind than others. However, the data cannot be properly used for evaluating the total invested in childcare services since some of the spending on childcare may be categorised under social assistance and because cash benefits aimed at covering childcare costs have to be added. Moreover, pre-school education programmes that are widespread in certain countries, and that may serve as an alternative to childcare arrangements, are not counted as social protection. Furthermore, as far as childcare is concerned, more quantitative and qualitative dimensions have to be taken into account. The following tables provide some examples of aspects of childcare provision such as the rate of coverage by age group, the duration of daily childcare,net costs for parents, etc. (see the limitations of ESSPROS data below). Data on expenditure as well as data on childcare coverage for pre-school age children show huge differences among European countries, especially for children under 3 years old. Behind the broad figures, there is furthermore a wide variety of childcare services, differing in quality (in terms of carers' numbers and qualifications), size, etc. Provision of childcare in European countries is currently estimated from surveys such as the EU-SILC survey. This data is not without drawbacks and limitations and it should be completed and compared with data on childcare provision derived from sources.



Sources : ESSPROS (Eurostat)

Some characteristics of childcare provision in selected countries

	Spending on childcare services (%GDP)	*Spending per child on childcare services for children under 3 (US $ PPA)*	*Spending per child on services for preschool children (US $ PPA)*	*Coverage rate of childcare services (0-2 years)*	*Coverage rate of preschool (3-5 years)*	*Child to staff ratio (0-2 years)*	*Staff ratio in preschool*	*Net childcare costs for dual earner family (a)*	*Net childcare costs sole parent (b)*
DK	2.3	8009	4824	61.7	89.7	3.3	6.9	7.8	8.5
SW	1.9	5530	4091	39.5	86.6	5.5	10.9	6.2	4.8
FI	1.4	4186	4069	22.4	46.1	4	12.7	7.2	4.1
NO	1.5	6085	3895	43.7	85.1	n.a.	n.a.	7.7	-6
IC	1.8	3408	6781	58.7	94.7	n.a.	7.3	14.9	13.5
FR	1.6	4009	4744	28	100	5	18.8	11.3	8.8
AU	0.6	3251	6205	6.6	74	8.7	14.7	14.9	9.3
GE	0.77	3084	4865	9	80.3	7.5	10.5	8.4	6.8
BE	0.9	1900	4663	33.6	99.6	7	15.6	4.2	3.5
NL	0.9	2025	5497	29.5	70.2	5	20	11.5	3
LU	0.9	3554	n.a.	14	72.3	5	14.3	5.7	4.8
IE	0.3	1430	n.a.	15	68.2	3	10.3	29.2	51.7
UK	0.8	1850	7153	25.8	80.5	3	17.4	32.7	14.4
PT	0.9	1289	4489	23.5	77.9	11	16.5	4.2	2

Source: authors' compilation from data provided by the OECD family database http://www.oecd.org/document/4/0,2340,en_2649_34819_37836996_1_1_1_1,00.html, and OECD (2007), *Babies and Bosses: Reconciling work and family life. A Synthesis of findings for OECD countries*, Paris.

a. Childcare costs are estimated for a dual earner family with two children and full-time earnings of 167% of the average wage in 2004. The first earner is supposed to earn the average wage and the second two thirds of it. The two children are supposed to be below 3 years old and to be cared for full-time (40 hours per week) (OECD 2007; chart 6.5).

b. Single parents are supposed with two children under age 3 and with full-time earning at 67% of the average wage

Provision of childcare in European countries in 2005

(Children cared for (by formal arrangements other than by the family) up to 30 hours / 30 hours or more per usual week as a proportion of all children of same age group)

Country		*0 – 2 years*		*3 years – mandatory school age*		*Mandatory school age – 12 years*		*Admission age to mandatory school*
		1 – 29h.	*30h. or +*	*1 – 29h.*	*30h. or +*	*1 – 29h.*	*30h. or +*	*(pre-primary included)*
EU Member States								
Belgium	BE	23%	19%	49%	48%	43%	54%	6
Bulgaria	BG	.	.	.	.	.	.	7
Czech Republic	CZ	2%	0%	30%	40%	53%	45%	6
Denmark	DK	13%	60%	15%	79%	34%	65%	7
Germany	DE	8%	8%	61%	26%	69%	29%	6
Estonia	EE	3%	9%	9%	69%	57%	40%	7
Ireland	IE	14%	6%	64%	14%	64%	35%	6
Greece	EL	3%	4%	27%	34%	54%	45%	6
Spain	ES	25%	14%	54%	40%	53%	46%	6
France	FR	16%	16%	56%	39%	48%	52%	6
Italy	IT	9%	16%	21%	70%	13%	87%	6
Cyprus	CY	7%	12%	42%	43%	54%	46%	6
Latvia	LV	2%	16%	6%	60%	27%	69%	5
Lithuania	LT	2%	9%	11%	46%	66%	31%	7
Luxembourg	LU	14%	8%	51%	12%	74%	23%	4
Hungary	HU	2%	5%	30%	49%	30%	70%	5
Malta	MT	5%	0%	32%	23%	19%	79%	5
Netherlands	NL	36%	4%	82%	7%	89%	11%	5
Austria	AT	4%	0%	53%	16%	66%	32%	6
Poland	PL	0%	2%	8%	22%	58%	38%	6
Portugal	PT	3%	26%	9%	55%	30%	69%	6
Romania	RO	.	.	.	.	.	.	7
Slovenia	SI	2%	22%	10%	67%	41%	55%	6
Slovakia	SK	0%	3%	10%	57%	39%	44%	6
Finland	FI	8%	19%	25%	51%	82%	18%	7
Sweden	SE	22%	31%	35%	52%	1%	95%	7
United Kingdom	UK	24%	6%	72%	28%	10%	90%	5
EFTA countries								
Iceland	IS	7%	30%	21%	76%	22%	77%	6
Norway	NO	11%	22%	28%	52%	83%	17%	6

Source: Eurostat, EU-SILC 2005 data.

Notes:

1) Formal arrangements refer to the EU-SILC survey reply categories 1-4 (pre-school or equivalent, compulsory education, centre-based services outside school hours, a collective crèche or another day-care centre, including family day-care organised/controlled by a public or private structure).
2) Only care for more than 1 hour a week is considered.
3) Some children do not use child care since parent is taking parental leave for a younger child.
4) Child age is calculated at the interview date, except for IE and FI where age is calculated at 31/12/2004.
5) Some countries, like BE, did not collect data for children 12 years old at the interview date.
6) CY, LV, PT, SK: No information collected for children born between 31/12/2004 and the interview date.
7) FR: Care performed by 'assistantes maternelles' directly paid by the parents, without an organised structure between them, is not included in the table.
8) IE: For the age groups '0 - 2 years' and '3 years - mandatory school age', the care '1-29h.' is overestimated and the care '30h. or +' underestimated due to measurement error.
9) SK: Measurement error for the age group 'mandatory school age school - 12 years' leading to high proportion of children without school hours.

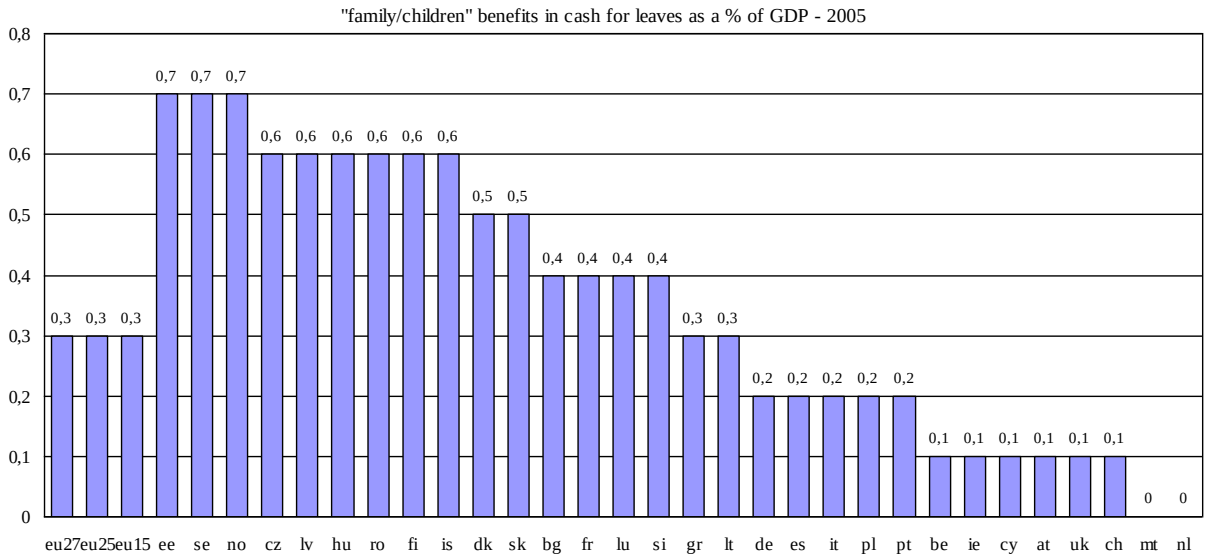
Family-related leave

The various forms of family-related leave are a central issue across Europe. Leave is a major part of 'work-life balance' or 'reconciliation of work and family life' measures. Leave schemes may be a way for parents - especially mothers - to cope with the indirect costs of children, i.e. avoiding the time devoted to the care and education of their children becoming an obstacle to their careers. Originally developed as support for parents to make it easier for them to continue working or to get back into employment after a break, parental leave can also be a means of fostering gender equality. However, leave may also worsen the difficulties faced by some parents, mainly mothers, in trying to keep a job or in returning to employment. Leave schemes may also accentuate 'career discontinuity', which is most prevalent among women. In such cases, parental leave might, ultimately, undermine rather than promote gender equality at work, at home and in the family by reinforcing the unequal division of parenting duties.

ESSPROS data provides a proxy for measuring cash benefits provided during and for family related leaves, through three types of “family/children” benefits: income maintenance benefit in the event of childbirth, parental leave benefits, birth grants.

These benefits represent on average 0.3 % of GDP, ranging from 0 in certain countries up to 0.7 % in Sweden and Estonia. Nordic countries, together with Estonia, Czech Rep, Latvia, Hungary and Romania, are the countries reporting the largest share of GDP devoted to these kinds of benefits.

There may however be some reporting problems : for instance, the Netherlands indicates no expenditure on this item even thoughthere is paid maternity leave, as well as a popular paid parental leave for public sector employees.



Sources : ESSPROS (Eurostat)

Expenditure on leaves is far too broad a category of information to permit evaluation and comparison of leave provisions. There is currently a large variety of types of leave open to parents: short and long, paid and unpaid. As far as paid leave is concerned, compensation may be calculated as all or part of the individual’s normal pay or be paid at a flat rate. Compensation may be limited to a period shorter than the actual duration of leave. It may be

capped, means-tested or subject to other criteria (such as the number of children or previous employment/service).

Some characteristics of family-related leaves in selected countries

	Spending for maternity and parental leave per child (in % of GDP per capita)	*Total length maternity and parental leave (in weeks)*	*Full-time eq period of maternity and parental leave*[a] *(in weeks)*	*Full-time eq period of paternity leave (in weeks)*
DK	49	50	46.8	2.0
SW	64	66	52.8	9.2
FI	57	200	42.9	3.0
NO	63	51	49.2	3.2
IC	50	26	20.8	10.4
FR	28	172	56.2	2.0
AU	32	120	37.8	0.4
GE	22	170	25.4	0.0
BE	17	27	13.9	2.0
NL	17	40	16.0	0.4
LU	46	78	32.1	0.4
IE	5	46	14.4	0.6
UK	7	52	12.0	0.5
PT	15	41	17.0	1.0

Source: Thévenon (2008a) - authors' calculation from data provided by the OECD family database http://www.oecd.org/document/4/0,2340,en_2649_34819_37836996_1_1_1_1,00.html, and OECD (2007), *Babies and Bosses: Reconciling work and family life. A Synthesis of findings for OECD countries*, Paris.

a. full-time equivalent is the proportion of the duration of leave if it were paid at 100% of last earning: FTE = duration of leave in weeks*payment (as a percentage of average earnings) received by the claimant. Benefits and payment rates applicable as of 1 January 2006.

Family-related leave schemes are usually broken down into four categories:

- *maternity leave*, with compensation generally covering part or all of the mother's regular wage, often for a period of approximately 15 weeks, some of which are taken prior to the birth of the child;
- *paternity leave*, consisting generally of a few days off for fathers immediately following the birth of a child;
- *parental leave* consisting of a block of several months to care for a young child, following on from maternity leave. Traditionally, this type of leave has either been unpaid or compensation has, as is the case in Austria and France, been a flat-rate benefit. In some northern European countries, it may be a contribution-based social insurance benefit calculated as all or part of the individual's normal pay; and
- *leave to care for older children in special circumstances*- illness, disability, an emergency situation etc.

Under this traditional four-category model, the various types of leave follow each other in chronological order based on the age of the child. This model is not always very conducive to analysis and comparison since actual provisions may tend to deviate from it. The boundaries between these different types of leave have tended to blur and various categories of leave may overlap or be, at least partially, interchangeable. Very long maternity leave, as in the UK (up to 52 weeks) functions de facto like parental leave in other countries. Alternatively,

parental leave may, as is the case in Finland, constitute an extension of maternity or paternity leave, with both being paid in the same way as wage compensation, or be quite separate when it is unpaid, as in Ireland. The distinction between maternity and paternity leave also tends to be blurred in some countries, especially in the case of post-natal leave. Parental leave also now tends to be applicable to infants. It may often be taken in an increasingly flexible and staggered fashion and long after maternity or paternity leave, when the child is older, or when adopting a child. It may also function as leave to care for a sick child. Lastly, there are also types of leave that do not fit into any of the four pre-determined traditional categories. For example, since 2000, grandparents in Portugal have been able to take advantage of 30 days of paid leave following the birth of a grandchild whose mother or father is under the age of 16 and living in the grandparent's home.

In order fully to understand the complete picture of parental leave, it is important to keep in mind that the whole range of provisions in a particular country may be combined, shared between parents or follow on from one another chronologically. Several works have analysed and compared leave schemes and policies (for instance, Bruning and Plantenga, 1999, Math and Meilland, 2004a, 2004b, 2004c, Ray, Gornick & Schmitt, 2008). Among the numerous works, one has to mention particularly works undertaken by the OECD and by the *Network of experts on leave policies & research* (Moss and O'Brien, 2006, Moss and Wall, 2007). The overview of this literature on the effects of leave policies on parent's employment, gender issues and child well being is carried out in chapter 4. In this chapter, by contrast, the focus remains on the policies. On this point, results of research on the comparison of leave instruments in the EU are convergent. We present a summary of this below, mainly based on Math and Meilland (2004b).

Leave for urgent family reasons or for caring for a sick or disabled child.

The EU Parental Leave Directive gives workers an entitlement to 'time off from work on grounds of "force majeure" for urgent family reasons in cases of sickness or accident making their immediate presence indispensable', though Member States (and/or management and labour) may 'specify conditions of access and detailed rules and may limit this entitlement to a certain amount of time per year and/or per case'. This provision appears to have stimulated the development of specific leave for family reasons, particularly on the grounds of "force majeure" or of a sick or disabled child. Leave to care for a child may be very short - a matter of just a few days - for emergencies or short illnesses. Alternatively, it may be relatively long - from several weeks to several years - for more serious illness or disability.

A distinction between long- and short-term leave is relatively arbitrary because the various national leave schemes actually represent a continuum in terms of the duration of leave for family reasons. In addition, long-term leave may sometimes be broken into short periods - in Sweden, for example, a paid leave scheme providing for a maximum of 60 days per child, per year, per parent for children under the age of 12 (16 in some cases) is often in practice used in very small blocks. For the analysis of the leave package, leave for sick children should not be omitted, especially in countries like Sweden where this leave is particularly developed and widely taken up by parents.

Maternity leave

The 1992 EU Maternity Directive enhances the employment protection of pregnant women and women who have recently given birth or are breastfeeding and guarantees a minimum of 14 weeks' maternity leave. Some of the main points of maternity leave statutory schemes are outlined below (- table below summarizes a number of their key features).

Length and payment of statutory maternity leave (based on legislation in 2004)

Duration (1)	Compensation		
	Less than 80%	Between 80% and 100%	100%
14-15 weeks	Belgium		Germany, Slovenia
16-18 weeks	Finland	Denmark	Austria, France, Greece, Luxembourg, Netherlands, Poland, Portugal, Spain
21 weeks		Italy	.
24 weeks +	Hungary Ireland UK (2)	UK (3), Slovakia (5), Sweden	Norway (4)

(1) For the first child - may be longer for the second and subsequent children (Poland) or the third child (France and Spain); (2) for 20 weeks after the first six weeks; (3) for the first six weeks out of a total 26 paid weeks; (4) no specific maternity leave - mother's leave is included de facto in the parental leave scheme available to the two parents; (5) compensation as a percentage of income is very low for the vast majority of employees because of a very low ceiling on compensation.

Source: Math et Meilland, 2004b, EIRO, 2004

Duration

The length of maternity leave varies greatly from one country to another, from the minimum 14 weeks required under the 1992 Directive in Germany to approximately six months in Hungary, Ireland, Slovakia and the UK. In the UK, ordinary paid maternity leave of 26 weeks may be extended by additional unpaid maternity leave of 26 weeks. Total leave may thus be a whole year. In several countries, maternity leave is longer for a second or third child or for multiple births. Since the early 1990s, entitlement to leave and maternity benefits for multiple births has been increased in several countries and has often been widened to include adoption or fostering situations.

Compensation

In most cases, compensation is paid by sickness insurance or social security funds (or the general unemployment fund in the case of the Netherlands). However, in Ireland, Norway, Portugal, Slovenia, Spain and Sweden (parental leave) the compensation is paid by the state. In Denmark, employers cover the compensation. Legislation provides for employer top-ups to compensation from sickness insurance funds in Greece, Poland and Germany. In the latter country, the sickness insurance funds make a wage-related payment of up to 13 euros per day, which employers top up to full pay compensation. In the UK, employers pay the statutory compensation, almost 100% of which is reimbursed through a reduction in subsequent employer social security contributions and other levies.

At least part of maternity leave is generally financially compensated as a percentage of the mother's pay (or other employment income). For low wage earners, a minimum compensation level may exist, as in Finland, Ireland and Portugal. Maternity leave compensation is equivalent to 100% of normal pay in many countries. However, compensation may sometimes be capped (*i.e.* there is a maximum cash amount). In almost all countries, compensation covers the entire maternity leave period. However, in Ireland only the first 18 weeks of the maximum maternity leave period of 26 weeks are paid. In the UK, a maximum of 26 weeks are paid, of which six are paid at a rate of 90% of pay, with an additional period of 26 weeks unpaid. In Hungary, partial wage compensation is paid only

during the weeks of leave - of which there must be at least four - taken prior to the birth of the child. Women are entitled to a flat-rate benefit for the remaining weeks.

In many countries, other types of benefits may either substitute for or top up maternity leave compensation. These benefits may be in the form of allowances paid at or around the birth of a child and during the first few months of the child's life, or they may take the form of one-off grants, notably a 'maternity premium'. Such benefits may be paid instead of maternity compensation, especially for women who are not entitled to normal paid maternity leave because they fail to meet all the eligibility criteria. There may also be top-up benefits designed to supplement maternity leave compensation.

Paternity leave

The March 1992 EU Council Recommendation on childcare stated that: 'As regards responsibilities arising from the care and upbringing of children, it is recommended that Member States should promote and encourage, with due respect for freedom of the individual, increased participation by men, in order to achieve a more equal sharing of parental responsibilities between men and women and to enable women to have a more effective role in the labour market.' Entitlement to family-related leave for fathers has been significantly enhanced in many countries since then. Post-natal leave, which was traditionally available only to women, now tends to be available to men as well, or to be open to sharing between the two parents. This change has been reflected in the creation or enhancement of specific leave, called paternity leave, available to fathers only on the birth of a child. Legislation on paternity leave available to fathers after the birth of a child or during the first few months of the child's life has been introduced or upgraded, in particular since the late 1990s, in Belgium, Finland, France, the Netherlands, Norway, Portugal, Spain and the UK.

Increased leave entitlement for fathers has not only been achieved through specific paternity leave but also through parental leave designed to be shared more easily by both parents. The paternity leave entitlement must therefore be assessed in conjunction with the parental leave entitlement. Some of the main points of paternity leave schemes are outlined below - table below summarizes a number of key features.

Statutory paternity leave schemes – 2004

No statutory leave	Austria, Germany, Ireland, Italy, Poland, Slovakia
Very restricted leave	Spain, Greece, Luxembourg, Netherlands
2 days	Hungary, Portugal
5 days	Belgium, Denmark, France, Slovenia (1), Sweden, UK
Around 2 weeks	Finland, Norway (2), Slovenia (1)

(1) 15 paid days and 75 further unpaid days; (2) no specific paternity leave - paternity leave included de facto in parental leave scheme.
Source: Math et Meilland, 2004b, EIRO, 2004.

Entitlement

Self-employed men are entitled to paternity leave in only a very few countries and such leave is often available only to fathers in paid employment. However, employees do not have a statutory entitlement to paternity leave in all the EU countries studied though collective agreements may provide for leave. In countries where paternity leave does exist, fathers are guaranteed to be able to return to their previous jobs after their leave.

Duration and compensation

The duration of statutory paternity leave varies from one country to another, from a few days up to more than 3 weeks (see table). It should be stressed that, in the same way as for maternity leave, looking at the duration of paternity leave in isolation is problematic since paternity leave may be extended through parental leave. In countries with very short paternity leave, this may be offset by the existence of parental leave, thus ultimately providing fathers with significant leave in terms of both duration and compensation. Statutory paternity leave is generally paid and, in general, loss of pay is entirely or almost entirely covered. In those countries where paternity leave is limited to a few days, there is no loss of income and compensation is mainly covered by employers. Compensation paid by employers may be capped.

Statutory parental leave

The parental leave legislation of many EU Member States has been significantly amended since the early 1990s. The 1996 Directive on the issue often drove these amendments since it compelled some Member States to introduce this type of leave on top of maternity leave. In short, under the Directive, parental leave is required to be an individual entitlement lasting at least three months following the birth or adoption of a child (in addition to the minimum of 14 weeks' maternity leave guaranteed by the Pregnant Workers Directive). Eligibility criteria relating to length of employment or length of service in a company may not exceed one year. Workers must be able to return to their jobs. The Directive also recommends, but does not make it compulsory, that leave should be flexible, available until the child turns eight, non-transferable from one parent to the other and cover cases of adoption. Provision must also be made for giving workers time off on the grounds of force majeure for urgent family reasons. Some of the main points of statutory parental leave schemes are outlined below.

Duration and compensation

The length of statutory parental leave varies from country to country, ranging from a minimum of three months (13 weeks) in the UK and Belgium to three years in Finland, France, Germany, Hungary, Poland, Slovakia and Spain - see table 4 below. The duration of parental leave has been extended over the past few years in Italy, Spain and Sweden, while Ireland and the UK introduced statutory leave as recently as the late 1990s.

Statutory parental leave is unpaid in Greece, Ireland, the Netherlands, Portugal, Spain and the UK. However, in some of these countries, such as the Netherlands, collectively agreed provisions may offset this absence of statutory compensation. Leave attracts a flat-rate benefit in Austria, Belgium, France, Luxembourg, Slovakia, and Poland. In the remaining countries, compensation is proportional to loss of pay. Proportional compensation is very low in Italy. It stands at between 60% and 70% of pay in Hungary and Finland (where the rate varies according to the employee's wage level). Compensation is between around 80% and 90% in Denmark and Sweden, and can be as high as 100% in Slovenia and Norway - see table below.

Maximum statutory parental leave - full-time leave after birth of first child (not disabled or adopted) taken after (or in lieu of) maternity or paternity leave – 2004

Country	Duration of paid leave	Total leave	Upper age limit for child concerned (years)
United-Kingdom	0	4 / 13 weeks (8)	5
The Netherlands	0	3 months	8
Portugal	0	3 months	6
Ireland	0	14 weeks	5
Greece	0	3,5 months	3.5
Spain	0	3 years	3
Belgium	3 months (1)	3 months	4
Luxembourg	3 months	3 months	1 / 8 (9)
Italy	6/11 months (7)	6/11 months (7)	3 / 8 (7)
Denmark	32 weeks (2)	40	1 / 9 (5)
Slovenia	260 days (11)	260 days	8
Norway	43/48 (10)	43/48 weeks (10)	3
Sweden	420 days (12)	420 days (12)	8
Austria	2 years (1) (2) (4)	2 years	2 / 7 (6)
Germany (2004)	2 years (1)	3 years	3
Hungary	2 years (3)	3 years	3
Finland	3 years (0)	3 years	3
Slovakia	3 years	3 years	3
France	3 years (1)	3 years	3
Poland	3 years	3 years	4

(1) benefit entitlement rules are separate from rules governing leave; benefit duration reduced to one year in 2007 (2) 11 months can be shared, with maximum of 6 months for the mother and 7 months for the father - compensation only if a child is under three (unconditional for first six months of leave and means-tested thereafter); (3) can be shared between the two parents; (4) for one parent only; (5) 52 weeks with compensation of 80% of income or 42 weeks with 100% compensation, to be shared by the two parents (nine weeks reserved for mother and four for father) - also acts de facto as maternity and paternity leave, which do not exist; (6) 480 days to be shared between the two parents, of which 60 days are non-transferable - also acts de facto as maternity and paternity leave, which do not exist; (7) benefit may be longer than leave, lasting up to 30 months (36 months when used by both parents); (8) 3 years if a small flat-rate benefit is included; (9) compensation lower after initial 26 weeks shared by the two parents; (10) employers and employees should agree arrangements for taking leave, but minimum 'fall-back' scheme allows up to four weeks' leave per year; (11) after maternity leave for first parent and up to child's fifth birthday for the other; (12) to be taken after maternity/paternity leave, but a block of 8 to 13 weeks may be postponed for the period until the child reaches nine years old; (13) to be taken up to age of two, but three months may be held back until the child reaches seven.

Source : Math et Meilland, 2004, EIRO, 2004

Age limit for children and adoption

Traditionally, parental leave has been restricted to caring for young infants and as a result was designed to be taken after maternity leave. The 1996 Directive suggests that leave can be taken in the period up until the child concerned is eight years old. However, few countries allow parents to take parental leave beyond the child's third or fourth birthday. Parental leave schemes have increasingly been extended to cover adoption.

Breaking up and spreading leave

As encouraged by the 1996 EU Directive, statutory parental leave is tending to become more flexible and for example, may be broken up into a number of separate blocks. However, dividing or staggering leave in this way is not permitted in all countries. For instance, in Ireland, the unpaid leave of up to 14 weeks has to be taken all at once while at the opposite end of the scale, the 480 days Swedish parental leave offers maximum flexibility.

Compensation for statutory parental leave (full-time leave) – 2004

Type of compensation		Country
None		Greece, Ireland, Netherlands, Portugal, Spain, UK
Flat-rate	Means-tested	Poland
	Lower for higher-income claimants	Germany (2004)
	Not means-tested	Austria, Belgium, France, Finland (1) Luxembourg, Slovakia
Proportional to pay	Below 80% of pay	Finland (2), Hungary, Italy, Germany (since 2007)
	80%-90% of pay	Denmark, Sweden
	100% of salary	Norway, Slovenia

(1) after initial 26 weeks; (2) initial 26 weeks.
Source : Math et Meilland, 2004, EIRO, 2004

Part-time work and flexibility

The flexibility recommended by the EU Parental Leave Directive may be achieved by permitting those taking statutory leave to work part time. The same result can also be obtained, outside the parental leave scheme proper, by entitling parents to reduce working hours or adopt different working patterns. For instance, there exists some rights granted by law to parents that reduce or reorganise their working time in several countries like Finland, France, the Netherlands, Norway, Slovenia and Spain.

One of the perceived advantages of both of these options over full-time leave is that they enable parents to remain connected to their jobs. There are various incentives for parents to take leave on a part-time basis: longer leave for those taking up leave on a part-time basis, a financial incentive for part-time parental leave, to ensure that the employee's income falls less than proportionally to the reduction in working time, encouraging both parents to work part time.

Sharing leave between parents

While enhanced entitlement to leave for fathers can be achieved through paternity leave, it may also be attained through parental leave that can be shared by the two parents. The 1996 Parental Leave Directive requires that a minimum individual entitlement for each parent should exist: 'to promote equal opportunities and equal treatment between men and women ... the right to parental leave ... should, in principle, be granted on a non-transferable basis.' There is also a trend towards bolstering the possibilities for the two parents to share leave and some countries have introduced incentives to encourage greater sharing.

Several studies, mainly based on the duration and compensation of the leave package for mothers and fathers, have led to similar typologies of leave arrangements in Europe. We present in this chapter the typology proposed by Math & Meilland (2004c) based on 20 European Union countries. This typology is based only on the characteristics of the leave package provided to parents, in particular the length of leave and associated payments. We will compare this typology with Wall's (2007) analysis of 19 European countries based on characteristics such as the level and type of compensation, the duration of leave, the gender division of care and female economic activity. Math and Meilland (2004) identify two groups of leaves:

- *Very short and unpaid parental leaves, targeted at mothers*. This group includes countries such as Ireland, the Netherlands, the UK, Portugal and Greece. In these countries, parental leave is unpaid (but may be preceded by rather long paid maternity leave like in the UK) and either equals or only slightly exceeds the minimum of three months required by the 1996 Directive. In general, these countries have a certain amount of flexibility regarding the maximum age of the child concerned - eight years old in the Netherlands, six in Portugal, five in Ireland and the UK. Spain shares some characteristics with these countries in respect of the absence of compensation for parental leave. However, it comes closer to "long leave" countries with regard to the length of leave (three years) and the restriction to young children up to the age of three.
- *Short leave, low compensation, targeted at mothers with very young children*. The second group, which seems very similar to the first, comprises Belgium, Italy and Luxembourg. As in the first group, parental leave is short in these countries (three months in Belgium and Luxembourg and between six and seven months in Italy) but they differ from the first group in that leave is mainly geared to young children. Compensation is low in Italy and Belgium but is higher in Luxembourg where the parent on leave receives a rather generous flat-rate benefit.

Among the two previous groups, Wall (2007) distinguishes three groups (Belgium and Luxembourg are not included in her typology):

- The "short leave part-time mother policy model" in countries like Ireland, the Netherlands and United Kingdom. In these countries, the main social sphere for caring are the family and the market, with underdeveloped state provision of leave arrangement and child care services. Short leave packages are designed for mothers who are encouraged to combine work and childcare by working part-time, and gender equality in leave arrangements, compared for instance to child care services, is low on the agenda.
- The "short leave male breadwinner model" in Southern European countries like Italy, Greece and Spain which conforms more strongly to the idea of the male breadwinner/female home carer pattern with a short if very well compensated leave for mothers, no or very short paternity leave, unpaid short parental leave (with a small shift a few years ago in Italy towards a low-paid parental leave).
- Portugal would represent the "early return to full-time work leave policy model". It provides a short highly compensated post-natal leave, but there are signs of a gender equality objective such as a 'compulsory' five-day paternity leave and two 'daddy weeks" fully compensated parental leave.
- *Long leave, low compensation, targeting mothers with very young children, and with a high risk for future employment (at least for low qualified mothers).* This group is composed of Austria, Finland, France, Germany (before the 2007 reform), Hungary, Poland and Slovakia. These countries have the longest leave, at two or three years. Leave is generally restricted, with little or no flexibility, to young children up to the age of three. It is designed to be taken by one parent after maternity leave. Arguably, it is implicitly targeted at mothers in as much as the benefit is paid at a flat rate, which encourages the parent with the lowest wage or poorest employment prospects to take the leave. These provisions may especially target women facing difficulties finding employment. Finland also falls into this group, if we exclude the initial 26 weeks of leave shared by the two parents, which attract partial wage compensation, and consider only the subsequent longer parental leave. France may be distinguished from other countries in this group, as the long leave does not concern parents of one child who are consequently encouraged to work after maternity leave (or after a

shorter 6 months' low paid parental leave introduced in 2004). This group is referred to by Wall (2007) as the *"long leave mother home-centred policy model*" including countries like Austria, Germany, Hungary, Czech Republic, Estonia (but not France). In these countries, a long low paid leave emphasizes maternal home care until a child is three years old, with a low emphasis on gender equality in leave arrangements and low availability of child care services.

- "*Short leave and well paid leave model*". Denmark, Norway, Sweden, Slovenia, Finland to a certain extent, and possibly Germany after the recent reform, are part of this group. Parental leave in these countries attracts compensation as a percentage of pay and is shared by both parents. Total leave stands at eight months in Denmark, one year in Norway, one and a half years in Sweden, nine months in Slovenia and now one year in Germany. Finland, that has also been placed in the third "long leave" group, is similar to Norway and Sweden in terms of the initial 26 weeks of well paid parental leave. However, Math & Meilland distinguish two groups among these "Nordic" countries: a gender-orientated leave package in Sweden and Norway and a more traditional female-orientated one in Denmark, Finland and Slovenia. In the first group of countries, a proportion of the shared leave may not be transferred to the other parent, the flexibility of parental leaves (over time and between parents) is very high and the leaves may be taken up to when the child reaches the age of 8 and 12 respectively. On the contrary, in Denmark and Finland, there is no 'daddy's quota', parental leaves are not as flexible (they may not be taken full-time simultaneously by both parents for instance) and they are conceived to be taken to care for a very young child immediately after maternity leave. In Finland, furthermore, there exists a second low paid long leave de facto designed for low qualified mothers.

Wall (2007) classifies countries differently. France would be with Norway and Finland and represent a "*parental choice orientated policy model*" that has emerged in the 1990s (Belgium would be also part of this group). These countries have long provided important child care services and developed more recently rather long low paid paid parental leaves. In these countries where gender equality is high on the agenda, there is a concurrent relationship between leave arrangements and child care services leading to ambiguous employment effects according to mother's status.

Lastly, Wall (2007) proposes a "*one year leave gender equality orientated model*" including Sweden, Iceland, Denmark and Slovenia. Leave is short with full or very high compensation of previous earnings. The promotion of gender equality is very high on the policy agenda and there is a true complementarity between the one-year leave and child care provision.

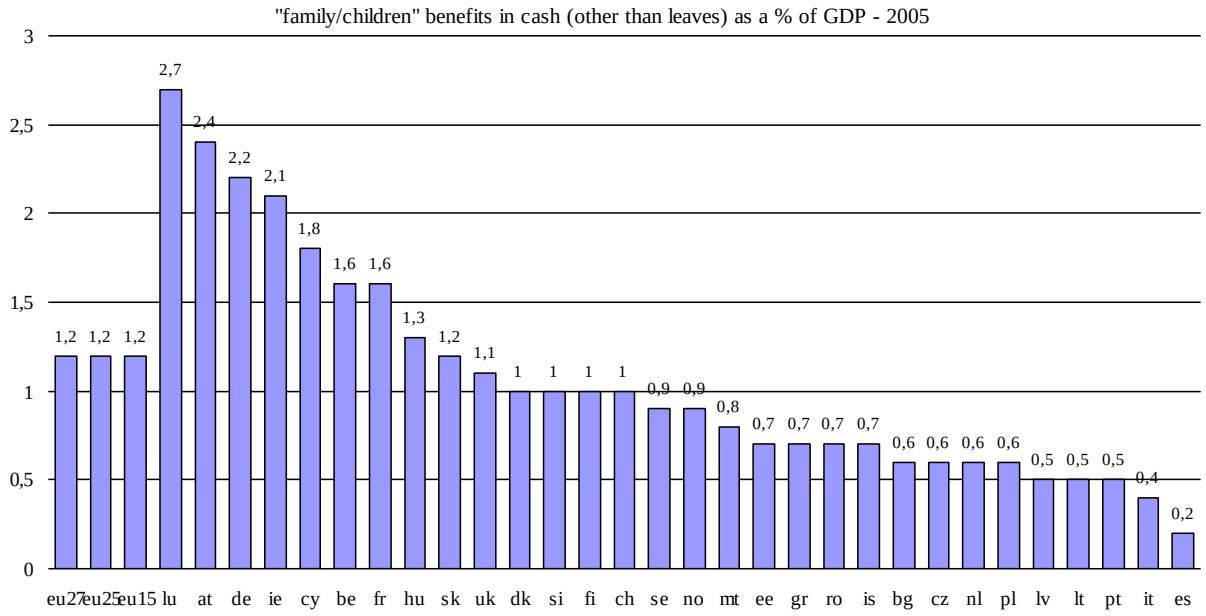
Finally, research has shown that in order to fully understand the complete picture of family-related leaves, and their effect on gender equality and work-family balance issues, it is important to take into account the whole range of provisions, parental leaves together with maternity, paternity or other leaves, and the way they are combined, shared between parents, or follow on from one another chronologically. Leaves have also to be placed in the context of other policy measures, in particular childcare services. The effects of leave policies on gender and work-family balance issues are presented in chapter 5.

If statutory schemes are rather well known, little information is available on leaves and/or compensation provided through collective bargaining (Math & Meilland, 2004a). Studies have shown that they may play an important role in certain countries, for instance in the UK and Denmark, where collective agreements are important in regulating family-related leave. In other countries, such as the Netherlands, bargaining has preceded and prompted more important legislative changes.

Cash support to families and family benefits in cash

The main policy instruments aimed at compensation for direct child-related costs are family benefits in cash (other than compensation for leave). All European countries provide some kind of cash family benefits. Other instruments, especially tax breaks, may complement them. From ESSPROS data however, only expenditure on family benefits in cash (other than compensation for leave) is available. This item includes benefits aiming at compensating the cost of children, such as *child benefits*, *allocations familiales* or *Kindergeld*, but also benefits for certain specific situations (lone parenthood, a disabled child, etc.).

On average, these benefits represent around 60 % of the total « family/children » function and 1.2 % of GDP. There are very large discrepancies between countries: from 0.2 % of GDP in Spain up to 2.7 % in Luxembourg. Countries that dedicate the greater proportion are found in continental Europe with countries such as Luxembourg, Austria, Germany, Belgium, France, as well as Ireland and Cyprus. Other countries, including Nordic ones, are below the EU average. The financial commitment to families is particularly low in Latvia, Lithuania, Portugal, Italy and Spain.



Sources : ESSPROS (Eurostat)

Family cash benefits may differ in many aspects that cannot be examined through ESSPROS database:

- in most countries, there is some kind of basic child benefit that are provided regardless of the level of income. The exception, where the child benefits depend on the household's resources, are Czech Republic, Spain, Italy, Cyprus, Iceland, Malta, Portugal and Slovenia.

- the upper age limits of children differ greatly from one country to another, from a low of 16 years old in Sweden up to 27 years old in Germany and Luxembourg.

- in nearly half of European countries, the amount of basic child benefit varies with the age of children.

- the amounts of basic child benefits vary significantly between countries, with the highest amounts in continental Europe countries such as Luxembourg, Austria, Germany, Belgium and France. The amounts are lower in southern European countries, such as Greece, Spain, Italy, and in Eastern and Central Member States.

- basic child benefits are provided regardless of the number of children, i.e. to all families, with the notable exception of the French basic non means-tested *allocations familiales* that are not provided to one child families.

- In most countries, there exists more than one kind of family benefit (including those related to raising children). As there often exist other benefits, and even in some countries rather numerous ones, generally targeted at particular situations (large families, lone parent families, disabled children, etc.), one cannot compare one type of benefits in isolation from the whole package of benefits available to families.

Limits of available data on family policy instruments and ways of improvement

An underestimation of support to families/children with the ESSPROS "family/children" expenditure data

Despite its significant advantages (good comparability, regular production over several decades, large geographical scope), the ESSPROS data has severe limitations for the analysis and comparison of family policies.

- Doubts about some country specific data provided to Eurostat

There seems to be some problems concerning the reliability of data provided by member states to Eurostat:

- Some social benefits provided by infra-national entities (regions, communes) are underreported

- Expenditure for maternity or parental leaves are sometimes forgotten. For instance, the Netherlands report no expenditure on these measures while there exists a paid maternity leave, as well as a widely used paid parental leave in the public sector (75 % of earnings).

- Many social benefits to families/children are classified under other social protection functions (overlapping classifications)

This occurs when the benefit is granted for two or more social risks or needs rather than a single one (where the risks are overlapping). One example of this is housing benefit granted only to large families. If none of the combined functions is clearly dominant, the basic rule of ESSPROS is that a more specific function takes precedence over a more general one. The list of social protection functions in order of decreasing specialization is:

Sickness/Health care (health care),
Housing, Old age,
Disability**,**
Survivors,
Unemployment,
Sickness/Health care (cash benefits),
Family/children
Social exclusion not elsewhere classified.

Following this principle, as family/children is considered as one of the most general functions, benefits also granted for other reasons tend to be classified in the other more specific social protection functions. There are many examples of this:

- Health/sickness: all health insurance protection, even if provided to children, is classified under the health/sickness function. This includes specific medical care provided to expectant mothers.

- Paid leaves in the case of sickness or injury of a dependent family member (in most cases a child) are reported under the sickness/health care function, not the family/children function.

- Orphan pensions may be and are often classified in the survivors function

- Benefits to disabled children are allocated to the Disability function

- Housing benefits are allocated to the housing function even if they are reserved for families (large families, lone parent families, etc).

- More generally, the numerous family or child components/supplements for benefits that are granted for another specific purpose such as unemployment, old age (supplement of old age or survivors pensions), housing, etc. are to be classified under the more specific function, e.g. unemployment, old age or housing benefit, and not under the family/children one.

- For social assistance not classified elsehwere, higher rates of benefits may be paid to the beneficiary if she/he has dependants (a child or a non-working spouse, for example). The supplements thus paid integrate or replace the family allowance, and therefore in principle they should be separated from the main benefit and included in the Family/children function that is considered as more general. However, as this proves very difficult (e.g., because, in establishing the rate of benefit, the policy-maker will have taken account of economies of scale in consumption of the household), in practice the supplements are retained under the functions to which the main benefit belongs.

As a consequence, "family/children" social benefits give an underestimation of the actual support to families provided by social protection schemes, and comparisons between countries may be strongly biased.

- Other support to families and/or children not within the scope of the core of ESSPROS (not regarded as social protection).

Education public spending is excluded

ESSPROS data do not include education. This leads to an under-estimation of the support provided by public authorities to children and their families. This omission is not a real problem for international comparison as long as, for all studied countries, the access to education is free or almost free for all families. But this omission may lead to a bias for the comparison of countries where the proportion of education costs left to parents is very different (the same reasoning applies if the share of expenditure paid by families for health care to children is very different from one country to another).

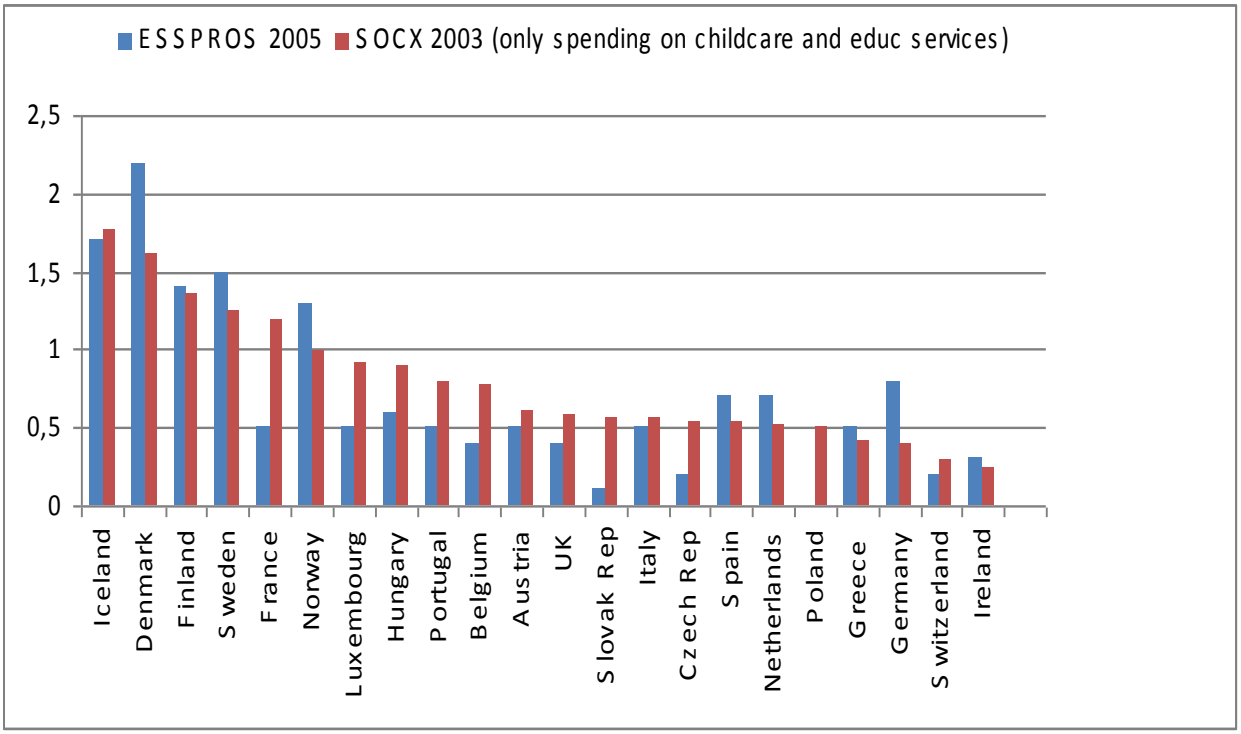
However, according to ESSPROS methodology, "family/children" expenditure should include education expenditure that takes the form of "support to indigent families with children", that is, if the "object of the measure is to redistribute income in favour of those who have insufficient resources rather than to provide free access to education". In practice, in spite of this recommendation, some countries do not include such support in the ESSPROS data. For instance, this is the case for means tested grants to pupils (*bourses nationales des collèges et des lycées*) in France.

The exclusion of public education expenditure raises a problem if one wants to compare policies regarding childcare arrangements, especially for countries where children are cared for by the education system from very young, such as by *écoles maternelles* in France or in Belgium where these schools care for children all day long from the age of 2 or 3. The comparison with other countries is biased where, for example, these very young children are still cared for, but by other arrangements that are considered as social protection benefits in

kind. This is the case in the Nordic countries where children are cared for up to the age of 5 or 6, and where entrance to the education system starts at around 6 years old.

The OECD SOCX data base (*Social expenditure database*) provides a complement to and correction of ESSPROS "family/children" expenditure by including childcare and education services before primary school (data are available for OECD member countries, at the earliest from 1998 and up to 2003). The following graph compares benefits of the "family/children" function in kind in the SESPROS database and childcare and pre-primary school expenditure as counted by the OECD. The inclusion of pre-primary school expenditure (especially *écoles maternelles*) modifies the results of the comparison: expenditure in countries such as France, Belgium, Luxembourg and Portugal is much increased and the gap with Nordic countries is strongly reduced.

Public spending on family benefits in cash, services and tax measures, as a proportion of GDP, 2003 – Comparison of ESSPROS (Eurostat) and SOCX (OCDE) data- « family/children » function



- Employer and private support to families are excluded

According to the ESSPROS methodology, "all schemes that are solely based on individual arrangements or where simultaneous reciprocal agreements exist are not regarded as social protection". As a consequence all direct *transfers between households or individuals in cash or in kind such as gifts, family support* are excluded.

The conventional definition of social protection is that the measure must not be compensation for work (such as wages), that is to say that it must not be a simultaneous reciprocal measure. Any expenditure by employers for the employees' benefit that can reasonably be regarded as compensation for work is therefore not considered a social benefit.

As a consequence, all expenditures by employers that may be considered as a part of the remuneration are not counted as social protection and are excluded from the ESSPROS database.

Therefore the following measures provided by employers to their employees' families are excluded from ESSPROSS family/children expenditure:

- Crèches for the children of employees; sports, recreation and holiday facilities for employees and their families.
- benefits provided by employer to employees with children, such as holiday homes, special bonuses
- non statutory family benefits or advantages provided by employers.

However, some measures provided directly by employers to their employees are considered as social protection and included in the ESSPROS "family/children" expenditure :

- cash benefits that replace loss of earnings during a temporary inability to work, eg. in case of pregnancy
- continued payment of normal, or reduced, wages and salaries during periods of absence from work as a result of maternity
- payment of statutory special allowances for dependent children and other family members

In conclusion, ESSPROS data include very few benefits provided by employers to families. This may underestimate the support to families, especially in countries where, by tradition, employers offer important advantages to their employees with children.

- Tax breaks to compensate for the cost of children are also excluded:

Some countries provide tax breaks or allowances for children against gross income. There are however very strong differences between European countries as regard income tax. Firstly, there is a possible distinction between countries that tax the individual and countries that tax the household adults together (with possible other distinctions according to marital status). Secondly there is a distinction as to how children are taken into account in the calculation of tax income. Some Nordic countries such as Denmark, Finland and Sweden do not take children into account in the fiscal system (despite some measures to compensate for childcare costs). In these countries, the income and local taxes paid by a household without children are not greater than those paid by a household with children where both have the same earnings. The goal of income tax is not to compensate for the cost of children and/or to redistribute to families.

Most other European countries do take into account the presence of children in their income tax system. This type of support may take the form of a tax reduction (for instance, in Germany, Italy, Netherlands; UK), or of a reduction of taxable income (for instance in Spain) or of being integrated into the calculation of income tax such as through the quotient familial in France.

All these tax breaks may vary with the size of the family and the age of children: some measures are targeted at very young children or at older ones. They may vary between couples and lone parents. Countries like Austria, Germany, Belgium, France, Ireland, Italy, Luxembourg and the Netherlands have specific tax measures for lone parents. Measures may also take into account other situations: presence of a handicapped child, childcare costs, compensation for school costs, compensation in case of non payment of child maintenance, etc..

Tax breaks to compensate for the cost of children tend to be more favourable for well-off households: non taxable households are generally excluded from these tax breaks and the tax breaks may increase with income such as in France. However, with the objective of making work pay, there is a trend toward the creation or increase of tax credits for low

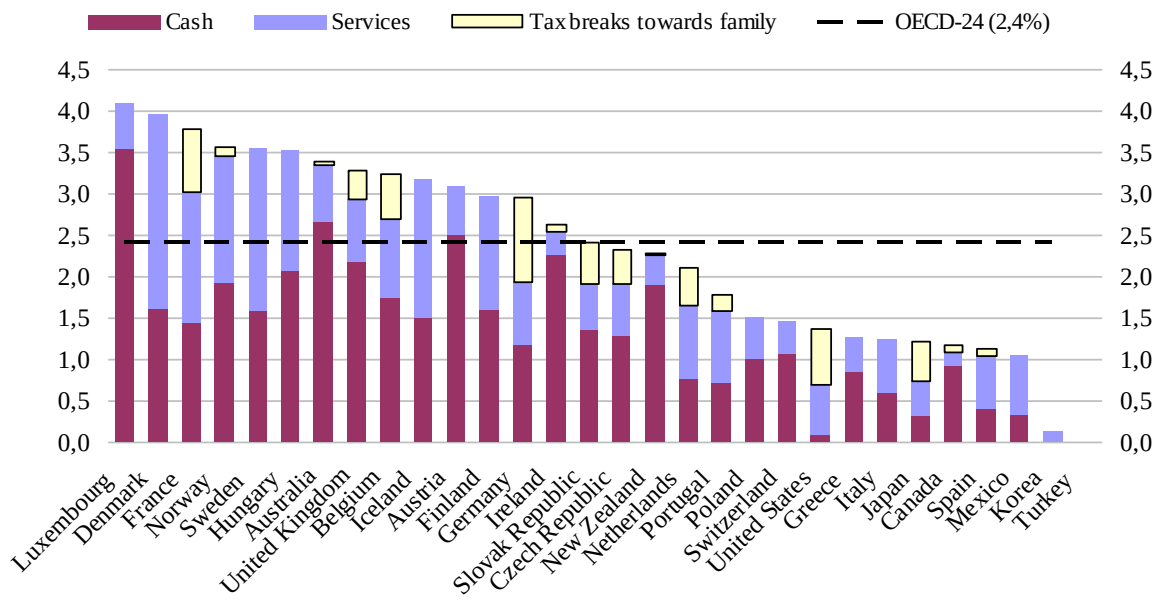
income working families (with at least one working adult) such as in the United-Kingdom, in the Netherlands or in France.

Tax breaks for families are an alternative to cash benefits. However they are not social protection schemes and are not reported in ESSPROS. This omission of information on tax breaks for family reasons is a serious problem when comparing family policies, since many researchers have underlined the importance in certain countries of such types of support for families.

The OECD estimated tax breaks for families in 2003. According these estimates, tax breaks are very important – they may represent from 0.4 to 1 % of GDP - in countries such as Germany, France, Belgium, The Netherlands, the Czech Republic, the Slovak Republic and the United Kingdom. However, these OECD estimations do not take into account tax breaks for couples (for instance, the couple part of *quotient familial* in France).

Some estimations for Germany show that all tax breaks for family reasons represent 32 % of expenditure counted in the "family/children" expenditure of ESSPROS.

Public spending on family benefits in cash, services and tax measures, in a proportion of GDP, 2003 – OECD estimates



Notes:
- Public support accounted for here only concerns public support that is exclusively for families (e.g. child payments and allowances, parental leave benefits and childcare support). Spending recorded in other social policy areas as health and housing support also assists families, but not exclusively, and is not included here.
- OECD-24 excludes Greece, Hungary, Luxembourg, Poland, Switzerland and Turkey where Tax spending data are not available.

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

Some illustrations of the important underestimation of public support to families with ESSPROS data

- Germany:

Expenditure for families in 2001 amounts to 2.9% of GDP in ESSPROS, but other measures to support families are excluded : measures reported under other functions of ESSPROS (orphan's pensions, child-related components in basic income support, inpatient delivery)

and measures excluded from ESSPROS such as tax breaks (including tax-splitting) and support for education and vocational training. By adding all these measures together the total support to families in Germany amounts to 4.5% of GDP, as compared to 2.9 % of GDP (Eichhorst, 2007). By also including transfers from communes, Länder, employers and churches, the total estimation is more than 10 % of GDP (Rosenschon, 2006).

- France:

Expenditure on 'core' family policies (ESSPROS data) is 2.7% of GDP in France in 2003. Damon (2006) found that this proportion rises to 4.6% of GDP when other items such as family-related spending on poverty and « housing », tax breaks and family-related advantages in the pension system are included .

By gathering information from different national statistical sources, our own estimation of total public support to families in France produces even higher figures (see table 5).

Estimation of expenditure that may be counted as family policy expenditure – France - 2005

	Montant des dépenses
Family benefits	25,6
Including "accueil jeune enfant"	*9,5*
Others (child benefits…)	*16,1*
"Action sociale"	10,4
Caisses d'Allocations Familiales (CAF)	*3,3*
Communes	*1,6*
Départments	*5,5*
Pensions (advantages linked to children)	17,6
Minimum guaranteed incomes (child supplements)	0,8
Housing benefits (child supplements)	4,5
Health care insurance (health care for children)	?
Tax breaks (for family reasons)	38,4
quotient familial (children component)	*13,1*
Other fiscal tax breaks due to children	*1,4*
quotient familial (spouse component)	*23,9*
Preliminary public education	10,7
Total	**108**
as % of GDP	***6,3 %***
Total without spouse component of fiscal quotient familial	**84,1**
as % of GDP	***4,9 %***

Bozio A., Landais C., Fack G (2008) « Politiques familiales et droits familiaux de retraite. Objectifs, coûts et évaluations »,Rapport pour l'IRES and own calculations.

Chiffrages en milliards d'euros 2005 réunis à partir de différentes sources nationales (Direction Générale des Impôts, Cour des Comptes, Comptes de la Sécurité sociale 2007, Conseil d'Orientation des Retraites, *Social Actualité* n°212-213 juillet-août 2008).

These illustrations on Germany and France show the need for improving and complementing ESSPROS data in order to better evaluate and compare family policies in the European Union.

Data on expenditure cannot help in analyzing and comparing targeting or the redistributive effects of family policies

With ESSPROS expenditure for the "family/children" function, one may calculate an average cost (e.g., per child, per family or per capita as % of GDP per capita).

However, data on expenditure does not allow analysis and comparison of its targeting and redistributive effects. It may not provide information on the effects of the expenditure and on

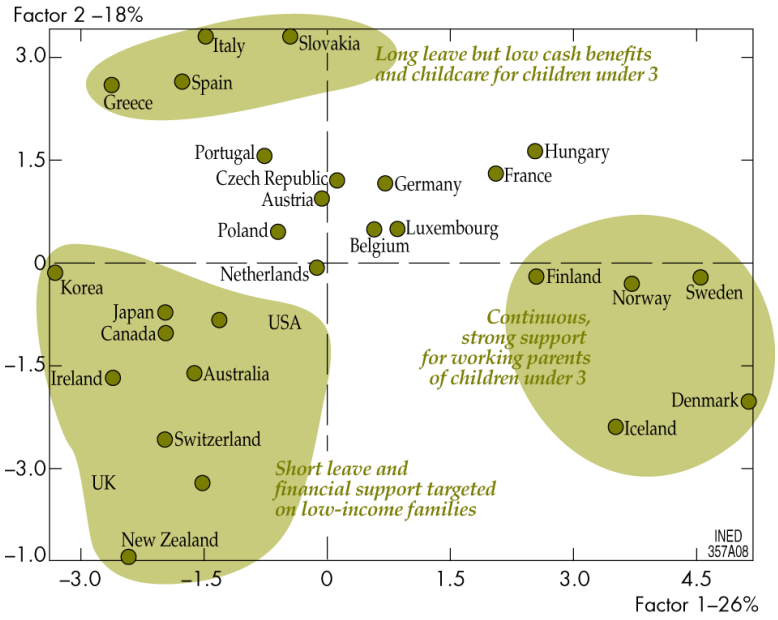
its distribribution across family types ie. how expenditure is distributed across families according to their size, the number and age of children, their income, etc. Other complementary sources and methods are necessary to analyse and compare its redistributive effects. Family models (household type, *case* studies are particularly suited to analysing the way policies function. Other sources and methods may also provide complementary information, in particular household surveys including reliable questions and answers on incomes, and micro simulation models

How are policy instruments packaged together? A preliminary typology

Comparing each policy instrument separately is useful to identify their relative development country by country. But in order to understand their impact one important aspect is to analyse how these different instruments are combined to ensure (or not) comprehensive, complementary and continuing support over the childhood period. Here different patterns of policy support can be identified from the comparison of these packages, which refer to different sets of countries. Thevenon (2008) provided such an analysis for OECD countries, using the OECD Family Database.

A principal component analysis (PCA) of the OECD data makes it possible to identify the main similarities and differences in family policies between European countries. Apart from European countries, several other OECD countries were included: Anglo-Saxon countries (USA, Australia, New Zealand) and Asian countries (Japan and Korea). Figure 1 represents the countries' positioning according to that analysis. The analysis confirms the contrasts highlighted by previous studies (Gornick et al. 1997; Gauthier 2002; De Hénau et al. 2006). The more detailed data available in this database make it possible to highlight heterogeneity within given groups of countries. Some countries exhibit characteristics that are quite different from their geographical neighbours.

FIGURE 1: OECD COUNTRIES ACCORDING TO PATTERNS OF FAMILY POLICIES



The Nordic countries: substantial support for families with small children

Two distinct groups of countries stand out for the first focus of the PCA: the Nordic countries, on the right hand side of Graph 2, and the southern European and Anglo-Saxon countries on the left. That division can be attributed mainly to differences in the parental leave and child

care systems for working parents with children aged under three. Parental leave in the Nordic countries is longer than in other countries: 53 weeks at the full-time equivalent of the average wage in Sweden and 47 weeks in Denmark, compared with only 27 weeks on average for all OECD countries (Table 1). The disparity can be attributed to a relatively high compensation rate in Nordic countries, since the length of leave is limited.

Full-time equivalent leave specifically reserved for fathers is also longer than in other countries: 13 weeks in Iceland and 11 weeks in Sweden, compared with an OECD average of only one week. However, paternity leave actually taken by fathers only represents a tiny fraction of total parental leave, which is almost entirely taken by women. In all, the spending on leave is much higher in the Nordic countries, totalling on average 57% of per capita GDP for each child, versus 25% in the other countries, and only 4.7% in the Anglo-Saxon countries.

The percentage of children in formal child care is also much higher in the Nordic countries. Roughly half the children aged under three attend formal child care there, compared with less than one-fifth in the OECD countries as a whole. The amount invested per child is also much higher: on average $5,758 in purchasing power parity in the Nordic countries, versus $2,520 for the OECD average. However, the volume of cash benefits for families is below average, and clearly targets low-income families.

The total investment in child care and education for all children aged under six is higher in the Nordic countries as well, at 1.8% of GDP on average, versus 0.7% in the other countries (and only 0.6% in the Anglo-Saxon and Asian countries, and 0.7% in southern Europe).

Denmark: a model of comprehensive family policy

Denmark and Iceland stand out from the other Nordic countries (Figure 1), and partly for the same reasons: the percentage of children aged under three in formal child care is much higher in those two countries (62% in Denmark and 59% in Iceland). The level of spending on child care services is also higher in Denmark (2.3% of GDP). The effective tax rate, i.e. the aggregate percentage of tax levied on earned income, is also much higher in Denmark—and in all Nordic countries—than in the other countries. That can be seen as the trade-off for the relatively high level of support granted as paid leave and child care services aimed at reconciling working and having young children. Denmark is probably the most developed model based on strong public intervention offering high, continuous support to enable parents to reconcile work and family. The system provides relatively high financial security during parental leave. Leave is relatively short but followed by easy access to formal child care then preschool and school. Consequently, the fertility rate is among the highest among OECD countries, with a particularly high (full-time equivalent) female employment rate. A high level of female labourforce participation nevertheless comes at the expense of a pronounced occupational segregation between men and women (Gilles and Terraz 2008).

The Anglo-Saxon countries: support targeted on preschool-age children and poor households

At the opposite end of the spectrum from the Nordic countries, the Anglo-Saxon countries, Japan, Korea and the southern European countries are in a similar position to each other, with generally lower support for reconciling work and children aged under three. There is little or no compensation during leave after the birth of a child. The supply of child care and education services is also generally lower, but there are sharp variations between countries. Public investment is also clearly targeted at preschool education. Public spending per child aged under three and attendance at child care facilities are much lower than for children aged three to six.

However, the Anglo-Saxon countries, plus Switzerland and Japan and Korea, differ from southern Europe in several respects, as illustrated by the vertical opposition between these two groups of countries in Figure 1. First, support for families through family benefits and tax breaks is much higher. It is actually the main form of intervention in those countries, where this support accounts for 1.9% of GDP, compared with an OECD average of 1.6% (the USA is an exception, with only 0.8%). This support also clearly targets low-income families and has an objective of poverty reduction. Little more than one child in four (28%) nevertheless attends formal child care, often privately provided, compared with an OECD average of slightly fewer than one in four (23%).

… and a work/family balance based on labour-market flexibility

In other words, the Anglo-Saxon countries are characterised by limited public support for reconciling work and children aged under three. Public investment is higher for preschool facilities for children aged three and over, usually on a part-time basis. The main objective is to provide preschool education to ensure equal opportunity for all children. In this context, the reconciliation of work and family life is fairly strongly based on the adjustment allowed by labour-market flexibility, i.e. the ability to change jobs without being unemployed for too long, and especially the increase in part-time employment for women with small children. Work/family balance is therefore based on strong asymmetry between the positions of men and women in the labour market and implies that families with small children forego some income, which is not offset by public support. Family income is therefore often inadequate and family poverty rates are among the highest in these countries. Conversely, the adjustment made via the labour market enables these countries to maintain high fertility rates.

Southern Europe: more limited assistance

In the other countries, fertility and women's workforce participation rates are generally lower. They are especially low in the countries of southern Europe, where poverty rates are also higher. These countries are characterised by a 'deficit' of policies, whichever aspect is considered. The volume of cash benefits for families is very low. Parental leave can be relatively long, but uncompensated or poorly compensated. Portugal stands out from the rest of this group with slightly shorter parental leave, more targeted cash benefits for low-income families, and much higher attendance of children under three in formal child care: 23% in Portugal, versus less than 7% in Italy and Greece. Spain has almost the same low attendance at child care services, but much longer, unpaid parental leave.

The other countries, in eastern and central Europe, are in an intermediate position, except for France and Hungary, where indicators are far higher than average for all forms of family support. In these countries the full-time equlivalent length of parental leave is longer than in most countries in central and Eastern Europe. Above all, cash benefits for children are far less targeted on low-income families than in the other countries. The investment in child care services is also significantly higher than average, but attendance among children under three in public child care facilities is much higher in France (29%) than in Hungary (7%).

Eastern Europe: at the crossroads of diversity?

Compared to the other three eastern European countries (i.e. the Czech Republic, Poland and Slovakia), Hungary provides more comprehensive support to parents with a young child through a balanced combination of policy support: parental leave payment compensation is higher (70 weeks of full-time equivalent against 39 in Poland and 35 in Czech Republic); public spending on child care services is also higher and their coverage for preschool children is also higher (87% of children) than in Poland (36%), for example; families are also supported through relatively generous financial benefits which amount to 2% of GDP compared to only 1% in Poland. However, the poorest families receive a relatively small share of this support compared to households earning two average wages. Slovakia is also

in a unique position with a rather limited period of paid parental leave, while unpaid leave can be extended to three years. Investments in child care facilities are also relatively low despite higher coverage rates for children under age 2 than in other eastern European countries. As in Hungary, the level of family benefits is relatively high as a percentage of GDP but does not appear to target poor families in particular. Thus, the combination of a long period of unpaid leave and the limited availability of other types of support make Slovakia comparable to other Southern European countries. However, this situation remains quite specific in a geographical area where the development of family and child care policies has varied in its timing and followed different patterns (Szelewa and Polakowski 2008).

Conclusions and recommendations for the analysis of family policies

Two series of recommendations come from the analysis of sources of information on family policies. One is aimed at improving available data on expenditure to support families. The other aims at complementing available information with other sources.

Improving available ESSPROS data on social protection expenditure for families

ESSPROS and new OECD SOCX including tax breaks are the best available sources of reliable expenditure data. Some improvements or supplements should be made to improve the data on expenditure in the field of family policies.

- Increasing the reliability of data, based on current methodology. More thorough reporting of data should be done by member States, following current ESSPROS methodology, and some evaluations of the quality of data should be undertaken from time to time. Expenditure for paid maternity and parental leaves, as well as benefits provided by infra-national public entities should be better reported in ESSPROS than they are now. For comparative studies, family expenditure data should be aggregated according to international definitions, as the role of public spending for family purposes and its impact can only be assessed properly if based on solid comparable data.
- Complementing the ESSPROS analysis of family/children benefits with an ad hoc evaluation of the family/children components or supplements that are classified in other social protection functions**:** sickness/health care, unemployment, housing, old age, social exclusion, etc.
- Evaluating and analysing the support provided to family/children through policies that are outside the scope of social protection, especially the education system and the income tax system.

  Education expenditure: the *OECD SOCX database* already adds to ESSPROS data expenditure on pre-primary education services (from the *OECD Education Database*) for those EU countries where the amounts reported by ESSPROS are underestimated (available from 1998). It includes all public financial support for families with children participating in both formal day-care services (i.e. crèches, day-care centres and family day-care for children under 3) and preschool institutions (including kindergartens and day-care centres for children). This is an improvement enabling better comparison of the commitment of different countries as regards childcare arrangements.

  Tax breaks. Comparative classification systems should be “neutral” with regard to budgetary assignment. Tax breaks are an important feature of family policies and cannot be neglected – expenditure data for cash benefits and services only are insufficient, as tax breaks can be functional equivalents. For the moment, OECD SOCX actually provides some estimates but only for some countries, and not yet on a very regular basis (the last data available are for 2003). Furthermore, tax breaks for married couples (tax splitting) are not reported by OECD SOCX 2007.

- Evaluating the support provided to family/children by employers. In certain countries, benefits and advantages provided directly by employers represent an important part of the support received by families to cope with the cost of children. Furthermore, too little is known from a comparative perspective on the support to families provided in the framework of collective agreements.

Complementing information on family policies by sources other than public spending

As the information needed to analyse family policies cannot be completely gathered from expenditure data, one needs to develop other sources of quantitative and qualitative information.

- Developing more systematic and more regular comparative information on the multiple dimensions of the different instruments of family policy

  Many schemes cannot be reduced to spending, and still less to a few figures or indicators, if they are to be fully analysed and compared. Detailed information on schemes, especially childcare arrangements and leaves, is necessary to analyse properly their multiple dimensions. The OECD family base is a step towards covering the gap in this domain. Networks of researchers, such as the existing *Network of experts on leave policies & research*, or the *European Observatory of National Family Policies* (unfortunately interrupted in 1998), should be supported in order to provide independent updated analyses and comparisons of family policies. There should be more systematic production and confrontation of data. For instance, data on childcare provision from the EU-SILC household survey should be complemented by data coming from other national sources.

- Developing complementary sources to analyse family policies, such as international databases of family models

  Household surveys, such as SILC, provide comparative information on incomes, but due to limited sample size and lack of reliability on questions such as family benefits or tax breaks, their usefulness for fully analysing family policies is limited. Micro-simulation methods such as Euromod encounter the same kind of limitations.

  The family model method is a way to overcome certain limits previously noted. This method provides a precise illustration of the way transfer and fiscal policies work and vary according to family size, income, age of children, etc. It also fully integrates, besides family benefits, the effect of other policies, especially tax systems and housing benefits, that have a particularly large impact in certain countries. Unlike other sources, the most recent legislation may be taken into account using this method. There is already some previous international experience to refer to in relation to the use of this method. The OECD tax and benefit models are based on this method but are not sufficiently adapted to account for the diversity of types of families (little variation by number and age of children and by income level). Previous family model data bases using international data have been set up and successfully analyzed, especially within the framework of the *European Observatory of National Family Policies* that was funded by the European Commission between 1994 and 1998 (Ditch *et al.*, 1995, 1996, 1998; Bradshaw *et al.*, 1995, 1996). This fruitful experience was stopped and, since then, there has been a lack of continuity, even if several international ad hoc studies have continued to show that this method is useful to analyse and compare the redistributive dimensions of family policies (Bradshaw *et al.,* 1993a, 1993b, 1994; Eardley *et al.*, 1996; Bradshaw and Finch, 2002; Math, 2003, 2004 ; Bradshaw and Mayhew, 2006). However, these ad hoc studies have not covered all present EU member States. A more regular and systematic production of such information should be supported.

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Chapter 3

Trends in fertility and the effectiveness of policies for the realisation of family projects

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The demographic situation in the European Union has become a major issue for the European institutions in so far as the consequences of fertility decline on the ageing of the population; the labour force supply and the funding of social protection are concerned. The cost of raising children may influence the individual's decisions to have children, thus contributing to fertility decrease in Europe. Policy actors argue that the observed gap between the "desired" and the "effective" number of children should be reduced. However, the reasons for the fertility decline are multiple and complex, as shown in the abundant literature available on the topic. In addition, the impact of policy measures on fertility decisions is still controversial among researchers and demographers. In this chapter, we first identify the fertility decline and its implications for policy, highlighting the contrasted situations across EU member States with respect to various patterns and reasons for fertility decline and to policy responses across the European Union.Next, we review the literature assessing the impact of policy on individuals' decisions with a special focus on methodological issues. Finally, new ways for research and policies are explored.

Evidence of fertility decline in EU countries

Persistent low fertility rates in EU member states are a growing concern for policy makers at EU and national levels. One basic reason is that low fertility rates cannot offset the positive increase in life expectancy, thus accentuating the process of population ageing. As stated quite widely in the literature, this process seriously challenges the aptitude of countries with the lowest fertility rates to reach a sufficient renewal of their active population to respond to future labour force shortages and to the needs of Welfare States. The evidence of fertility decline and its consequences has been underlined in many researches over the last decades, most of them being commissioned by the European Commission (for instance: IPROSEC; See Hantrais, 2004) or by the European Council or the OECD. More concern about the impact of such a process is expected where the total population has started to decline or is expected to decline strongly in the years immediately ahead (European Commission, 2007). While the rate of population growth is one of the lowest among the major regions in the world, EU member states face a similar slow down in population growth but with different intensities (United Nations, 2007).

Recent observations have pointed out that evolution can overcome this process to some extent since the total fertility rate (TFR) has started to re-increase in some countries after a period of decline. Such an increase is attributable to a fertility rise at higher ages, thus indicating that the decline of periodic fertility may be partly due to a postponement effect. In addition, the increase in migration, and its potential contribution to fertility is also a debated (although rather poorly documented) issue. Finally, the positive cross-country correlation between the TFR and female labour market participation rates, which is now observed within

[11] Most of the developments included here are based on previous contributions by the authors for the EU research project REPRO: Reroductive decision-making in a macro-micro perspective, 7th framework programme. More detailed developments can be found in Bernardi et al. (2009) and Thévenon (2009) quoted in the list of references.

OECD countries, in contrast to the negative association pointed to in the 1980s, often supports optimistic conclusions on the role of policies in overcoming fertility decline. The extent to which this relationship has changed over the past decades is still a controversial issue.

The following sections review the main trends in fertility and the related issues discussed in the demographic literature. We first look at fertility trends and discuss to what extent they are related to changes in the timing of births, in family size, and to changes in the use of contraceptives. We also mention the literature, although limited, that estimates the migrant's contribution to fertility. Next, the relative dissatisfaction regarding fertility, as measured by the gap between intended and effective fertility, is discussed. Finally, we present the debate relating to the changing relationship between fertility and women's participation in the labour market.

Fertility decline: universal but more or less substantial

The most commonly used period indicator for fertility is the Total Fertility Rate (TFR) which estimates the average of the age-specific number of births per woman for a given year. This synthetic estimation is often used for fertility projections but its relevance is bounded by the hypothesis according to which the age profile of family formation will remain stable. To put it more precisely, the use of the TFR for fertility projections assume that the future fertility pattern of younger women will comply with those currently observed among the older cohorts of women. In contrast to that situation, a growing number of women postponing births will inevitably impact negatively on the TFR even though the likelihood of having children at a later age may contribute to maintain stable fertility. In this case, we may say that the decrease in TFR reflects a tempo effect as opposed to a quantum effect. Thus, the possible changes in the timing of births are not taken into account in the TFR, and the extrapolation from current periodic rates may overestimate the overall fertility decline. Finally, the sensitivity of the TFR to postponement and to catching-up effects explains why the TFR is a volatile and unstable indicator.

Given these reservations on the interpretation of trends, table 6.1 shows a quite universal decrease in the TFR experienced by the EU member States since the 1970s. This decrease has been quite important in the EU, since the periodic fertility rate dropped from 2.6 children per woman on average around 1965 to 1.5 children in 2005 for the EU-25. The intensity of the decline, however, varies across Europe, having been very substantial and rapid in countries like Ireland or Poland, where a drop of almost 50% or more has been observed. The decline was lower in most Western and Northern European Members States (see table 2.1 p.6, *EC. Report Europe's demographic future 2007)*

Wide differences persist across the EU member states with respect to fertility rates, especially between two groups of countries in the enlarged Europe (EC, 2008). According to the authors of the report on Europe's demographic future, the first group includes countries with a moderately low fertility, in the range of 1.6-1.9 births per women. The relatively limited decline in fertility rates may lead to an expectation of a slight recovery of fertility, possibly through immigration, that could contribute to guaranteeing the full-replacement of the population. Such a replacement is not expected for the second "lowest low" group of countries which exhibit rates in the range of 1.5 children per woman births or below[12]. Most of the "lowest-low" rates (i.e. around 1.3) were found in the new member States while the average fertility rate was about 1.6 children per women in the EU-15.

However, recent trends indicate that most of the EU member States (i.e. 17 out of 25) have experienced an increase in the TFR over the last years, although the increase varies in intensity and durability. France Prioux (2007) pointed that the increase has been quite

[12] In a stable population with a fertility rate of 1.3 births per woman, the population falls at the rate of 1.5% per annum. Other things being equal, such a population would fall in 100 years to less than a quarter of its original size. In contrast, with a fertility rate of 1.9, the rate of decline in a stable population is only 0.2 and the population after 100 years is 82% of its original size (Mc Donald, 2000a)

remarkable where fertility rates are already quite high. For instance, an increase in the TFR (+4.5%) was observed in Sweden in 2006 (0.08 children per women) and also in England and Wales where it increased by 0.07 points (+3.9%). Other Nordic European countries have also experienced an increase, although smaller, in the TFR which is now higher than 1.8 children per woman. Among all the countries experiencing such an increase, France stands in a rather specific position since the fertility rate has been continuously rising from the mid 1990s. As a consequence, France was the first European country to display a periodic fertility rate at 2 in 2006. Together with Iceland and Ireland, France displays the highest fertility rates among European countries. Despite a slow down in fertility over the last years, Ireland still has one of the highest rates in Europe.

Compared to the other Continental European countries, France figures as an outlier. Whereas Belgium, Luxembourg and the Netherlands show a relatively stable TFR around the intermediate level of 1.7, Germany, Austria and Switzerland with rates at 1.3-1.4 children per women are closer to low-fertility countries.

More challenging are the increases in fertility rates observed in the so called “lowest-low” Eastern and Southern European countries (Van Nimwegen & Beets, 2008). An increase in the periodic rate can be observed in almost all Eastern European countries, namely in Latvia (+ 6% between 2004 and 2005), Czech Republic (+ 4%), Hungary (+ 3%) and Estonia where the TFR rose from 1.21 in 1998 to 1.50 in 2005. A similar rise is visible in Spain, Italy and Greece, contrasting with Portugal where a tentative reversal was observed in the early years after 2000 but not confirmed thereafter. These trends contrast with the dramatic fall in fertility rates recorded in Malta and Cyprus over the last ten years. Nevertheless, all these trends tend to converge towards a fertility rate amounting to 1.4 children per woman that is far below the population replacement rate, and therefore challenging to family policies (Rychtarikova & Kocourkova, 2007 for the Czech Republic).

Fertility decline or change in the timing of births?

Numerous reasons may be behind the fertility decline. Demographers are highly concerned by the phenomenon, which has been a major topic for conferences and symposiums over the last decades. Understanding the reasons for fertility decline is of major interest for policies that have to adapt their responses.

The up-turn of the total periodic fertility rates observed in many countries questions the extent to which rates reflect trends in “quantum” or changes in the “tempo” of births[13]. A look at age-specific fertility rates suggest that the tempo effect may be important in determining the fertility level. However, fertility rates for women under 30 years old have decreased continuously over the last decades and continue to decrease in most EU member states, while fertility after age 30 increases, indicating that many women are delaying the moment of becoming mothers. The increase in fertility rates at higher ages has accelerated in some countries like France since the early years after 2000 (Prioux, 2007) while the decline at young ages slowed down in many member states and even stopped in several countries. The combination of these two trends explains why the decline in the total fertility rates (TFR) has slowed down in some countries or even turned into an increase, suggesting that the stabilisation or the rebound in fertility rates may be resulting from a “catching-up” effect from cohorts having postponed childbirths rather than strictly forgone motherhood.

The impact on fertility decline of childbearing postponement remains highly controversial however. Whereas Gustafsson (2001) defines an optimal age at motherhood which would not have implications on fertility level and family size, other authors explore the possible

[13] Cohort fertility trends are more stable indicators of long-term trends. However, an obvious problem in using cohort rates is that they are not available for (younger) cohorts that have not yet completed the end of their fertile life span therefore preventing a timely observation of fertility trends. In addition, measurement of complete fertility for a birth cohort may also raise problems, notably when societal change is pronounced, thus inducing a distortion in the measure (for an overview of the problem, see: Kohler, Billari & Ortega, 2002)

contribution of fertility at higher ages to counterbalance the decrease at earlier age. Fertility rates of women aged over 30 may be higher than those of women under 30, as is observed in the Netherlands where the TFR equals 1.75, of which 1 child per woman is realized at age 30 and over (Nimewegen and Beets, 2007). In North European countries and France, fertility at age 30 and over is also relatively high, at a level of about 0.9 children per woman whereas in most South European countries fertility at age 30 and over is slightly lower (between 0.6 and 0.8) but still rising considerably. By contrast, fertility at 30 and over equals only 0.5 in Germany, whereas fertility at younger ages is as low as in the Netherlands. Therefore, the recovery of fertility at higher ages is far less visible in countries like Germany and Austria than in other Continental European countries (Nimewegen & Beets, 2007).

However, it is also assumed that the consequences of motherhood postponement on fertility rates are not complete, whereas the stage reached by countries in that process is variable. De Beer (2006) points out that in some countries other than in Central and Eastern Europe, the rise in fertility at older ages has been slowing down, suggesting that the 'recovery phase' is close to the end. Nevertheless, a strong increase in fertility at 30 and over is still going on in most countries, suggesting that the TFR may increase in next years.

Another debated issue concerns the overall impact of childbirth postponement on completed fertility. This is a major concern since "natural biological" constraints to reproductive behaviour may lead to a negative impact of the delay of motherhood on the final family size. To assess the relevance of this argument, Toulemon (2004) analysed changes through cohorts in the estimated correlation between mothers' age at the birth of their first child and the completed size of the family in France and other European countries. A very diverse picture emerged from the analysis, but any kind of systematic relation between the postponement of family formation and the changes in completed family size could be assessed. Thus, the relation between the age at first birth and family size is persistent in spite of the homogenization of family size. However, no conclusion can be inferred from this relation in order to explain the evolution of behaviour across cohorts. Fertility behaviour encounters natural limits but the ways those limits extend are diverse as illustrated by the various patterns of cohort changes in Europe. The postponement of first births for the generations of women born between 1950 and 1960 coincides with a decrease in family size in only a few countries (cf. fig 19 and 20 in Toulemon, 2004).

By contrast, a decrease in the age at first birth co-existed with a decrease in family size in Slovenia, Czech Republic, Slovak Republic, Bulgaria or Portugal. Far more unexpectedly, an increase in the average age at first birth seems to be correlated with an increase in family size in Finland, Sweden, Norway, Denmark and France. Thus, changes in the social construction of parenthood appear to be more important factors explaining cohort changes in fertility behaviour than natural constraints. The author concludes that there is no reason to expect a general and unavoidable strong decrease in completed fertility rates due to the postponement of births (Toulemon, 2004). On the one hand, the postponement of first births does not automatically imply a decrease in the proportion of women having children; on the other hand, the numbers of children per woman remain constant in many countries.

The above argument certainly establishes persuasive limits on the impact of family formation postponement on long-term completed fertility. However, this postponement also has a significant although short-term impact on periodic rates. Van Nimwegen & Beets (2008) estimate that a stop in postponement would raise the cohort level of fertility by 10%, enabling an increase from 1.5 to 1.7 children per women on average in all member states. The expected impact would be lower in Spain, Italy and Germany and higher in most NMS countries, where postponement started more recently, than in old western countries. This, it can be argued, is a "window of opportunity" for policies aiming at influencing fertility timing in low fertility countries (Lutz and Skirbekk, 2005; Van Nimwegen & Beets, *op.cit*).

To sum up, despite a recent upward trend in the total fertility rate, a large majority of the population in Europe live in countries with fertility rate is considerably below replacement, whatever measure is used. The fertility rate however varies across countries. In Western and Northern Europe, fertility was slightly below replacement in the early years of the 21st century. In Southern, Central and Eastern Europe, fertility quantum (measured by the period total fertility rate) was markedly below replacement: whereas the TFR was around 1.5 in many countries, it was as low as 1.3 to 1.4 births per woman in some others. There is a deep change in childbearing patterns throughout Europe, which is characterized by a marked delay of entry into parenthood. This secular trend towards later childbearing has contributed strongly to the decline and fluctuations in period fertility rates (Frejka and Sobotka, 2008).

Exploring the determinants of family formation and childbearing in Central and Eastern Europe during the transition, Tomas Frejka (2008) examines two theories that prevail to explain what caused changes in family formation and fertility trends, i.e. the replacement of societal conditions favouring early and high rates of childbearing by conditions generating late and low levels of fertility. One theory argues that economic and social crises were the main causes of change whereas the other theory considers the diffusion of western norms, values and attitudes as the prime factor of change. The author found that the very low period TFR around 2000 resulted from the low fertility of older women overlapping with the low fertility of younger women.

Reduction in family size

As a consequence of the decline in fertility, the completed family size has dramatically decreased in Europe. By the end of the 20th century, the two-child family became the norm in Europe. Between 40 and more than 50 % of women of the 1950s and 1960s cohorts had two children (Frejka, 2008). However, two-child families are becoming less common, especially in Central, Eastern and Southern Europe where the one-child family tends to be prominent now. Meanwhile, an increase in childless women was observed among younger generations. The combination of the two trends affects particularly Southern, Central and Eastern European countries. In Nordic countries, progression ratios to first and second child are relatively stable, and even more so in France where most people opt for two children but very few for one child or for three or more.

Although there are fewer large families everywhere and especially in Germany and Austria, at the same time there is an increase in the number of childless women especially among highly educated women; this therefore raises the issue of tension between working and mothering and its impact on fertility for some categories of women. Although the proportion of childless women remains low in France (10%) the proportion is noticeably high in Germany (25%), raising the issue of the impact of policies supporting parenthood and especially childcare policies on both reproductive decisions and labour force participation. Comparing Austria and Sweden, Neyer & Hoem (2007) point to noticeable differences in the high incidence of childlessness for highly educated women in the two countries.

Goldstein et al. (2003) suggest that the two-child family, one boy and one girl, which has long been considered the “ideal family” in West European countries is no longer the ideal for younger generations in Germany and Austria, and to some extend in Italy, Spain and Greece. They assume that sub-replacement fertility ideals have emerged as a natural consequence of a history of low fertility, since young cohorts have witnessed below-replacement fertility for their entire lives.

Birth regulation and contraceptive behaviour

Is the use of contraceptive methods a cause of fertility decline? Is there an incidence of abortion on fertility? Over the last decades, legal restrictions on contraceptive use were removed in most member states and “modern” contraceptive methods have been made available in a growing number of countries, though selectively. According to a United Nations report (2008) modern contraceptive methods (primarily hormonal methods) have become the

main instrument of birth regulation in Northern and Western Europe in the early 21st century, also gaining ground in Southern Europe where they were less used, and in Central and Eastern Europe. Most women of reproductive age (15-49), either married or partnered, use modern contraceptives, but in most of the NMS modern contraception was not yet prominent. The use of traditional methods remains relatively high in Bulgaria, Estonia, Lithuania, Poland, Romania, Slovakia and Slovenia, as also in Italy and Spain, suggesting that the so called 'contraceptive revolution" (from restricted to fully accepted contraceptive behaviour, and from traditional to modern methods) is more or less achieved in Western countries, slightly less in Southern EU countries and clearly less in NMS. These findings indicate that there is no direct relationship between contraceptive use and fertility decline. Legal abortion use which was highly prevalent in Central and Eastern Europe, has been declining since 1990. Nonetheless, abortion is still used in the formerly soviet countries; But although modern contraceptives and modern induced abortion technology have enhanced women's health and have contributed to changes in partnership relations and in the values associated with sexuality, reproduction and childbearing, they have not been a major cause of low fertility (Frejka, 2008). In some countries, assisted reproductive technology may have a slight positive impact on fertility.

The fertility of immigrants

As a result of international migration, the demographic diversity of the population is increasing, resulting from socio-cultural diversity. Besides, the diversity of living arrangements is also increasing in relationship to changes in demographic behaviour. Although migrant groups have on average higher fertility rates than native groups, the impact of immigrant fertility behaviour on the national fertility level seems to be often overestimated, as suggested by François Héran for the French case (Héran, 2002 and 2007). A study from Héran & Pison (2007) indicates that the TFR of French women (metropolitan area) increased from 1.7 to 1.8 over the last decade while the TFR of immigrant women increased from 2.8 to 3.3. The study also points to the impact on fertility of the duration of the stay in France: immigrant women who have been living in France for longer tend to have a lower fertility rate than women recently arrived. Similar results were obtained from comparative research carried out for the Council of Europe (EC, 2002), showing that the second generation of immigrants tends to limit their family size, although they have on average a higher fertility level than native women. But since immigrants form a small fraction of the total population, the overall impact on national TFR remains limited. Another research by Tomas Sobotka (2008) examines the influence of immigration on childbearing trends in the countries of Western, Northern and Southern Europe, which have received a relatively large number of immigrants during the last decades. The author analyses the contribution of migrants to the total number of births and compares fertility rates of migrant women with the fertility rate of native women, pointing out a huge diversity among migrants. The research reveals that migrant women display higher levels of period fertility than native women, but this difference diminishes over time and with the duration of their stay in the country. Immigrants contribute substantially to the total number of births and their share of total births has increased in the last decade, exceeding in some countries one fifth of the recorded live births. However, the net effect of the higher fertility of migrants on the TFR remains relatively small in particular countries (between 0,05 and 0,10).

Finally, there is a convergence in research findings showing that national fertility levels are barely affected by migrants despite the higher fertility level of some groups. However, data on migrants' fertility should be interpreted with care since the data collection methods vary widely across countries.

Analysing the gap between intentions and fertility behaviour

Predictions about future trends in fertility cannot only take account of tendencies at macro level; they also have to consider trends in attitudes and values related to family and children.

Fertility decline does not only result from structural considerations. Changing values and preferences are also concerned. The Euro barometer surveys, confirmed by national surveys, indicate that men and women report that they have fewer children than they would wish to have. Most policies accordingly rely on the assumption that policy measures may be able to change fertility decisions and so to increase the number of children families have, although the reasons for failure to realise expectations are not yet well known.

According to the last Euro Barometer survey in 2006, in all EU member states men and women report having fewer children than they expected. Based on the last wave of this survey, Maria Rita Testa's research provides a valuable overview of major findings on childbearing preferences and family issues in Europe, confirming the results from the previous Eurobarometer survey in 2001 (Testa, 2006). A consistent gap between the intended and the effective number of children is observed in all countries (Fig.24 in Testa, 2006). The findings also confirm the emergence of below replacement family size ideals all over Europe, and notably in Germany, Austria, Italy, Spain, Slovakia, the Czech Republic and Malta, where a "low fertility culture" is emerging among young people. According to Testa (2007:378), "this could be read as a first sign that below-replacement fertility preferences may become more common also in other European countries in the future". The fact that young Europeans who report being satisfied with their family size have on average 1.9 children tends to reinforce this assertion. The report also indicates that like the ideal number of children, the ideal time for becoming a mother is higher than the current age at the first chid birth. Countries with a higher mean ideal age for motherhood also show a larger family size ideal.

The ongoing DIALOG project entitled "Population Policy Acceptance Study"(PPAS) funded by the European Commission and coordinated by the Federal Institute for Population Research in Germany, provides convergent information on opinions about family and family policy, desired number of children and reasons for not achieving fertility expectations (among other issues) in fourteen European countries. The survey based study shows that the average number of desired children is more or less around two children, with a higher figure in Cyprus (2;4 children on average) Poland (2.3) followed by Finland, Estonia, Lithuania, Hungary and the Netherlands (only for women in the later two countries). By contrast, the desired number of children was far below two in four EU countries of the sample: Germany, Austria, Belgium and Italy. The lowest number is to be found in Germany where women wish on average 1.75 children and men 1.59. However, the average number does not say anything about the distribution of responses. In Cyprus, Poland and Finland, there is a high share for the preference for three children and more (34% of men and women wish to have 3 or more children in Poland whereas the largest group wish to have two children in other countries, a trend that is particularly strong in the Czech Republic, Estonia, Hungary, Italy, Lithuania and Slovenia (60% of men and women in this later country wish to have 2 children and only 20% wish 3 or more).

Few people prefer remaining childless: only less than 10% on average do not expect to have children (less than 5% of men and women in Cyprus, Slovenia and Lithuania). By contrast, desired childlessness is remarkably high in Germany, the Netherlands and Belgium: 15,4% of women and 22;5% of men in Germany; 12.5% and 17.5% in the Netherlands, 10.4% and 15.3% in Belgium (BIB, 2007). In Eastern European countries where the average number of desired children is high and the fertility rate low, the gap is high between expectations and reality. The gap is lower in Germany where both expectations and fertility level are low, as also in Belgium and Italy.

The observed gap between the desired number of children and the effective number is a major issue for policies that are expected to implement measures aimed at encouraging more family-friendly attitudes. However, as mentioned by the authors of the report : "The considerable share of those wanting no children in some countries gives rise to the problem of whether family policy is still able to promote more births" (BIB, 2007: 40).

Reasons given for not achieving expectations

According to the Euro-barometer survey in 2006, having children is predominantly seen as being conditioned to the presence of a supportive partner, and to the partner's involvement in childbearing and family tasks : "the presence of a supportive partner is the most important circumstance in childbearing decisions, and consistently, the lack of the right partner for raising children is the most frequent reason given for not meeting the fertility desires formulated at the beginning of the reproductive career" (Testa, 2007: 357). So; if the contribution of both partners is considered necessary to a good family life, it should be noticed that the countries that are more liberal in terms of gender roles in family life are also those with preferences for large families. Good health is also an important precondition in the fertility decision process. But, beyond the lack of a partner, postponement and changes in priorities are the most important factors competing with fertility preferences (Testa, 2006: fig.29: 77). In line with the relevant influence of a good partner on reproductive decisions, family size ideals are higher in those countries where a majority of respondents agree with the idea that men and women should share childrearing and family responsibilities equally. The positive link between egalitarian gender roles and fertility ideals suggests that fertility and childbearing intentions are influenced not only by current difficulties in combining work and care, but also by the perceived tension between working and mothering (Testa, 2007). This result was confirmed by a comparison of the fertility level in Germany and France (Fagnani, 2007)

However, the main problem with the Euro barometer survey is the limited sample of respondents in each country and especially in small countries. This is probably the reason why some results seem surprising. Other international surveys, such as the those planned within the Gender and Generation Surveys programme, are expected to provide more robust results, allowing more consistent cross national analyses on similar topics. Nevertheless, according to the author of the 2006 report, the general trends in childbearing preferences and family size issues in Europe highlighted in this study are informative, and cross national comparisons may be used (carefully) to supplement the main results.

According to the PPAS survey, reasons given by women who have already completed their family formation for having had fewer children than the number they previously desired differ slightly from reasons given in the Euro barometer survey. In the first rank of reasons was a misgiving about the future that prevented the achievement of the expectations (especially in NMS), and being too old for another child (especially in countries where family formation starts relatively late, namely Austria, Belgium, Finland, Italy and the Netherlands). The high costs of raising children were mentioned as the second most important reason in Lithuania and Poland, and also in Hungary. The fear of not being able to maintain ones' standard of living was the third most important reason given by German respondents (BIB, 2007).Health reasons are also mentioned in several countries, whereas individualistic motives are given little importance except in Austria, Germany and Belgium. Since many respondents consider themselves as being too old to have another child, the question raised for family policies may be how to support an earlier start of family formation, and how to facilitate the reconciliation between work and family obligations, so as to avoid women facing an impossible dilemma or an impossible choice.

Although politicians rely on the evidence of the gap between expected and realized fertility to implement policy measures aimed at raising the fertility level, several authors are circumspect about data measuring fertility intentions, and the relevance of the indicator for policy purposes (Bongaarts, 2007; Philipov, 2007). While some authors suggest using new indicators (for instance: Devolder, 2007), others have doubts about the reliability of responses to such questions, arguing that respondents tend to conform to the norm of the country, and therefore consider that policies should not be based on such data sets, but rather on countries experiences (Régnier-Loilier 2007; Leridon 2007).

Limits of public opinion/intentions data

The discrepancy between the ideal and the actual number of children has often been used to legitimate the opportunity of policies. It is argued that people have fewer children than the number they consider as ideal because of barriers to fertility, such as the high cost of children and the difficulties in reconciling work and family life. A low gap between wishes and practices may be attributed to generous policies supporting the costs of children, whereas a high gap may be the result of poor family and work-life balance policies. However, the relationship is not so clear, since in some countries including the UK, Austria and the Netherlands, the gap is relatively low in spite of relatively limited policies (Gauthier, 2007).

Indeed, the use of "ideal" number of children to capture the potential impact of policies remains problematic since as stated earlier, data on the expected number of children tend to be volatile for two main reasons: :

- tempo-controlled measures of the gap exhibit a lower gap (Lutz)
- when asked about the ideal number of children, people tend to refer to global norms and expectations rather than to what they themselves consider as ideal; responses about the ideal number of children tend to cluster around the two-child norm (Goldstein et al., 2003, Frejka et al;. 2008).

In order to overcome these limits other data sources may be used, for instance on the perceived causes of low fertility or on the preferred family policy measures (Eurobarometer; Population Policy Acceptance Survey). Respondents in the nine-countries of the *Population Policy Acceptance Survey* in the early 1990s were asked whether or not they would have an additional child if their preferred family policy were introduced. Results suggest that only one or two respondents out of ten would have another child in that case, thus translating to an increase in fertility of 01.-0.2 children per woman (Kamaras *et al.,* 1998). As stated by Gauthier (2007), this may be a more realistic estimate of the policies' window of opportunity than the 0.5-0.6 children per woman estimated on the basis of the gap between the ideal and the actual number of children.

This review of literature on "ideal" number of children suggests that it would be preferable to formulate questions about real intentions. It also suggests the importance of analyzing the contribution of the policy context to the realization of intentions.

Fertility and female labour force participation: which link?

The relationship between fertility and women's participation in the labour market is complex and deserves specific attention. Recent research in e.g. Ahn and Mira (2002), Rindfuss et al. (2004), D'addio and Mira d'Ercole (2005) found that the cross-country correlation between the TFR and the FLP in OECD countries, which had been negative until the mid 1980s, had turned to positive value. The explanation of this change remains a controversial issue. Ahn and Mira (2002) and D'Addio and Mira d'Ercole (2005) argue that the income effects of female wage increases, high unemployment in Mediterranean countries, the increase in part-time work and the extension of childcare availability could explain the change in sign of the cross-country association. Somewhat differently, Rindfuss et al. (2004) and Brewster and Rindfuss (2000) point to changes in the institutional context, such as changing government policies, changing attitudes toward working mothers, and an increased availability of child-care that had contributed to minimising incompatibilities between childrearing and female employment. All these studies argue, however, that the female labour force participation has a positive impact on fertility.
By contrast, studies by Englehart et al. (2004) and Kögel (2004) moderate to some extent this optimistic viewpoint. They argue that looking at inter-country correlations may be misleading, as the strength of the relationship between fertility and female employment rate may vary between countries. Such patterns at the macro level do not necessarily reflect

causality in terms of individual behaviour. Englehart et al. (2004) found in macro-level time-series data from six representative OECD countries that the value of the time-series association between the TFR and the FLP did not change from negative to positive. Kögel (2004) replicated this finding with a larger sample of OECD countries.
He argues instead that the reversal in the sign of the cross-country correlation is most likely due to a combination of two elements: the presence of country-specific factors, and country-heterogeneity in the magnitude of the negative time-series association between fertility and female employment. Controlling for unmeasured country-specific factors, he found no change in the negative relation between fertility and female employment rates, in line with the micro-economic prediction. He also found heterogeneity in the time-series association, especially negative in Mediterranean countries. However he found for countries that are neither Mediterranean nor Scandinavian countries, the magnitude and the significance level of the time-series association were lower after 1985 than before. This finding is consistent with the role of policies that reduce incompatibility between childrearing and female employment. However, controlling for country effect prevents misinterpretation that would conclude that, from the mid 1980s the increase in female labour force participation has a positive impact on the TFR. Instead, female employment increases with simultaneous decrease in the TFR, although the magnitude of the negative relation varies from one country to another but has decreased in several countries. However, differences in magnitude of changes are observed across countries. Policies, as well as work-related institutions, may contribute to explain these differences in magnitude.

The effectiveness of policies supporting parenthood on reproductive decisions

The role of institutions and policies in shaping fertility

How policies exactly contribute to explaining cross-country performances in fertility still remains an open question. One basic reason lies in the methodological difficulties that face those who seek to investigate policy impacts on fertility behaviour (Gauthier, 2007). While properly conducted, empirical investigations have overcome such problems and have clearly demonstrated policy effects in specific circumstances. Micro-based evidence on the impact of policies and institutions is however not sufficient to understand the macro-level differences observed in the relationships between policies and fertility trends.

Higher female employment and fertility rates in countries with higher support to families

Many studies have emphasized, more or less recently, the variety of policies supporting families and working parents across OECD and European countries (Gornick *et al.* ,1997; Gauthier, 2002; De Hénau *et al,.*2007; OECD, 2002-2007; Thévenon, 2008a). These analyses basically stress the differences in the degree and in the nature of support, as reflected by the use of cash benefits, the provision of childcare services, entitlements to child-related leaves, and working time flexibility. They also emphasize the differences in the ways in which part-time work, working hours flexibility or other support provided by employers contribute to balancing work and family life (Gornick and Meyers, 2003; OECD, 2002-2007; Thévenon, 2008b). Macro-level comparison then shows that both higher fertility and female employment rates are simultaneously found in countries where the institutional support to working parents is comparatively extended (OECD, 2002-2007). Patterns of support differ, however, from one country to another. Thus, schematically, a relatively high, balanced and continuous support to working parents during childhood is found in Nordic European countries (and France) where high fertility rates and relatively high female full-time employment rates exist together (Thévenon, 2008a). A rather wide flexibility in working hours is also frequently provided by employers (Thévenon, 2008b). By contrast, the balance between work and family life is more frequently achieved through part-time work by women in anglo-saxons countries where fertility rates are also high in spite of a more clearly targeted State support to poor families. Other groups of countries show less extensive support, and both female employment and fertility rates are at lower levels. Thus, macro-level observation

exhibits a rather clear positive correlation between policy support and both fertility and female employment rates, without causality being investigated. Micro-level evidence on the impact of policies on fertility is, however, more mixed.

Fertility as a rational economic decision

Economic theory has been very influential in the literature and is at the core of the assumed relationship between policies and demographic behaviour. Thus, according to neoclassical economic theory of fertility, the decision to have a child is subject to an economically rational decision (a utility maximisation process), and is a function of the economic costs and benefits of children, subject to an income constraint and to households' preferences for children (as opposed to other goods). According to this model, any reduction in the cost of children (as a result of public subsidy) or any increase in income (as transfer payments) is therefore expected to increase the demand for children (Becker, 1981; Cigno, 1991). Major developments do not only include direct costs in their evaluations but also take into account the indirect or opportunity costs. Direct costs are the additional costs incurred by households when children are present (e.g. food, clothing, childcare, education, housing, etc.) Indirect costs refer to the loss of income incurred by parents as a consequence of the presence of children, for example when the mother drops out of employment or reduces working hours to care for children, or when her career prospects decline following the birth of children.

The theoretical impact of policies and their limits

Policies such as child and family cash allowances, tax relief for children, and especially work-related policies to overcome "opportunity cost" (subsidies to childcare, maternity and parental leave benefits), are all expected to have a positive impact on fertility by reducing the direct or indirect (opportunity) cost of children. There are, however, limits to the scope of this argument. Various reasons are indeed advanced to explain the low fertility in Europe or the relatively highlevel in some countries. Among the reasons are:

- The postponement of the age of emancipation, since young people spend a longer time in education, and therefore enter later into the labour market. Longer transitions to adult age and later economic autonomy may impact both on fertility quantum and tempo (Blossfeld *and al.,* 2004). Access to independent income is also mentioned as a factor limiting fertility, especially in South European countries. Beyond the longer period in education, increasing difficulties in accumulating resources for making up an independent household (housing difficulties, precariousness of employment, income insecurity) have a negative impact on fertility quantum, beyond the postponement of the first birth (see supra).
- Change in social and family norms, in norms related to raising children, and in gender division of parental responsibilities may also influence fertility decisions. Women's preference for work may explain the high incidence of childless educated women in countries where childcare provisions are not available and where few working time arrangements are offered. But when childcare facilities are available, when gender division of parental responsibilities are more effective and when there is a family-friendly work and policy context, like in Nordic countries (Ellingsaeter, 2007; Kravdal, 1996) and to a certain extent in France (Cette, Dromel & Méda, 2005) the fertility level remains high, as does also women's employment level. Changing values are also mentioned to explain low fertility in some countries, especially a trend towards individualistic values.
- The "low fertility trap hypothesis" is based on three components of a self-reinforcing mechanism (Lutz et al., 2005):
    - demographic: negative population momentum, i.e. the fact that fewer potential mothers in the future will result in fewer births

- sociological: the ideal family size for younger cohorts is declining as a consequence of the lower actual fertility observed among previous cohorts
- aspirations of young people are increasing while their expected income may be declining as a consequence of the rising costs of population ageing.

Among other reasons being discussed are the quantity-quality trade-off. According to this hypothesis, parents prefer to have a small number of children in order to concentrate their investment on them, rather than to have several children and no time and money to spend on them. However, the relatively "good" situation of France and Sweden for instance is not yet explained.

Finally, there is no one main reason explaining the decline in fertility in Europe, but rather a complex set of reasons, mixing structural reasons, values and norms, which combine differently in various countries according to histories, cultural traditions, economic contexts and policy orientations.

Fertility has been, and still is, a challenge for policy in most European countries. Although there is no consensus on the reasons for the low fertility rate in some countries, there are two questions to be raised in this section: first, is there any evidence of the impact of policies on the reproductive decisions of individuals?, Second, what kind of instruments do we have to assess the impact on fertility of policies supporting parenthood? Until recently, in countries where policies aimed at supporting fertility were explicit, as in France, instruments were mainly cash childcare benefits encouraging parents to have more children by reducing the direct costs of children. More recently, these kind of policies were less explicit because of being rather unpopular, while policies have tended to support parenthood and in particular working parents, helping them to combine work and family responsibilities. Countries where substantive measures supporting working parents have been implemented are those countries where the level of fertility has decreased less than in other countries with few support, therefore suggesting that work related policies may limit the tension between working and mothering. In addition, attention should be focused on children and the quality issue in a context of changing values around childhood and children.

Before reviewing the empirical results, we first draw attention to some difficulties in assessing the precise impact of policies on fertility .Next, we begin the review of the empirical literature by first examining the empirical evidence based on public opinion data. We then move to studies assessing the impact of policies and effective behaviors. Finally, we discuss some issues deriving from such assessment: limits and issues that remain to be investigated.

Difficulties in measuring policy impact on fertility decisions

Cross-country analyses suggest that total fertility rates are higher in OECD countries with wider childcare availability, lower direct cost of children, higher availability of part-time work and longer leaves. The precise evaluation of the impact of each of these policy variables faces several difficulties:

- First, the range of policy instruments that can influence fertility is broad, and this wide range makes it necessary to define conventionally the scope and borders of such policies in order to enable cross-country comparisons. Furthermore, given this wide range of instruments, it is difficult to capture the potentially complementary nature of instruments, i.e. the fact that one instrument would have an effective impact only in combination with another one, or if the associated support is higher than a given threshold. In particular, the effectiveness of policy instruments may depend on the existence of a complementary and continuous support over the period of childhood, to deal with the different aspects of childrearing and the evolution of needs over the life-cycle.

- Second, there are also obvious temporal lags in the adjustments of reproductive behaviour to policy changes, and such lags make it difficult to assign the impact of specific instruments or specific policy change.
- A third issue is that both fertility and labour market behaviours are decided simultaneously and this may induce some endogeneity within explanatory variables such as mothers' labour supply. This issue is, however, now relatively well-treated when longitudinal data are available
- A fourth difficulty lies in the estimation of the real cost of children, which varies with household economic and demographic situations. Thus, most cross-country comparison does not account for such inter-group heterogeneity and focuses on average values. However, policy impact may vary across socio-demographic groups, such as by ethnicity, socioeconomic status, and also according to the form of the relationships between parents (Sleebos, 2003). Gauthier (2007) stresses, for example, that policy has differential impact by birth parity.
- A related issue is to circumscribe the scope of policy measures since they can have an impact on the behaviour of subgroups of population who are not directly targeted by these measures. As we will see, parental leave payment paid in France to parents with two children may have had an important impact on behaviour of larger families. Moreover, very active policies, even targeted to specific groups of population, may act as a signal of a support to families that can affect a wide proportion of families, by a contagion effect.
- This possibility leads to a sixth difficulty: the potential endogeneity of policies. The development of family policies can surely induce change, but can also be generated by it and be a feature of it. Long term series study finds evidence that childcare policy has been developed, for example in Sweden, in parallel with the expansion of female labour participation, but was not a pre-requisite (OECD, 2005). In that case, childbearing would not be a consequence of policies but the causal relation may be the reverse. Policy may thus contribute to changes in family-related values and in fertility intentions.
- Last but not least, the evaluation of policy should consider a broader impact than the (immediate) response to financial incentives. Thus one effect of institutions is to reduce uncertainty and to enable people to make long term commitments (such as childbearing). There are, however, several conditions that policy background must fulfil in order to have such an effect. A longstanding policy is in particular required in order to keep trust and to convince people that no very profound changes will occur in the future. A continuous and diversified policy is also needed to guarantee long-term support and to create 'systemic' coherence. This is certainly a key aspect to explain good performance, but this aspect goes beyond financial incentives.

Given these obstacles, it is an intricate task to assess the exact impact of family policies on fertility.

One approach to such assessment is given by cross-country comparisons investigating the effect of policies on fertility rates in industrialized countries. Most of these studies consider the aggregated level of TFR, and merge the data concerning all countries, even if they allow country-specific effects. They use either cross-section or time-series or longitudinal data. In a survey published in 2003, Sleebos asserted that findings are often inconclusive or contradictory, partly because of methodological differences. The review of studies suggested, however, a positive but weak relation between reproductive behaviour and family policy. The same dubitative statement is reiterated by Gauthier (2007). One obvious reason for the lack of evidence is that policies' influence can be detectable only in the long-term. However, both authors point out that the more obvious and robust results concern the impact of cash benefit and transfers, while the impacts of work-related policies are more contradictory: the duration and payment of maternity leave are generally found to

have a rather weak impact, while some studies conclude that there is a larger impact of childcare availability and/or affordability. Flexible working hours and the availability of part-time work are also pointed to as important factors influencing fertility. Thus, a key issue for fertility decisions appears to be the possibility of combining family formation with labour force participation. For this reason, attention should be paid to policies that aim at reconciling work and family-life.

A limited impact of cash benefit and financial support

Among the most significant studies assessing the impact of cash transfers, Blanchet and Ekert-Jaffé (1994) investigate the effect of family benefits on the TFR of 11 industrialized countries over the period 1970-1983. They construct a family policy index that accounts for the global generosity of financial support through cash benefits, tax relief, parental leave compensation, and find a rather weak impact of such a package. They found that the French family policy could lead to an extra 0.17 child per women as compared to some other developed countries like the UK. Such an impact is not insignificant, but shows that that no major fertility upswing may be expected from family policies.

Gauthier and Hatzius (1997) model the dynamic relation between fertility rates and policies for 22 OECD countries over the period 1970-1990. They find that neither the duration nor the benefits provided by maternity appeared to be significantly related to fertility. By contrast, direct cash benefits are found to have a positive and significant effect, although it is small. They also considered the differences in policy impact according to birth parity and found a greater effect of benefits for the first child. One of their conclusions is that targeting benefits at the third child, as done in France, is unlikely to increase fertility. Overall however, the magnitude of the effect is small since their estimation is that a 25% increase in family allowances would result in an increase of fertility of about 0.07 children per woman on average. However, they also observed differences in the responsiveness across groups of countries. Basically, a greater impact is found in Scandinavian countries and is interpreted as the effect of the co-variation of in-kind support in these countries. Thus the authors (indirectly) stress the importance of institutional complementarities although they could not quantify it directly.

Investigating the French case, Laroque and Salanié (2008) try to evaluate the sensibility of fertility to financial incentives at the household level. They use an identification strategy relying on the fact that variation of wages induces variation in benefits and tax credits among “comparable” households. The two authors implement this approach by estimating a discrete choice model of female participation and fertility using individual data from the labour force survey and a detailed picture of the French tax-benefit system. Their results suggest that financial incentives play a notable role in determining fertility decisions in France, both for the first and the third child. They estimate that an unconditional child benefit with a direct cost of 0,3% of GDP might raise the TFR by about 0.3 point (Laroque et Salanié, 2008).

A visible effect on the timing but an uncertain effect on the quantum

When assessing the effectiveness of policies in raising fertility, an important issue is also whether these policies impact the “quantum” of or the “timing” of births only. The first case relates to the long-term effect of policies, but the second case to temporary effects.

Macro-level studies that distinguish between the two possibilities by using age and parity specific fertility rates conclude that the impact of policies is more significant on the timing than on the overall number of children (Sleebos, 2003; Gauthier, 2007). For instance, Ermisch (1988) found that the rise in child allowances in Britain increased the likelihood of higher-parity births but also encouraged young motherhood. A tempo effect of policies was also observed in Sweden (Hoem, 2005; Andersson *et al.,* 2006). These authors suggest, for example, that the introduction of a “speed premium” in the Swedish parental-leave system accelerated childbearing decisions by reducing the spacing between the first and second

births. Andersson et al. (2006) found that responses do not markedly differ across social groups. Swedish parents at all educational levels adjusted their childbearing behaviour to reduce birth intervals in response to the premium measure. Interestingly, not only the magnitude of the change in behaviour but also the rapidity of adaptation to the new policy was very similar whatever the educational level.

The consequences on fertility level are more uncertain. Lutz and Skirbeckk (2005) argue that policies may increase the period fertility rate while also having an indirect effect on cohort fertility. However, this hypothesis has not been empirically tested so far.

Impact of work related policies

More recent studies confirm the impact of standard family policy, and also provide evidence of the effects on labour market and work organisation.

Comparing changes in cross-sectional data, Castles (2003) argues that the provision of child-care facilities for children aged 0-3, which is crucial to early labour force re-entry, may have been the main factor contributing to the reversal of the relationship between fertility rates and female labour market participation in OECD countries. Micro-evaluation evidence is however more mitigated. While a positive impact of reduced childcare cost and increased childcare availability on fertility is estimated by Di Prete et al. (2003) and Del Boca et al. (2007), no statistically significant impact of childcare characteristics is reported for example by Ronsen (2004) for Norway and Finland, Hank and Kreyenfed (2003) for Germany and by Andersson et al. (2004) for Sweden.

D'Addio and Mira d'Ercole (2005) analyzed cross-country differences in total fertility rates in 1999 for 19 OECD countries. Their investigation was based on models that allow for dynamic effects, potential heterogeneity between countries, and endogeneity of some of the explanatory variables. They find evidence that transfers to families with children, as well as the provision of services to working parents to better cope with their care responsibilities have positive impacts on childbearing. The impact is, however, relatively weak: a one-week increase in the total length of parental leave would on average increase the total fertility rate by 0.3%[14] (when the impact is estimated with pool mean group estimators including time effect). A 1-unit increase in the percentage of wages replaced during maternity leave or in the net income transfers to families produces an increase in TFR of 0.9% and 1% respectively[15]. The study also suggested that an increase in female labour market participation, in the share of women in part-time work, and in the ratio of female to male hourly earnings all have a positive impact on fertility.

Del Boca *et al.* (2007) also modeled the role of childcare arrangements, parental leave, family allowances and labour market flexibility, but adopted an individual-based approach to women's joint decisions on fertility and labour supply. Their results based on the ECHP show that a non-negligible portion of the differences in participation and fertility rates for women of 6 European countries (including France) can be attributed to the characteristics of these institutions, but the impact varies with educational levels. The impact of childcare availability and optional leave on both fertility and labour force participation decisions is higher for lower educated families. Parameter significance on fertility is, weak however. By contrast, labour market policies such as part-time opportunities have a larger impact on the outcomes of women with higher education. In all cases, the impact is more significant and larger on labour supply than on fertility.

[14] The interpretation of this result is not straightforward, however, since leave provisions are often longer in countries with fewer out-of-home caring facilities. These facilities are not included in the model because of lack of time series data.

[15] Net transfers to families with children are computed as the difference between the average effective tax rates of singles without children earning the average wage and a married couple with two children aged 6 and 4, where one spouse earns the average wage. The estimated impact means here that an increase in transfers to families by 25% translated on average into a long-run increase of 0.05 children per women. This increase is half-way between the increases of 0.04 children per women (following a 25% increase in the family benefit index) in Ekert-Jaffé (1986) and of 0.07 children per women reported in Gauthier and Hatzius (1997).

In this section, we have outlined the positions in the current debate about the possibility of using public policies to influence fertility decisions. We have outlined the methodological difficulties encountered when seeking to investigate policy impact on fertility behavior. Some empirical investigations have overcome such problems and have clearly identified policy effects in specific circumstances. But we conclude as do other authors (Hoem, 2008) that in general national fertility may be a systemic outcome depending more on broader attitudes such as the degree of family-friendliness of a society, and only to a certain extent on the availability of monetary benefits.

All these reviewed micro-based studies thus suggest that policies influence fertility behaviour, even if policy determinants may contribute to explaining a limited part of cross-individual heterogeneity. The extent to which such micro-based evidence can serve to account for the differences in fertility rates at the macro-level is however far from obvious. One reason is the need to better understand (still at the micro-level) how institutions interact to influence behaviour. One may indeed expect the complementarity of institutions and continuity of support over childhood to be important determinants of the effective impact of policies. One may, for example, expect one institution, for example parental leave, to have a positive impact on fertility only if it is designed consistently with other institutions to offer continuous support, i.e. if for example childcare services are available at the end of the parental leave period. Such attributes of institutions (i.e. complementarity and continuity) may be seen as conditions creating the trust required to secure effective or greater impact of institutions. One challenge for future investigation is to better assess how much the influence of institutions depends on such attributes.
A second obstacle lies in the changing nature of processes that have to be clarified when turning to the macro-level. Thus, “institutional settings” and other macro-level determinants shape different sets of constraints and opportunities which may interact quite diversely with individual characteristics from country to country. In that case, national fertility may possibly be best seen as a systemic outcome that depends more on the degree of family-friendliness of the entire institutional setting, and less on the design of monetary benefits or other types of support (Hoem, 2008; Thévenon, 2008a). Here again, a balance between the different types of support in cash, services or time seems to lead to a higher score in both fertility and female employment rates. However, stronger statements may be possible only when micro-macro approaches close the gap between macro-based evidence and individual behaviour.

Conclusion

Finally, the review of literature shows that the links between policies and demographic decisions in EU Member states are inconclusive. No evidence of a direct causal impact of policy on the decision to have children is found. Rather, a complex array of factors may be making up a favorable policy and economic environment, enabling family policies to be conducive to family building. Indeed, fertility decisions remain dependent on various factors.

- Economic theories on the costs of raising children are not sufficient to explain changes in family formation behaviour. And financial supports to families cannot alone influence fertility behaviour: when their measurement is possible, their impact seems to be low, although it is difficult to isolate this factor.
- Most research findings agree on an impact of policies on the fertility tempo but only uncertainly on quantum
- The impact of work-related policies is more clear than that of exclusively cash policies
- Policy effectiveness in influencing fertility decisions seems to depends on the “reliability” for individuals of economic perspectives, of the government, and more generally of the future. The importance of “reliability” has several consequences:
    a. Policy signals are important in creating a confident/secure climate

b. Policy impact cannot be observed over short periods, since policies impact on long term behaviour; so the stability of policies is a factor to be taken into account, and the coherence and continuity of polices as well.

- Only a combination of measures may impact on family decisions by providing a durable and long term support. Policy effectiveness depends on the existence of combined supports (cash/service/time to care) which provides coherent and continuous support over the childhood period. But most quantitative studies do not capture the "institutional complementarity" required to be effective.
- To create real incentives, account must be taken of non-linear incidence and of the existence of thresholds.
- Reduction of family support policies can have a serious negative effect.

Finally, in line with Esping-Andersen perspective (Esping-Andersen, 2008), we would recommend that policy makers consider children not as a cost but as an investment for the future, therefore considering child support as a priority for policy.

Recommendations for future investigations

Since there is a large amount of economic and demographic literature on fertility and the impact of policies on reproductive decisions, we would recommend combining quantitative and qualitative methods of investigation, both for improving knowledge about the rationale of individuals concerning their fertility and family decisions, and for improving knowledge about methods of measurement of policy impact on individual behavior.
Qualitative investigations should be developed for a better understanding of reproductive decisions, for scrutinizing the representations, norms and values behind fertility decisions, taking more account of the socio-economic context. Small scale comparative research projects between a limited number of countries would be useful to better understand the complex set of reasons behind decisions related to family size and family life. Small scale qualitative surveys may contribute to improve the measurement of policy impact on individual behavior in various contexts.

Nevertheless, the macro-level differences still remain to be explained. Basically, the positive correlation observed at the macro-level between the level of women's employment and the level of fertility continues to raise interesting questions. Why are countries with the highest mothers' employment rates those with the highest TFR?. Only complex picture putting together micro- and macro-level determinants can explain the macro-level differences (and differences in the relative position of countries). Particularly important is to understand extreme cases (Billari, 2004). Future research will gain a great advantage from the new generation of longitudinal surveys, coupled with contextual-level databases, that is foreseen for instance in the generations and gender programme

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Chapter 4

Assessing the effectiveness of policies supporting parenthood for mothers' employment and work-life balance

Marie-Thérèse Letablier, Angela Luci, and Olivier Thévenon

In this chapter we examine how the literature has studied the effectiveness of policies designed to support parenthood by promoting the labour force participation of mothers, work-life balance and the well-being of children. The European childcare targets set at the Barcelona summit in 2002 confirmed the goals defined by the Lisbon European Employment Strategy, by stating that member states should remove disincentives to female labour force participation and that, taking into account the demand for childcare facilities and in line with national patterns of provision, they should strive to provide childcare for at least 90% of children between the ages of three and mandatory school age and for at least 33% of children under 3 years of age by 2010. All member states are required to develop childcare provision to facilitate the reconciliation of work and family responsibilities, raise women's participation in the labour market and promote gender equality. The OECD's *Babies and Bosses* (OECD, 2002, 2003, 2004, 2007) reports also urge governments to do more in the work and family policy field to meet a wide range of objectives, including increasing female employment, stimulating child development and addressing the pension crisis. But what evidence is there to show that policies can be effective in meeting these objectives? According to researchers who have attempted to track the implementation of the EU childcare policies, the Barcelona targets are not easy to monitor (Plantenga et al., 2007). Statistical complexity and institutional differences make it difficult to assess the effectiveness of the various policies that have been implemented to date.

The literature reviewed in this chapter is organized around three major topics. First, we explore the impact of children on mother's employment. Secondly, we appraise the role of enterprises as family policy actors, especially with respect to work-life balance. Thirdly, we review the literature exploring the effectiveness of policies supporting parenthood in promoting mothers' labour force participation, with attention to different forms of parenthood and policy options presented in chapter 3.

Evidence of the impact of children on mothers' employment

The literature based on secondary analyses of Eurostat and other international harmonized data suggests that the presence of children in households has relatively little effect on men's working patterns but can profoundly affect maternal labour market behavior by interrupting, reducing or curtailing mothers' involvement in paid work. Hence, the presence of children explains the lower earnings for women, which can have negative consequences for children, as the contribution of mothers' paid work to household income is important for the children's material well-being in a context where a single wage is insufficient to meet the cost of living of families. The impact of children on maternal labour market behavior and women's earnings, their economic security and their career opportunities are presented more broadly as "indirect" costs in terms of the time and money required to raise children (OECD, 2007). Increasing female employment rates has become a key component in the European

Employment Strategy[16] (Thévenon, 2004), as an attempt has been made to offset the economic effects of population decline and ageing.

In recent decades, in Western Europe, mothers have increased their labour market participation, while in central and Eastern Europe their labour force participation has been decreasing. Although much of the literature tends to generalize from observation of EU15, the situation is rather different in the CEE countries, where very few women were able to choose between work and family life during the Soviet era, and where their employment rates fell sharply during the transition, and to a greater extent than those of men. Even in EU15 member states, the constraints on female employment vary widely from one country to another, resulting in marked differences in female employment patterns. The following subsections report in more detail on the data that are usually cited in the literature to describe and compare the impact of motherhood on women's labour market participation, focusing on changes in mothers' employment patterns, the impact of the number and age of children on working patterns and the time devoted to paid work by mothers . It also considers the consequences of parenthood for gender differences in the contribution to household earnings, in the gender wage gap and the related issue of family poverty and social exclusion.

Mothers' employment rates: wide disparities across countries

Several studies show how the proportion of women in the working population in Europe has been growing consistently since the 1970s (Thévenon 2007; Shippers and Vlasblom 2004). Recent Eurostat LFS data for the 27 EU member states indicate that the average gender employment gap (population aged 15 to 64) fell from 18,9% in 1996 to 14,2% in 2007[17]. This reduction is mainly due to a rise in female employment rates. In the 12 new member states in 1996, the employment gap, at 11,9%, was smaller than in the EU15 (20,2%), but increased to 13,4% in 2007 whereas in the old member states the gap decreased to 14,5% in 2007. However, the evolution of the employment rates over the last decade in Eastern Europe should be carefully interpreted since in the 1990s female and male employment rates fell strongly during the transition to a market economy, before increasing again with the upturn in the economy following the inclusion into the EU in 2004. The gender employment gap was still the lowest in the Northern countries and the highest in the Mediterranean countries in 2007.

With regard to unemployment, the literature generally comments on the fact that female unemployment rates tend to be underestimated because women with young children who are not in paid employment may not declare themselves as being 'unemployed' even though they would like to work (Jaumotte, 2003 for OECD countries). At the same time, women still suffer from higher long-term unemployment rates than men. According to Eurostat LFS data using ILO definitions, on average in the EU 27, 3,3% of women were long-term unemployed against 2,8% of men in 2007, but the differences in long-term unemployment rates between women and men vary widely across countries (up to 4,8 percentage points in Greece).

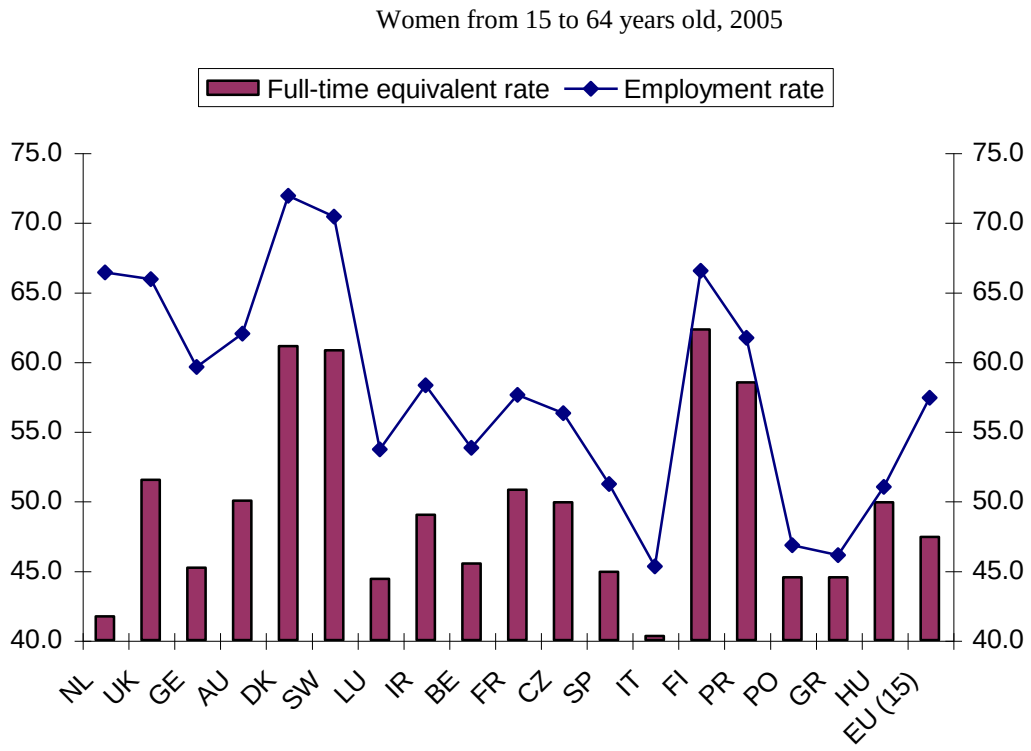
A wide range of factors, such as educational differences and motherhood, play a role in the explanation of the gender-gap in employment. Furthermore, mothers may not stop working completely but may reduce their working hours or take up a part-time job. Overall employment rates do not reflect the employment 'penalty' in the form of work time reduction, since the rates include all employed persons irrespective of hours worked. Throughout Europe, women's full-time equivalent employment rates are lower than their overall employment rates but the gap between the two differs widely across countries. According to the European Labour Force Survey (2005) for EU (15) the gap is smallest in Sweden,

[16] EU Treaty of Amsterdam in 1997; 60% target for female employment rate set by the European Union's Summit of Lisbon in 2000.

[17] The gender employment gap is the difference between the male and the female employment rate, whereas the employment rates are calculated by dividing the number of women (men) aged 15 to 64 in employment by the total female (male) population of the same age group. The employed population consists of those persons who during the reference week did any work for pay or profit for at least one hour, or were not working but had jobs from which they were temporarily absent.

Denmark where part-time work is relatively common but covering relatively long working hours even for women with children, whereas it is not common in Finland or in Portugal where the gap between the effective women's employment rate and the full-time equivalent is low (Graph 1). The same holds for Southern and Eastern European member states where the incidence of part-time work is lower than in most other member states. The gap is the widest in the Netherlands (more than 75%), followed by the UK and Germany (40%). In these countries, women's full-time employment rates have stagnated since the early 1990s and, as a consequence, the increase in female employment is mainly due to a rise in women's part-time work (Afsa-Essafi and Buffeteau, 2006). In the Netherlands, whereas the overall employment rate of women aged 15 to 64 years is about 67%, the full time equivalent would be around 42%, indicating that the high level of women's employment is mainly attributed to part-time work; whereas in France the overall employment rate is lower, but also the proportion of mothers who are in employment is higher. In all 15 European countries, the full-time equivalent employment rate of mothers is below that of women without children. However, since the size of the difference between the two rates varies widely between countries, it is more relevant to consider the number of hours effectively worked.

Graph 1: Employment rates and full-time equivalent



Source: Eurostat, Employment in Europe, 2005. Thévenon, 2007.

Using Eurostat LFS data, de Hénau et al. (2004)[18] found that the employment gap between men and women in Europe is mainly due to motherhood, since mothers rather than fathers face a dichotomous choice between working and parenting. In analyzing the impact of children on parents' employment, de Hénau et al. (2007) focus on the labour force

[18] Results from the MOCHO EU Research Network (The rationale of Motherhood Choices: Influence of Employment Conditions and Public Policies).
http://ec.europa.eu/research/social-sciences/knowledge/projects/article_3516_en.htm

participation of men and women aged between 25 and 49 years, which is widely considered to be the age bracket when mothers devote most time to parenting[19].

Data presented in Table 1 show that fathers in the 25 to 49 age group are more likely to be in employment than men without children in all EU member states (European Labour Force Survey 2006). By contrast, in all countries, mothers' employment rates are lower than those of women without children (aged fewer than 12). The average EU 27 employment gap between women without children and mothers is 13.6 percentage points[20]. The gap is much smaller (below 5 percentage points) in Portugal, Romania and Lithuania, but it is particularly large (more than 20 percentage points) in Malta, the Czech Republic, Hungary and Slovakia. The gap is also relatively large (between 15 and 20 points) in the UK, Germany, Estonia, Spain, Luxembourg and Austria. The explanation would seem to be that, in these countries, employment rates are relatively high for women without children. Mother's labour market participation is particularly high in Nordic countries, where the dual earner model of families is widespread. It is also relatively high in Portugal which has always been an exception in the South European countries with respect to women's labour force participation. One explanation may be that the low average wage levels oblige mothers to contribute to the household income (De Hénau et al., 2007). By contrast, the employment rate of mothers is well below the EU 27 average (62.4%) in the Mediterranean countries, since low female wages, insufficient childcare infrastructure and persistently high unemployment may discourage mothers from working. However, the gender culture, the strength of the male breadwinner family model and the care burden may also explain the low labour force participation of women.

Table 1: Employment rates of women and men (aged 25-49), depending on whether they have children (under 12), 2006

	Without children		*With children*		*Difference*	
	Women	Men	Women	Men	Women	Men
EU 27	76.0	80.8	62.4	91.4	-13.6	10.6
Belgium	75.5	81.7	69.3	92.2	-6.2	10.5
Bulgaria	74.7	76.6	61.5	81.2	-13.2	4.7
Czech Republic	83.2	87.1	53.4	93.9	-29.8	6.8
Germany	80.3	80.6	62.7	91.4	-17.6	10.8
Estonia	82.7	86.9	66.7	92.4	-16.0	5.5
Greece	64.1	82.5	57.0	96.8	-7.0	14.3
Spain	75.5	84.3	58.8	93.2	-16.7	8.8
France	73.7	76.6	65.9	91.1	-7.7	14.4
Italy	66.7	80.7	54.6	93.8	-12.1	13.1
Cyprus	82.1	87.8	70.8	95.7	-11.3	7.8
Latvia	82.1	80.9	68.4	91.2	-13.7	10.3
Lithuania	81.5	78.9	77.2	89.7	-4.3	10.7
Luxembourg	80.2	90.3	65.0	95.7	-15.3	5.5
Hungary	76.1	79.1	49.8	86.1	-26.3	7.0
Malta	68.7	88.6	32.6	94.0	-36.1	5.3
The Netherlands	83.8	87.9	72.7	94.5	-11.2	6.6
Austria	83.6	87.7	68.5	92.9	-15.1	5.3
Poland	69.9	71.5	60.8	88.0	-9.2	16.5
Portugal	77.3	82.7	76.4	94.2	-0.9	11.5
Romania	70.7	76.9	66.3	85.4	-4.3	8.6
Slovenia	77.1	82.7	84.8	95.3	7.8	12.6
Slovakia	79.0	79.5	54.2	88.2	-24.8	8.7
Finland	78.9	79.5	70.6	92.7	-8.3	13.2
United Kingdom	82.9	84.1	63.1	91.0	-19.8	6.8

Source: Eurostat, European Labour Force Survey, annual averages.
Notes: No data for Denmark, Ireland and Sweden.

[19] In some countries the age of mothers at first birth may be lower for some groups of women and men may become fathers at a later age.
[20] Data are not available for Denmark, Sweden and Ireland. According to data from the EHCP, in Denmark and Sweden the gap is relatively low and average in Ireland (Chaupain-Guillot et al., 2008).

Impact of the number and age of children on mothers' labour force participation

The impact of the number and age of children on mother's labour force participation has long been of interest. Using the Eurostat LFS data, De Henau *et al.* (2007) and Thévenon (2007) find that the probability for mothers of not working increases with the number of children they have in all EU member states where data are available. The difference between the employment rates of mothers and those of women without children is largest for mothers with three or more children in all countries, but the incidence of the first and second child differs from one country to another. Moreover, Thévenon (2007) showed that, in some countries, the increase in employment rates of women without children over the 1992-2005 period was higher than the rise for mothers. Work and family-life reconciliation policies can hardly be seen as the main driver of female employment expansion in this case.

Using wave 7 of the ECHP (EU 15, 2000), Chaupain-Guillot *et al.* (2008) showed that the impact of the number of children on the labour participation of mothers was smallest in Sweden, Denmark, Spain and Greece. In Sweden, 75% of mothers with at least three children were in the labour force and more than 80% in Denmark, suggesting that the presence of young children did not prevent women from being economically active. In Spain and Greece, where overall employment rates for women were much lower, rates for mothers with three or more children were very similar to those of mothers with one or two children, that is to say relatively low.

The exact role of childbirth in labour market behaviour has also focused attention. Some authors have analysed the short-term change in labour market status following the birth of children, differentiated by birth parity (Thévenon, 1999; Schippers and Vlasblom, 2004). The birth of the first child is found to have the highest impact in most European countries; by contrast, the second and third births have a larger impact on female labour market partiticipation in France (Thévenon, 1999; Méda et al., 2003; Lefèvre, Pailhé and Solaz, 2007). Longer-term impact of children has been the subject of fewer country-specific studies. For example, Schippers and Vlasblom (2005) show that children have had long-term consequences for mothers in the Netherlands, over a ten years period from 1993 to 2003.

The issue of causality between having children and labour market decisions has also been investigated (Del Boca et al., 2007; Moshion, 2007). For France, Moshion (2007) concludes that mothers with one or two children are often in employment, whereas mothers with at least three children tend to withdraw from the labour market.

Not only the number of children but also the age of the last one impact on maternal employment, with wide variations across countries. Using data from the Eurostat LFS for the years 1992 to 2005, Thévenon (2007) shows that mothers' employment rates still vary with the age of the youngest child: in general in EU 27, the older the youngest child, the more likely is the mother to be in the labour force, especially in Eastern European countries, the UK and the Netherlands where mothers tend to resume work when the youngest child starts primary school. This was also the case in Germany where two out of three mothers whose youngest child is aged between 6 and 11 are employed, but less than one out of two mothers whose youngest child is aged between 3 and 5 (see also Chaupain-Guillot et al*.,* 2008). In France, the turning point for mother's employment is somewhat earlier, since most children from the age of three are enrolled in pre-schools (Thévenon, 1999, 2007; Jonsson and Letablier, 2005). Schippers and Vlasblom (2004) show that the negative impact of the youngest child's age on the mother's employment is lowest in Mediterranean countries, where family size is among the lowest in EU, and where the parental leave is not paid and where family networks provide informal childcare.

Impact of children on time dedicated to work

According to the LFS data (2007), in all European countries, the proportion of women *(*aged 15 to 64) working part-time is higher than that of men regardless of the presence of children. In the EU 27, the proportion is on average 31,4% for women, four times higher than that for

men (7,8%). Besides, part-time work is not only a means of reconciling work and family responsibilities but reflects a broad variety of situations. It may be used by men and women as a transition into and out of the labour market or as a flexible working arrangement imposed by employers on their employees, as documented by the Company Survey on Working-time and Work-life balance commissioned by the European Foundation for the improvement of working and living conditions (Anxo et al., 2007).

So, to analyze the impact of parenthood on time dedicated to work, we focus on the part time employment rates of women and men at the age of parenthood (20-49 years old) with regard to the presence of children in 25 European countries, as shown in table 2. Data are based on the Eurostat Labour Force Survey (2003), using a harmonized measure of part-time work defining part-time as working up to 30 hours a week. Based on this data, De Hénau et al. (2007) show that the presence of children increases the difference in the working time patterns between men and women in all countries. On average in the EU (25) in 2003, 9,5% of all working women without children worked part-time against 2,7% of working men without children. The presence of children reduces the proportion of men in part time to 2,2%. With 4,7%, Lithuania is the country with the highest proportion of fathers working part time. For women on the contrary, the presence of children raises significantly the proportion in part time work to 15,4% on average. This is especially true for the Netherlands where more than one of two women with children, but only one of three women without children work part time. Visser (2002) has qualified the Netherlands as the "first part-time economy" in Europe, emphasizing part-time work as an individual option characterizing transitions over the working life cycle.

Mothers' part-time employment is also very frequent in the UK, Germany and Austria where more than 30% of mothers work part-time. Chaupain-Guillot et al. (2008) argue that, as these countries offer only limited childcare facilities to parents, part-time work appears to be a compromise for reconciling work and family responsibilities. Visser and Yerkes (2005) confirm this finding. Comparing part time work in the Netherlands, the UK and Germany, they argue that mother's part-time work emerges from preferences for what is considered in the three countries as the "second best option" for combining work and care responsibilities, but in Germany and in the UK it is more difficult to overcome the "marginalisation" of part-time workers than in the Netherlands. This holds also for France where part-time work is also relatively wide spread, but numerous part-time workers would prefer to work full time. Here, for trade unions, the feminist movement and a large part of public opinion, part-time work is viewed as a form of precarious employment, resulting more from public employment policies and employers' practices than from parents' preferences.

Table 2 shows that mother's part time work is relatively low in Finland and in South European countries, but for different reasons. Although full time work seems to be the norm in Finland, motherhood is correlated with a decline in labour force participation in southern countries. Visser and Yerkes (2005) also argue that in Sweden and Denmark on the one hand, part-time work tends to be developed as a flexible working arrangement for parents, while on the other hand, recorded part-time work of under 30 hours a week is relatively rare, as part time work equates to a relatively small reduction in working hours. In the 10 new member states, part time work is also limited (mostly under 10%), mainly because in these countries, part time work does not provide a sustainable income for families. With regard to reconciling work and family life, the analysis shows that part-time does not have the same meaning in all countries. Furthermore, several researches put into perspective the impact of motherhood on female labour participation, emphasizing that the higher the level of education, the level of earnings and the better the working conditions for women, the higher is the probability for mothers to participate in the labour market (OECD, 2002; Rivaud and Ulrich, 2007; Méda et al., 2003). Nevertheless, in all European countries there are significant differences in part time employment rates between women without children and mothers. This shows that children play an important role in the amount of time dedicated to work by mothers.

Table 2 –Part-time employment rates of women and men aged 20-49 with and without children, 2003

	Women		*Men*	
	Without children	*With children*	*Without children*	*With children*
Germany	21.3	35.1	4.3	3.0
Austria	16.8	32.2	2.3	1.5
Belgium	21.8	27.2	4.2	4.3
Denmark	n.d	n.d	n.d	n.d
Spain	8.7	9.7	1.4	0.9
Finland	10.2	7.8	5.0	2.4
France	14.1	17.6	3.3	2.5
Greece	4.9	6.7	2.1	2.4
Ireland	n.d	n.d	n.d	n.d
Italy	12.3	15.2	3.3	3.3
Luxembourg	15.5	26.1	n.d	1.6
The Netherlands	33.0	54.7	7.8	4.2
Portugal	7.7	7.2	2.0	1.0
United Kingdom	18.5	36.2	3.4	3.3
Sweden	n.d	n.d	n.d	n.d
Cyprus	8.8	8.3	-2.2	1.5
Estonia	4.5	4.9	4.0	1.8
Hungary	2.3	3.7	1.2	0.9
Latvia	5.1	7.6	3.1	3.5
Lithuania	9.9	12.7	4.2	4.7
Malta	8.6	8.4	n.d	n.d
Poland	8.6	10.1	3.0	2.3
Czech Republic	2.4	3.9	0.6	0.5
Slovakia	2.0	1.6	-0.8	n.d
Slovenia	2.6	1.8	1.7	0.8

Source: Eurostat, European Labour Force Survey, 2003.

Impact of children on women's work careers

Not only do children impact on mothers' time dedicated to work but they also impact on women's careers and pensions (see also the discussion of the family pay gap in chapter 1). Looking at the impact of the Danish Welfare State on women, Datta Gupta, Oaxaca and Smith (2006) observe that family-friendly policies encourage a high participation in paid employment for mothers, resulting in a low gender wage gap, while also resulting in a high labour market segmentation since more than half of female work force is employed in the public sector against only 20% of men. Indeed, most women, of all ages, are participating in the labour market, even when they have children. However, the wage gap between men and women still persists and women are on average in the lower part of the wage distribution in Denmark as well as in other Scandinavian countries (Rosholm and Smith, 1996; Albrecht and al., 2003; Datta Gupta and al., 2003). Three hypotheses are suggested to explain why Danish women are 'stalling' or floating downstream: first, some aspects of family–friendly policies such as maternal and parental leave schemes may have negative effects on women's wages; second, the segmented labour market between public and private sector may also explain the wage development; third: time allocation and housework may impact on wages. Although maternal and parental leave schemes have positive effects on female attachment to the labour market, especially by increasing the chances of returning to work after child birth, by enhancing tenure or by facilitating the combination of work and family life, negative effects may also be observed on wages and careers. Negative effects may result from a depreciation of human capital during maternal leave (with the largest effects for the most high skilled women), from lower investment in on-the-job-training, or from lower wage bargaining power. Empirical research for Denmark shows that childbirth has a negative effect on mothers' wages because of lost human capital accumulation, while having a positive effect on fathers' wages (Datta Gupta and Smith, 2002). In addition, the effect of the segmented labour market was also identified: the welfare state and the large public sector production of services have facilitated the entrance of women into the labour market, but public sector jobs tend to be low paid compared to comparable jobs in the private sector demanding the same length of educational investment: women who intend to have children

may select public sector employment where they are not penalized as mothers. Indeed, women with children tend to be employed in the public sector (Nielsen and al., 2003). All these arguments tend to raise the issue of the effect of family-friendly policies: "are they a blessing or a boomerang?" (Smith, 2006, *op. cit*.). This author concludes that these policies have a lot of positive effects with respect to combining work and family life, and in helping women to get more economic security, but observes that the Danish system which has been good for low skilled women may have penalized highly skilled women.

Not only do children impact on the gender pay gap but also on the careers of women and therefore on their pension rights. Several researchers have recently explored the impact of children on transitions over the life cycle in various national contexts (Anxo and Erhel, 2008; Leitner and Wroblewski, 2005; Leschke and Jepsen, 2008). They all underline the interactions between children and the transitions between work and family over the life course, and their negative impact on women's careers, thus raising the issue of policy support to make mothers less vulnerable to these transitions. The impact of children on mothers' pensions has also been stressed in several researches, especially in France (Bonnet et al., 2007a, 2007b, 2006). Policy implications of the unequal burden of children on parents' trajectories and social rights is on the policy agenda in several EU member states, raising the issue of compensations that could be offered to mothers when they retire in recognition of the time they have dedicated to child care over their working life.

Impact of children on division of labour within households

The rise of female employment and its relatively high share of part time work is also reflected in the division of labour within households in Europe. As more and more mothers try to combine professional careers and childrearing, all over Europe the number of households with only one male breadwinner has been decreasing constantly (Lewis, 2001) while the number of dual earner couples has been increasing rapidly since the 1990s. Table 3 shows the division of paid labour of couples with children under 15 (source: Eurostat, OECD, EU (15) 2000). Only the Mediterranean countries, Luxembourg and Ireland still have a relatively high share of one breadwinner households (over 50 %). The share is the lowest in Sweden, Denmark, Portugal, Belgium and the UK (under 30%). So in most of the countries, dual earner couples are the dominant norm. However, women's contribution to paid work varies across countries: On the one side, in Denmark, in more than 75% of dual earner couples both partners work full time, and in Portugal in more than 66%. On the other side, the medium levels of female part-time work stay relatively high in all other countries. In the Netherlands, the UK and Germany, the dominantt norm is a household in which the husband is working fulltime and the wife part time. Households with both partners working part time or with the husband working part time and the wife working full time are in the minority in all observed countries.

Table 3 – Division of paid labour (couples with children under 15), 2000

Countries	*One bread-winner*	*Both full-time*	*Husband FT/Wife PT*	*Both Part-time*	*Husband PT/Wife FT*
Portugal	26.5	66.5	7.0	-	-
Spain	56.3	35.6	7.5	0.2	0.4
Greece	49.7	43.7	4.7	0.9	0.9
Italy	53.6	31.2	13.0	1.3	0.9
Finland (2002)	31.2	58.9	5.0	-	-
France	36.0	45.4	16.3	1.2	1.1
Belgium	27.3	40.8	28.3	1.9	1.7
Luxembourg	51.2	25.7	23.2	-	-
Netherlands	32.7	10.8	52.9	2.3	1.3
Germany	39.7	26.1	32.9	0.6	0.7
United Kingdom	29.8	28.6	40.0	0.7	0.9
Ireland	55.5	27.1	16.2	1.1	-
Sweden (2002)	13.0	39.4	39.1	-	-
Denmark (1999)	17.5	75.2	-	-	-

Sources: Eurostat (2002) and OECD for Denmark, Finland and Sweden (*Babies and Bosses*, vol. 4, 2005, Paris: OECD)

Hence, despite the rising employment of women, the division of parental responsibilities remains rather traditional in most European countries. Furthermore, Moss and Wall (2007) point out that the traditional division can not only be found in households where the husband's income and status in working life is higher than the wife's, but is also found in households where the parents have equal education and incomes. Dribe and Stanfors (2007) show that even in Sweden, parenthood strengthened further a traditional task division of household labour between couples in 2000, although the influence has been declining strongly since the 1990s.

The discussed literature shows that the impact of motherhood on female employment and on the work time patterns of mothers varies widely between the countries of the European Union. In general, four clusters of countries can be identified with regard to mothers' employment patterns. In a first cluster are the countries with a high female employment rate, and where the impact of children on mothers' labour force participation is relatively low: mothers tend to continue working full time rather than reducing to part time. In the first rank of these countries are Denmark, Sweden and Finland whereas in the second rank we find Estonia, Latvia, Slovenia, Cyprus, Lithuania and Portugal which are also in this cluster although their female employment rates are generally lower. The second cluster includes countries with relatively high levels of female employment, but with a strong discontinuity in the working activity of mothers. In general, motherhood leads first to a work interruption and in a second stage to part time work when the child gets older. Part time rates of mothers are generally relatively high in these countries, which are mainly the Netherlands, the UK, Germany and Austria. The third cluster is similar to the second group, except that mothers change their professional activity only after the second child and go back to full time work earlier. As a consequence, overall part time work rates are smaller than in the second group. This cluster is represented by France, Belgium, Luxembourg and Ireland. In the countries of the fourth group, motherhood mainly leads to work discontinuation and part time work is rather uncommon. As female employment rates are rather low in general, the working activity of mothers appears to be quite continuous. The leading countries in this respect are Spain, Italy, Greece and Malta. Poland, Hungary, Romania, Slovakia, the Czech Republic and Bulgaria can also be counted in this cluster of countries although their overall female employment rates are somewhat higher (50-60%).

Impact of children on gender equality

The significant impact of motherhood on women's labour participation also has costly consequences on gender equality in a wider sense: Disruption and gaps in women's employment biography may lead to work segregation, deterioration of working conditions and of access to social rights related to work as well as to income losses, income insecurity and financial dependence of women in some countries. Single parents are particularly concerned by employment penalties and their negative consequences for financial security (Fondazione G. Brodolini, 2005).

Table 4 shows that in 2006, the gender pay gap reached 15 points on average in the EU 27, but was over 20 points in Estonia, Cyprus, Slovakia, Germany, the UK, Finland and Austria (source: Eurostat, LFS). The gap was under 10 points in Malta, Belgium, Slovenia, Ireland, Italy, Portugal, Romania and Greece. In most countries, the gender wage gap reduces much more slowly than the gender employment gap. To isolate the impact of motherhood on the gender pay gap, Sigle-Rushton and Waldfogel (2007) compare the earnings of women with children relative to childless women and to men in eight European countries by using data from the Luxembourg Income Study. They find that mothers' earnings lag behind those of women without children for all countries, but the gap varies widely, between only 11% in the Nordic countries and as much as 44% in Germany and the Netherlands. Nevertheless, as the earnings of non-mothers also lag considerably behind those of men, the gender pay gap

cannot be interpreted as a pure motherhood effect. To measure this effect precisely, Gregory and Connally (2008) identify the pay penalty of children for mothers in the UK. They show that, while the gender gap has been narrowing for mothers working full time, the pay penalty has been rising for mothers working part-time, reflecting the polarization of part-time jobs in low wage occupations. In addition, women often experience down-grading from higher-skill full time jobs into lower-skill part-time occupations as they reorganize their working lives around the presence of children. The crowding of part-time jobs into low wage, low status occupations had already led to part-time workers being categorized as the new social underclass (Humphries and Rubery, 1995). The disadvantage of this underclass is growing, despite legal regulations protecting part-time workers (Gregory and Conally, 2008).

Several studies emphasize that in a variety of countries, the gender pay gap is mainly due to two factors, women's responsibility for childbearing and the segregation of jobs (Meurs, Pailhé and Ponthieux, 2007; Davies and Pierre, 2005; European Commission, 2006; England, 2005). Table 3 shows that although women record a higher educational attainment on average than men in all member states, gender segregation of occupations and economic sectors of activity persists. Estonia, Cyprus, Latvia, Lithuania, Slovakia and Finland display a high segregation in occupations while segregation in sectors is the highest in Estonia. As a consequence, women are under represented in economic sectors that are crucial for economic development (and where wages are higher). England (2005) points out that segregation and motherhood can be, but are not necessarily related. Several comparative researches highlight the impact of motherhood on segregation in Europe (OECD, 2007; Gilles, 2007 and 2008), establishing that high levels of female employment often go together with high levels of segregation in sectors that facilitate a reconciliation of work and family life. This is especially the case in the Nordic countries, though this segregation is not considered as conducive to gender equality. This holds inversely for the Mediterranean countries where low levels of female employment are associated with low levels of segregation.

Table 4: Gender pay gap, educational attainment, gender segregation, distribution of managers

	Gender Pay Gap[1]			Educational attainment[2] (2006)			Gender segregation[3] (2006)		Distribution of Managers[4] (2006)		
	1995	2007	Variation	Women	Men	Diff. Women - Men	in occupations	in sectors	Women	Men	Diff. Women - Men
Austria	22	20	-2,0	86,7	84,9	-1,8	25,9	19,3	28,7	71,3	-42,6
Belgium	12	7(p)	-5,0	85,6	79,1	-6,5	26,1	18,3	31,3	68,7	-37,4
Bulgaria	:	14	:	81,1	80,0	-1,1	28,7	19,6	30,5	69,5	-39,0
Cyprus	29	24(p)	-5,0	90,7	76,1	-14,6	29,3	19,6	16,1	83,9	-67,8
Czech Republic	:	18	:	92,4	91,1	-1,3	18,9	19,1	29,2	70,8	-41,6
Denmark	15	17	2,0	81,5	73,4	-8,1	27,8	19,4	24,3	75,7	-51,4
Estonia	27	:	:	89,8	74,1	-15,7	31,6	24,3	33,4	66,6	-33,2
Finland	:	20	:	87,0	82,3	-4,7	29,0	22,7	29,5	70,5	-41,0
France	13	11(p)	-2,0	84,3	80,0	-4,3	26,6	18,1	38,5	61,5	-23,0
Germany	21	22	1,0	73,5	69,8	-3,7	26,5	18,2	27,4	72,6	-45,2
Greece	17	10	-7,0	86,6	75,5	-11,1	22,4	15,9	26,8	73,2	-46,4
Hungary	22	11	-11,0	84,7	81,2	-3,5	28,8	19,9	37,1	62,9	-25,8
Ireland	20	9	-11,0	89,1	81,8	-7,3	26,8	22,7	30,2	69,8	-39,6
Italy	8	:	:	79,4	71,7	-7,7	23,7	17,8	32,9	67,1	-34,2
Latvia	:	16	:	86,2	75,9	-10,3	29,4	23,8	40,6	59,4	-18,8
Lithuania	27	16	-11,0	91,2	85,3	-5,9	29,4	23,1	40,7	59,3	-18,6
Luxembourg	19	14	-5,0	74,5	64,0	-10,5	26,4	18,3	25,9	74,1	-48,2

Malta	:	3	:	52,8	48,1	-4,7	24,7	16,5	18,6	81,4	-62,8
Netherlands	23	:	:	79,6	69,9	-9,7	25,6	18,0	27,0	73,0	-46,0
Poland	:	12	:	93,8	89,6	-4,2	25,5	19,4	35,2	64,8	-29,6
Portugal	5	8(p)	3,0	58,6	40,8	-17,8	26,5	20,4	33,1	66,9	-33,8
Romania	21	10	-11,0	77,8	76,6	-1,2	22,8	15,5	31,1	68,9	-37,8
Slovakia	:	22	:	91,7	91,2	-0,5	29,9	22,8	27,7	72,3	-44,6
Slovenia	14	8(p)	-6,0	91,4	87,7	-3,7	26,8	17,8	33,4	66,6	-33,2
Spain	13	13	0,0	69,0	54,6	-14,4	27,1	20,4	31,8	68,2	-36,4
Sweden	15	16	1,0	88,6	84,5	-4,1	26,8	21,6	31,8	68,2	-36,4
United Kingdom	26	21	-5,0	80,3	77,3	-3	25,6	18,6	34,8	65,2	-30,4
EU (27 countries)	17(s)	15(s)	-2,0	80,7	74,8	-5,9	26,6	19,7	32,6	67,4	-34,8
EU (25 countries)	17(s)	15(s)	-2,0	82,2	75,1	-7,1	26,6	19,7	30,8	69,2	-38,4
EU (15 countries)	17(s)	:	:	79,9	73,0	-6,9	26,6	19,7	31,7	68,3	-36,7
12 new member states	23,3	14,2	-9,2	81,1	74,6	-6,5	26,4	19,5	31,7	68,3	-36,5

:=Not available s=Eurostat estimate p=Provisional value

Source of Data: Eurostat, Labour Force Survey (LFS)

[1] Gender pay gap (in unadjusted form) is given as the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. The population consists of all paid employees aged 16-64 that are at work 15+ hours per week. Germany includes ex-GDR from 1991.

[2] Educational attainment (at least upper secondary school) of women and men aged 20-24. Students living abroad for one year or more and conscripts on compulsory military service are not covered by the EU Labour Force Survey, which may imply lower rates than those available at national level. This is especially relevant for the CY.

[3] The Gender occupational segregation is calculated as the average national share of employment for women and men applied to each occupation; differences are added up to produce the total amount of gender imbalance expressed as a proportion of total employment (ISCO classification). Gender segregation in sectors is calculated as the average national share of employment for women and men applied to each sector; differences are added up to produce the total amount of gender imbalance expressed as a proportion of total employment (NACE classification).

[4] Managers are persons classified in ISCO 12 and 13.

Since parental and care responsibilities are not equally shared between parents, motherhood may also lead, in addition to segregation and income losses, to a limitation of mothers' participation in political and civic decision making. With respect to decision-making in the economic sphere, table 4 shows that women's share in the gender distribution of managers was 32,6% on average in 2006, but exceeds 35% in Poland, Hungary, France, Latvia and Lithuania. The share was notably lower in Cyprus and Malta. In 2007 (and with no change since 2004), on average for all 27 European countries only 23% of national parliament members are women (European Commission, 2008). This share exceeds 35% in Belgium, Spain, Denmark and the Netherlands and 40% in Finland and Sweden, but is below 15% in Greece, Cyprus, France, Slovenia, Ireland, Romania and Hungary. It did not exceed 10% in Malta.

The disadvantaged position of women in the labour market raises women's poverty risk, both at the age of raising children and at the age of retirement. The average share of those people living in households at risk of poverty (income below the threshold set at 60% of the median income) was significantly higher for women than for men in the EU 25 (25% vs. 16%) (European Commission, 2008).

Finally, the literature reviewed shows that the impact of motherhood on female labour market behaviour is significant in all European countries. Furthermore, the work penalty of children has further costly consequences for mothers. This suggests that the change in women's labour market behaviour induced by children can not only be attributed to women's working time preferences, but rather to the economic constraints that mothers face (Del Boca and Locatelli, 2007; Fagan, 2003; Bielenski, Bosch and Wagner, 2002). The efforts and methods implemented by enterprises and the State in order to alleviate these constraints vary widely in Europe. It is possible that this is one main reason why there are such large differences in the impact of motherhood on female labour participation. .

Enterprises as actors in family policies

Since dual earner couples are becoming increasingly common in most EU countries, enterprises are increasingly concerned by work-life balance requirements. Support to parenthood is also a corporate issue, not only in terms of costs of children but also in terms of time and flexible working arrangements. In most EU countries, organizations supplement or substitute public provisions. Also, it is at the organizational level that work-life balance arrangements are worked out.

Several researches have underlined the negative effect of working conditions on women's labour participation and on mothers' return to work after childbirth. This negative effect is observed notably for low educated and low qualified women who are more often exposed to unsocial working hours, precarious employment and involuntary part-time. Across EU countries, working conditions are more strictly protected and monitored in the public than in the private sector. Furthermore, large companies are more likely to offer facilities to parents in terms of flexible working arrangements, as well as in terms of services. Over the last years, the issue of companies' social responsibility with respect to work–life balance has been investigated in several countries and at the EU level, bringing new knowledge on how enterprises take account of their employees' parental responsibilities.

Legislation limiting the impact of maternity on gender equality

The integration of women into formal employment has become an important issue for debate in EU countries that are committed to introducing legislation on equal pay and treatment, and also to developing incentives for enterprises to pay greater attention to the work-life balance issue. Concern is expressed about the effectiveness of the law and its implementation. Measures to prevent discrimination at work on grounds of maternity have been signed into

law but the unevenness of implementation is still a cause for concern. The challenge is also to take account of parental responsibilities at the work place. A summary of the measures introduced in response to gendered working patterns was presented in Hantrais (2003: p. 73) resulting from the IPROSEC research network. It shows that several countries have implemented both the letter and the spirit of the EU law to protect women as working mothers and prevent discrimination against them (especially on the basis of maternity) in the workplace. France and Sweden appear to have gone furthest in attempting to reduce inequalities in the opportunities and treatment of men and women in public policy, closely followed by the United Kingdom.

Recent developments in legislation have tended to limit the effect of maternity on women's careers by providing incentives through re-training schemes and support services to enable more women to remain in the labour force and to stay in contact with the enterprise while being on leave. In all member states, reinstatement of women returnees is mandatory after maternity and parental leave, though not necessarily in the same job and with wide variations in current practice, as shown by the company survey on working time and work-life balance commissioned in 2004-2005 by the European Foundation for the improvement of working and living conditions (see Riedmann, 2006 for an overview). The survey provides valuable new data on how enterprises take parenthood into account in their management practices in 21 EU member states. The comparative review of reconciliation of work and private life in thirteen countries coordinated by Plantenga and Remery (2005) also provides interesting findings about companies' support to working parents, as well as the OECD Babies and Bosses research programme (see Witheford and Adema, 2007 for a synthesis).

Work-life balance of employees: a manager's responsibility?

The company survey on working time and work-life balance commissioned by the Dublin foundation in 2004-2005 provides information both from managers and from employee representatives in 21 European countries. Results show that both managers and employee representatives consider that it is the responsibility of the "establishment" to take work-life balance issues into consideration in the work organization and in the design of working time policies (Riedmann, 2006). National surveys tend to confirm this statement, in particular the "Familles et Employeurs "survey carried out in 2004-2005 by the French institutes *INED* and *INSEE* (Lefèvre et al., 2007; Eydoux et al., 2008). In many countries, the most important issue for employee representatives is the introduction or improvement of flexible working arrangements and working time accounts. This coincides with the findings of various surveys among individuals that also see flexible working times and working time accounts as positive instruments with regard to employees' work-life balance (see for instance: Fagan, 2003). Nevertheless, such schemes are not the only remedy to work-life balance issues, since they may exist in enterprises but their implementation in everyday life may not be effective.

Companies' support to childcare services and leave facilities

In most European countries, the role of employers in providing child care facilities is fairly limited. The few exceptions refer to large companies, especially banks and hospitals. In Greece, France, Luxembourg, Slovenia and the United Kingdom, companies may offer childcare services or participate in providing them. The public sector is more likely to offer such facilities than the private sector, as in Ireland and the UK. In some of the new member states, the transition has resulted in closing childcare institutions because of financial retrenchment and enterprise restructuring. Only in the Netherlands is the provision of formal childcare considered as a combined responsibility of the government, the employers and the employees. Financing is therefore on a tripartite basis shared between employers, employees and the state (EU expert group on "Gender, Social Inclusion and Employment", report 2005, Plantenga and Remery, 2005).

With respect to leave facilities, national regulations may be extended by companies, with regard to both the length of the leave and its payment. However, in most countries, the role

of employers remains limited, except in the Netherlands, the United Kingdom and to some extent Denmark, where employers seem to play an important role in the provision of leave (Plantenga and Remery, 2005; Anxo et al., 2007).

Working time policy

The growing variety of working time patterns tends to blur the distinction between "normal/standard" and "unusual" working hours, at national level and a fortiori at multi – national survey levels. For instance, the notion of "extended hours" does not have the same meaning in Southern and Northern countries. However, the Dublin company survey has overcome these difficulties, showing that "regular requirements to work at unusual hours such as Saturdays, Sundays or at night are part of the working conditions in many European establishments of various branches" (Riedmann, 2006: p. 71). Constraints on work at night or week-ends varies across countries, depending on the structure of the economy and on legal norms concerning working time and shops and services opening hours. As reported by employee representatives, work at unusual hours is in most establishments an issue of debate between employers and employee representatives, in particular with respect to the possibility of scheduling these hours in advance, which is an important issue from a work-life balance perspective. The survey shows that employees in large companies tend to be in a better position than others with respect to the reversibility possibility (Kümmerling and Lehndorff, 2007). National surveys have investigated the impact of unusual working hours on childcare use and gender equality, stressing the difficulties encountered by parents (ie generally mothers) who have such working hours (Bressé, Martin and Le Bihan, 2007; Eydoux and Letablier, 2008).

Overtime work is widespread in European establishments whatever the size and economic sector. Considerable differences exist between countries concerning the compensation of overtime hours, either with time off or money. Whereas a monetary compensation prevails in Mediterranean and Anglo-Saxon countries as well as in the new EU member states, compensation by time off has become more common in Scandinavian countries and most of the former EU 15 member states (Riedmann, 2006). From a work-life balance perspective, this option may be preferable to the money option.

Part-time work is one of the most widely known "a-typical" working time arrangements in Europe. In principle, part-time work may offer a good opportunity to combine paid work with family obligations, but the compatibility of a part-time job with family obligations heavily depends on the part-time working regime. The financial conditions, social benefits, career prospects, and the distribution of working hours during the day or the week determine whether the part time work is really attractive as an alternative to full time work. Recent surveys among individuals have shown that many full time employees would like to temporarily switch to working part-time, especially in the childrearing period of life, but decide against it fearing a negative impact on their career (Groot and Breedveld, 2004: p. 293). The Dublin company survey indicates that although part-time work has become an important issue for working time policy in the majority of European establishments, in several Southern European countries the offer of part-time jobs is still not a matter of course even in large companies (Anxo et al., 2007). The profiles of part-time workers in establishments vary across countries, but women still dominate the part-time workforce. Part-time remains the preferred working pattern of many mothers, however not all women working part-time do so deliberately. In several countries, some of them work part-time because they could not find a full time job. Whether part-time work favors the work-life balance of employees depends on several factors such as the organization of part-time work, the tasks assigned to part-time employees, their position within the establishment, the possibility of reversibility and the career prospects (Letablier et al., 2008). According to the survey giving the viewpoint of the managers, a large part of offered part-time work shows some problematic features which vary across countries: career prospects tend to be worse than those of full time employees and possibilities to shift to full time jobs are not always guarantied.

Flexible working arrangements

The term “flexi-time” covers a variety of working time arrangements which enable employees to vary the beginning and the end of their daily work to adapt it to their personal needs and preferences. However, flexi-time schemes should be differentiated between the regulatory framework and the way the potential for flexibility is used in practice. These possibilities are often set out in companies’ collective agreements, but sometimes, especially in small establishments, such schemes are informal (without any written rules).

There are wide differences across EU countries with regard to flexible working time regimes. Both the overall number of enterprises using flexible working time arrangements and the scope of the schemes differ widely across countries. Differences appear to be relatively independent of economic activity or size, suggesting that flexi-time practices are influenced by national institutional frameworks and by cultural factors. The comparative study by Schief (2006) based on establishment data (EUCOWE survey) from five EU countries (Germany, France, the UK, the Netherlands and Portugal) confirms the importance of geographical location on the dissemination of flexi-time practices. The main reason declared by managers for introducing flexible working arrangements is to improve work-life balance (Chung et al. 2007). However, it may also result in an increased pressure on employees to adapt working hours to the requirements of the establishment instead of responding to personal needs as is frequently observed for more highly skilled employees. Establishments may also profit from flexi-time schemes resulting in a better adaptation of working time to the work load, lower absenteeism and a reduction in overtime (Chung, 2007).

The ambivalence of work-life balance policies

The role of companies and social partners is relevant to analyzing the effectiveness of policies supporting parenthood. In most EU countries, women with children work shorter weekly hours than women without children. When working time preferences are compared to with actual working hours, women with children would everywhere prefer to work shorter hours than they do (Bielenski et al., 2002), but even women without children would prefer to work shorter hours. Nevertheless, working parents often report being under time pressure, especially when they have young children. The available literature seems to suggest that both the argument of institutional pressure and the economic argument apply in explaining national differences between work-family policies provided by firms. The national social policy context does matter, and employers tend to develop work-family arrangements which supplement existing legislation. Also, provisions made by employers seem to be sensitive to economic factors (Klammer and Letablier, 2007). These findings confirm that employers are conscious of the role they can (and should) play in helping employees to combine work and family life, suggesting that work-life balance policies may also benefit the organization. However, long working hours make balancing work and family life difficult while reinforcing gender inequalities and gender specialization. Disadvantaged groups are particularly exposed to extra pressure from working conditions and working time organization. Ambivalence of work-life balance policies and practices was also pointed out in the IPROSEC research that demonstrated the importance and the complexity of the changing shape of gender relations from one country to another and also within countries, emphasizing the need for careful monitoring of local situations (Hantrais, 2003, *op. cit*.).

The complementarity between public and employer support

Thévenon (2008c) examines how public policy is supplemented by support from employers in the form of childcare services and flexible working time practices. He suggests that differences in the latter support are part of the variations in patterns of work-family reconciliation in European countries. On the one side are the countries, notably those of Northern Europe, where companies allow their employees considerable scope to modify their

working times, with a working week that varies depending on the time made available to compensate for extra hours already worked. On the other side, in countries like the UK, the Netherlands, Ireland and also in the Mediterranean countries, flexibility applies primarily to working hours, and companies do not allow employees to modify their weekly working week on a regular basis. However, this lower incidence of advanced flexibility arrangements is compensated by the higher frequency of female part-time work than in the other countries. In other words, the same need among employees for time to adapt their working life to family obligations seems to be handled by different mechanisms for the adaptation of working times. These mechanisms are clearly not equivalent since the first is accessible to a broad spectrum of employees, whereas most of those who opt for part-time work are women. In addition, the first regime is less restrictive, easily reversed or modified, whereas part-time work usually implies a permanent status and a narrower margin for negotiation by employees.

Assessing the effectiveness of policies supporting parenthood for mothers' labour supply and gender equality

The impact of maternity and children on female labour force participation may be reduced by policies, especially policies supporting parenthood and reducing the costs of raising children. A wide range of literature has explored this relationship since the reconciling of work and family life has become a major issue on the European agenda. We first examine how the links between policies and female employment have been explored in research, examining not only the role of the overall expenditures dedicated to support the costs of children but also the various impacts of different forms of support. Then we investigate the effectiveness of family policies for gender equality.

Mapping mothers' labour force participation and "reconciliation" facilities in EU countries

Numerous typologies have been produced to map the relationships between mothers' labour force participation and policies supporting parenthood (for instance: Gornick and Meyer, 2006; De Hénau et al., 2004; Hantrais, 2004; Thévenon, 2006 and 2008a; Da Roit and Sabatinelli, 2007; Chaupain-Guillot et al., 2008). Using the ECHP data, Chaupain-Guillot et al. (2008: graph p. 12) distinguish four clusters of countries in the EU 15 to which a fifth group may be added.

In a first cluster of countries (France, Austria, Finland and Germany), mothers' employment rates are highly dependent on the number and age of children. Parental leave is a major dimension of reconciliation policies since in these countries, parental leave was until recently longer than in other EU countries; it was also paid with reference to mother's caring activity rather than to wage replacement. Moreover, child benefits for the third child are generally higher than in other countries, representing more than one third of the average salary of women, and therefore explaining the decrease in employment rates following the birth of the third child.

In a second cluster (Denmark and Sweden) mother's labour force participation is high (more than 80% are in the labour force) and the proportion of parents using childcare facilities is the highest among the EU 15 countries. The length of parental leave is shorter than in the former cluster of countries. Finland displays a very similar pattern except for the length of the parental leave.

Greece, Spain and Portugal form a third cluster in which policies supporting parenthood are limited and the labour force participation of mothers is also limited, except in Portugal. Italy is apart from this cluster because of its paid parental leave, a take up rate of childcare facilities higher than in other south European countries and child benefits a little more generous. In the fourth group (Belgium, Ireland, Italy, Luxembourg, the Netherlands and the UK), mothers'

participation in the labour force is relatively high, but often part-time, and child enrolment in preschool at the age of 4 is slightly higher than in other EU member states.

Although this typology does not include the NMS, these countries are likely to form a fifth cluster (see Hantrais, 2004: p. 200) characterized by a "re-familisation" of the family–policy relationship. They share an under-funded reconciliation policy with the former cluster of countries, making working parents more and more dependent on family and kinship solidarities since access to childcare facilities is becoming too expensive for most parents.

Although the clustering of countries may differ from one research to another depending on the data and the variables taken into account, it is clear that both participation in the labour force and the amount of time dedicated to paid work by women between 25 and 49 years are closely linked to the number and age of children, and that this is not the case for men. Variations in women's labour force participation across countries may be resulting from policies supporting parenthood. The effectiveness of such policies is now examined.

The impact of the tax and benefit system on the parent's work choices

A rapid look at women's employment rates and public expenditure dedicated to support parenthood show that in Nordic countries, a high women's employment rate is correlated with a high level of expenditure. By contrast, in South European countries where public expenditure dedicated to support parenthood is low, women's employment rates are also low, though rapidly increasing in the young generations. However, the relationship is not so clear and more variables need to be considered to assess the impact of policies on women's labour force participation and women's employment patterns.

Several researches in the 1990s and onwards have attempted to assess the links between family policies and women's labour force participation, using various data sources (from OECD or from Eurostat) and combining quantitative and qualitative sources (for instance, Daly, 2000; Gornick et al. 1997; Hantrais and Letablier, 1996; Barrère-Maurrisson and Marchand, 1990). More recently, several researches confirm that effective public policies assist parents in the reconciliation of work and family life, resulting in higher mothers' labour force participation in addition to reducing child poverty and improving future outcomes for children. Higher labour force participation also contributes to the well being of parents, by reducing the risk of poverty, especially in old age. Increased labour force participation may also contribute to improving the sustainability of social protection systems in a context of population ageing and changing family structures (see for instance the publications from the IPROSEC network in the Cross National Research papers of the University of Loughborough (5 and 6 series and also Hantrais, 2004). The OECD Babies and Bosses research series also links mothers' employment to family-friendly policy measures, such as tax benefit policies, public childcare related policies and work place practices, emphasizing the differences between countries in parental family and labour market outcomes (OECD, 2007). Using the labour force surveys, Thévenon (2008b) explores women's participation in the labour market after the arrival of children and concludes that there are wide disparities across Europe, due not only to differences in the levels of expenditure dedicated to supporting parenthood but also to the content and targets of these policies.

However, most of these researches point out correlations rather than the general impact of policies on women's employment. Whereas there is a correlation between policies supporting parenthood and women's employment rate, it is difficult to access the causality of this relationship. Policy outcomes have to be identified with respect to the objectives and content of these policies, whether they are targeted or not on specific populations, and whether they include or not education policies or other forms of support to families to combine work and family life.

Del Boca et al. (2007) attempted to assess the role of childcare arrangements, parental leave, family allowances and labour market flexibility, in women's joint decisions on fertility and labour supply. Their research, based on the European Household panel (ECHP)

indicates that part of the differences in women's labour participation (and fertility rates) in 6 European countries can be attributed to policies, but the impact differs according to educational levels. They show that childcare facilities and optional leave have more impact on participation decisions (and on fertility decisions) for low educated women than for others. By contrast, labour market policies, such as part-time opportunities, have a higher impact on participation in the labour market for women with a higher level of education. In all cases, the impact is more significant on labour supply than on fertility.

Nevertheless, the financial incentive structure is not the only driver of individual labour market participation decisions. The general policy approach towards parents on income support determines to what extent such families rely on benefit support, and especially lone parent families.

Impact of policies supporting parenthood on work choices by parents

In chapter 3, key characteristics of the tax and benefit system have been presented with respect to the support they provide to parents and children. We now look at spending on family benefits and their impact on the incentive to work for second earners in couple families, and at how they affect the distribution of paid work in these families. We also examine how tax/benefit systems may provide lone parents with incentives to work and how differences in policies supporting lone parents may contribute to differences in labour market participation and welfare dependency.

Some countries pursue a universal comprehensive approach of support to parenthood, whereas others restrict spending and target their support on low income families. The Nordic countries are successful at providing a wide array of supports to working families throughout childhood. In all Nordic countries, policies provide a consistent and coherent system of support, but whereas Denmark and Sweden invest more in care and early education services for young children, Finland and Norway focus public resources more on supporting parents, usually mothers, providing home care for very young children (Ellingsaeter and Leira, 2006). A similar profile was identified in Hungary. Associated to this profile is the risk of weakening the position of women in the labour market and their ability to have an independent income. In research on "Paying for the costs of children in 8 North European countries", Bjornberg (2007) highlights the ambivalent objectives behind policies supporting the work and care balance in some countries, despite pursuing similar goals associated to the promotion of the adult worker family model. Although Nordic countries follow a welfare tradition of equalizing living conditions for children out of poverty, and childcare policies receive a high priority, there is still ambivalence in certain policies with respect to measures aimed at achieving gender equality. By contrast, most countries restrict spending by focusing benefits (and tax burdens) on some areas of family policy and/or by targeting resources at low income families. But, as underlined by OECD (2007: p. 98), such income-tested benefit systems may be at risk when (additional) earnings are made, by discouraging parents from coming back into the labour market unless financial incentives to work are also provided as in most countries nowadays, along with activation policies.

Differences in tax/benefit systems affect parental labour market decisions including working time patterns. Most EU countries have individualized tax systems, but nearly all countries have some form of tax relief either for non-employed spouses or for children. These arrangements produce weak incentives to work for the second potential earner, especially when the effective marginal tax rate of the second earner is close to that of the primary earner (Périvier, 2003). In the long term, the interest of all families including lone parent families is to engage in paid work, as it is the most effective way of reducing the poverty risk, and giving children the best possible start in life. Therefore, countries such as Nordic countries but also France, have developed policies encouraging lone parents to work after the parental leave or have limited the income support period (to three years in France). This approach requires an early active intervention in order to re-integrate lone parents on income support into employment, involving provisions for childcare, in-work benefits to make work

pay and employment supports. So far, in Ireland and in the UK, lone parents have been protected from having to work until their child is 12 or even older, explaining why lone parents' employment rates are relatively low in these countries compared to Nordic countries or France (Fodazione G. Brodolini, 2005). The UK has undertaken policy measures to increase the labour force attachment of parents on income support. Since 1997, the UK has increased both the generosity of child benefits, in-work benefits and childcare support in a context of a wide policy reform, resulting in an increase in employment incidence among lone parents.

Impact of parental leave on parents' labour market participation and employment patterns

Child related leave programmes have been presented in chapter 3, showing the wide array of parental leave arrangements in Europe, from the perspective both of time and of paying arrangements. We now consider their effects on labour supply and gender equity, with regard to public policy objectives. With respect to duration of parental leave, two clusters of countries may be identified: in the first one, the combined duration of maternity and parental leave is about one year whereas in the second cluster, policies provide support for a three year parental care. With respect to payment, three groups of countries may be distinguished: in a first group, parental leave is paid as a percentage of the former wage; in a second group, parents on parental leave may be eligible for a parental leave allowance or a home care allowance, and in a third group, parental leave is not paid. A third point to consider is the fathers' entitlement to share part of the parental leave, splitting countries into two groups, one group where fathers are encouraged to take part of the parental leave and another group where fathers are not concerned. It is clear that these features do not have similar impacts on women's employment trajectories and gender equality.

So, parental leave can promote labour supply when it offers good conditions for a break in working trajectory, but if it is too short or too long or if it is not flexible, parents, in practice mothers, may be less likely to return to work. This dilemma was clearly described by Moss and Deven (1999) raising the question of whether parental leave is an advance or a pitfall for parents. An abundant literature, comparative and country based, has been dedicated to the impact of parental leaves on mothers' labour market participation and employment and on gender equity (Deven and Moss, 2002a and 2002b and 2005). Another set of literature has been dedicated to the impact on child development which will be examined further.

Several country based studies have examined the impact of changing conditions of parental leave eligibility on the labour force participation of women. In France where the issue has been debated for more than two decades and the objectives have been often shifting, the negative impact of parental leave on mothers' employment has been underlined. Piketty (2005) evaluated the incidence of the change in parental leave compensation (APE) on both fertility and women's labour supply using both *Labour Force Surveys* and the *1999 Family Survey*. He concludes that there is a spectacular impact on mothers' withdrawals from the labour market, especially for low educated women with low wages. However, part of these withdrawals is temporary, and most mothers with two children resume work after parental leave, mostly full time. Piketty's results are also confirmed by Thévenon (2007) who observes that the probability of resuming work after a parental leave is high in France.

Case studies show that the impact of parental leaves on women's employment, as well as its impact on gender equity, depends on the characteristics of the scheme - in terms of duration, level of compensation, flexibility, provisions for sharing by the two parents - but also on a wider context: Several interlinked factors building up into a system explain low take-up rates among parents, including problems of access to information, leave compensation and payment, flexibility, available childcare facilities, prevailing family model and conceptualization of child education and development, and relationship to work. As noted by OECD (2007: p. 118), "the different policy objectives that underline public leave policies often reinforce each other, but there can also be some tension between them". The use of long leaves by mothers can damage their ability to achieve their labour market potential, affect

their well-being and limit future earnings and family income. In order to reduce the penalty on women for taking leaves, policies in Scandinavia, Portugal, Austria and more recently in Germany, have attempted to get more fathers to take up parental leaves by reserving some paid weeks of leave for their use. Although these policies have had a limited success so far, mothers being the main leave takers, they have at least a high symbolic meaning.

Explaining variations in take-up rates

Take up variations may have different reasons. In countries where leave schemes recently developed, as in Ireland and the UK, parents may be poorly informed about their rights. However, the level of compensation appears to be a major explanation of variations in take up and also in father's share of leave, in Ireland, the UK and some other countries like Spain, Austria, France, Germany (before the reform in 2007), Luxembourg, Hungary and Slovakia, where the compensation is a flat rate allowance and not a wage replacement. By contrast, in countries where the compensation is related to the former wage as in Denmark, Finland, Norway and Sweden, and since lately in Germany[21], more fathers are likely to take up leave. However, even when compensation is high, fathers' take-up rates are lower than for mothers. Pay disparities between men and women and cultural values also explain take up disparities. Furthermore, Greulich (2008) emphasizes that in Germany, the earlier take up of mothers, which can be observed since the reform in 2007, is due not only to the change in the compensation system (from flat rate to wage substitution) but also to the reduction of the compensation's duration for mothers from 24 to 12 months. This shows that the duration of the compensation also plays an important role in the take up behavior of mothers.

The availability of affordable and good quality child care facilities also impacts on the take up of parental leaves. However, values regarding family and care also influence the take up of leaves, as for instance in Hungary and Slovakia where traditional family organization appears to be the main barrier to fathers' participation in family life, though some changes are being registered (Math and Meilland, 2004a). In Spain, little is done to foster greater sharing of parenting and domestic duties and to tackle a prevailing male-dominated culture while in France, fathers reluctance to take up paternity leave stems from their disapproval of the idea of stopping work to care for a child, viewing the new approach to child-rearing as too far from their values regarding fathers' and mothers' roles in the raising of children (Gregory and Milner, 2008). Reasons given by fathers for not taking up paternity leave are mainly related to financial compensation, and to perceived high workload especially in rather inflexible small companies. In the UK, difficulties in resuming previous or equivalent jobs after maternity leave is often mentioned by women as a reason for not taking up the leave, while in Denmark taking leave is said to hamper women's careers, and in Poland taking family-related leave may undermine women's pension entitlements (Math and Meilland, 2004a). Attitudes of employers may also impact on fathers' take up of parental or family related leaves. The higher take up in the public sector is often attributed to the higher acceptance of employers and to guarantees of returning to work after parental leave.

Returning to work after a parental leave period is conditioned both by the availability of childcare facilities at a decent price and also by the quality of employment and work. Case studies indicate that despite the formal right to return to work in similar conditions after a parental leave, all women don't resume work in the same company or in the same conditions as before. In Germany, a large number of women return to work part-time whereas in France, low qualified women are found in unemployment after a parental leave (Milewski, 2005). Working conditions (working schedules, quality of work, time to commute, etc) appear to be reasons for low qualified mothers not to resume work after a parental leave in France (Marc, 2004). In Austria, studies have found that the reformed childcare leave incentive system has encouraged numerous young mothers to quit their jobs, finding it harder than before to resume work after leave (Math and Meilland, 2004b).

[21] On reforms of policies on parenthood in Germany, see also Klammer and Letablier (2007).

The impact of parental and care leaves on gender equity

An abundant literature has been dedicated to analysing the effectiveness of various forms of support to parenthood from a gender perspective. In research for the Employment and Industrial Relations Observatory (EIRO) in 2004, Math and Meilland (2004a) examine the impact of parental leave on take up and gender equity in 20 EU countries. They show that parental leave is a highly gendered reconciliation arrangement with negative impact on women's careers. This is because parental leaves may be perceived as a sign of low commitment to work and lead to lower pay. However, the authors underscore the variety of available provisions and configurations, showing that in a majority of countries, leaves are framed by legal regulations. But collective agreements also play a significant role in improving parental leave conditions and take-up reflecting the wide differences in industrial relations across countries.

Finally, leaves are one tool among others used to foster the work-life balance. Comparative research and case studies highlight the fact that the impact of leave depends on other contextual factors which enable parents to reduce the costs and time constraints of family responsibilities or prevent them from doing so. In addition to the availability and accessibility of childcare facilities, working conditions and the possibility of tailoring job and work schedules, these factors concern matters such as wage disparities, the prevailing values regarding gender roles, working attitudes and mothering commitment. In most EU countries, there is a policy debate about a more equal sharing of the care burden during the early years of children, but no satisfying solution has been found so far. To be efficient, parental and family leaves should be integrated in a continuum with other policy measures, with formal childcare policy and other related rights to care as suggested by Pfau-Effinger and Geissler (2005).

The effectiveness of policies reducing the costs of childcare for parents' labour force participation

In this section, the literature investigating how policies contribute to relaxing constraints on mothers' employment is examined, with respect to the costs and time involved in raising children. In both domains, costs and time, there is an abundant available literature, mostly economic in the first case and in the field of social policies in the second case. The section discusses the effectiveness of policies supporting childcare for mothers' employment and gender equity. It describes current drivers of public investment in childcare, including funding mechanisms, and discusses the effects of cash or in kind benefits. The section examines whether work pays, after taking into account the costs of childcare. Other reasons underlying parental behaviour, besides the strictly economic, are also considered.

Assessing the impact of childcare costs on mothers' labour supply

Despite a remarkable increase in mothers' participation in the labour market over the last decades in most EU countries, there are still mothers who wish to engage in paid work but cannot do so because childcare supply is limited or too expensive, or not available at the hours required. In some countries, mothers' labour force participation depends on informal childcare arrangements with relatives, neighbors, or other family members. In most EU countries, policy makers are increasingly concerned to develop early childcare facilities and pre-school education, shifting from formal home-based care to collectively–based facilities more or less integrated into the education system. Since the 1990s onwards, several countries have launched childcare programmes for the 2000 decade, aimed at developing childcare facilities in order to facilitate parents' employment as required by the Lisbon employment strategy and the Barcelona targets. Although these objectives have been discussed, mainly in academic arenas (for example, Moss, 2006; Lewis, 2006) because they subordinate childcare development to the employment strategy, therefore neglecting the

quality issue, most of the debates focus on the funding of this development and on its implementation at different levels. The discussion about both the objectives and the instruments of childcare policies has been presented earlier in this report. We now examine the impact of these policies and the controversies about measurement and assessment.

There is a large set of economic literature on the effect of childcare costs on mothers' labour supply and on the choice of childcare[22]. Authors focus less on the impact on labour force participation than on the trade-off between work and care. Generally, economic analysis of childcare policies is based on models of choice for the potential second earner in which the trade off is related to costs (wages versus childcare costs). It is difficult to draw common conclusions from this literature because the data sources differ as does the population taken into account: some researches focus on married women and others on lone mothers or low income women. Outcomes also vary according to the age of children considered in the model (under 6 years, under 3 years, or under one year), and whether the age of all children is taken into account or only the age of the last one. Outcomes also differ according to the measurement of childcare costs. However, these researches converge on some facts: it is not only the costs of childcare (or the compensation for these costs) that play a role in mothers' decision to participate in the labour market but also the level of education, the income from informal work, the number and age of children, other adults living with the family, the location and the unemployment rate in the area of living, and the quality of childcare services. Moreover, the cost of childcare is difficult to evaluate (see Perraudin and Pucci, 2007, for discussion on this point). However, most of these models have been developed in North America. Research focusing on married women with children under seven in France shows that the trade off between work and care is conditioned by the local supply of services and by the partner's wage (Choné, Leblanc and Robert-Bobée, 2004). The authors also estimate the possible impact of economic policy measures, like the suppression of the parental leave allowance which would raise by 2 points the use of formal childcare services and by 4 points the women's employment rate. They find that rather than the employment rate, it is the number of hours dedicated to work that are highly dependent on financial incentives. In general, these economic models conclude that there is a weak effect of the cost of childcare on women's labour force participation, but the importance of this effect varies from one research to another according to the variables taken into account in models. In fact, results are dependent on the measurement methods that are used. However, the impact on the choice of childcare seems to be more important, making informal childcare by family members more attractive when the costs of formal childcare are too expensive (Flippo and Sedillot, 2000). Chaupain-Guillot *et al.* (2007) modeled the simultaneous decisions relating to childcare and female labour supply. They estimate that in many EU member states including Germany, the UK and Southern European countries, the childcare constraints remain particularly high.

Evidence of effectiveness

Nordic countries began earlier than other west European countries to develop formal childcare structures, and they remain in the lead in childcare policy development in terms of participation, equity in access and quality. The system of childcare is comprehensive and extended to extra school hours. It is part of a policy model ensuring that combining work and family responsibilities is a life choice (Jonsson and Letablier, 2005; Moss, 2007). In Central and East European new member states, there used to be an extended system of childcare combining parental leaves and services for parents, but the system was under pressure during the transition as observed in Poland, Hungary and Estonia and represented in the IPROSEC research network (see Cross National Research Papers, 2003 & 2004). In France, the dual system of "*ecoles maternelles*" for children aged 3 to 6 and childcare support for younger children appears to contribute to a high labour force participation rate for mothers, especially for mothers with children over 3 years old, since parents do not have to

[22] For a survey of this economic literature, see Perraudin and Pucci (2007).

pay for pre-school (except in private schools, but they are not very common) and there is extra-school care available in most cities. However, although the system combines collective structures and private (subsidized) childcare by child minders, the demand for collective structures is not fully satisfied. In other countries, coverage is less widespread and is low for those 0-3 years old. Many children aged 3-6 participate in pre-school programmes but not always full time, therefore implying that one parent, in reality the mother, reduces her working time to take on childcare herself. In the UK, Germany, the Netherlands for instance, part-time work is common for mothers with young children, as a mean of combining work and care.

Over the last decade, there has been a general trend across EU countries towards more investment in childcare capacity and quality, since many countries have developed childcare programmes in order to meet the Barcelona targets (Lewis, 2006). Several countries are tending to implement a "right to care" for children as it already exists in Nordic countries. The Nordic childcare policy model has been extensively discussed in some countries as a way to follow. However, restrictions on budgetary costs have often resulted in developing forms of welfare mix to support childcare policy and in income testing and targeting public support on those families most in need. Similar trends have been registered by OECD (2007).

In kind or in cash support?

Whereas Nordic countries have developed high quality public services, other countries such as France have supported the development of both private individual childcare by child minders, and collective structures. However, the impact on women's employment is almost the same since childcare costs are reduced in both cases by various forms of State support. In fact, as noticed by the OECD (2007: p. 159), both demand and supply-side funding can be effective in achieving policy goals as long as support is made available only to good quality care, not only in terms of health and safety dimensions but also with respect to child development objectives. Despite efforts put into improving the qualification of child minders in France, the quality of care is not comparable to that in collective structures, but this seems to be accepted by parents. So quality may be a controversial issue, depending on who defines it (the State, parents, experts, professionals…). The place of parents in the development of the childcare system has been reconsidered in some countries and some innovative forms of participation have been noticed in commission funded research. Individual forms of childcare may be preferred by parents over collective structures, less because of the quality issue but more because of greater flexibility regarding atypical hours of work for instance (Eydoux and Letablier, 2008). Flexibility in childcare structures remains a debated issue, both from the point of view of quality for children and of demand from parents.

Support to after-school hours care services or to leisure time is also an important issue with respect to mothers' labour force participation and employment patterns. Denmark and Sweden, and to a lesser extent France, have developed a system of after-school hours childcare managed by municipalities, funded by the family policy and the municipalities, using existing public infrastructures (mainly school buildings) for the purpose of delivering such services. These services appear to be helpful for parents, especially for those who work full time.

Finally, despite large differences across countries with regard to the costs of childcare for parents, work generally pays for parents, even after accounting for childcare costs. In Nordic countries, subsidies to parents using quality childcare centers are so consistent that it is attractive for parents to engage in paid work. It is the same In France for parents who can get access to "crèches" since costs for parents are means-tested. But for parents who have to pay a child minder, costs are notably higher, in particular for low income parents and despite the reform of the PAJE (*Prestation d'accueil du jeune enfant*) in 2004. The picture is rather different in other countries where little formal childcare support is available and where the costs for parents may be substantial. According to OECD calculations (2007), after accounting for income-tested childcare support, out-of pocket costs exceed 20% of the net income of a dual earner family with full-time earnings of 167% of the average wage in Ireland

and the UK. Childcare costs are above 40% of the family budget of a lone parent with 2/3 of average wage in Ireland. In Ireland and the UK, the costs of childcare may be so high that work may not pay for many second earners in couple families.

Conclusion

Since the 1990s, in most EU15 member states mothers' employment has increased substantially, but their working time patterns continue to vary widely across countries. Furthermore, in the 2000s in most EU member states women with children are less likely to be in employment than women without children, except in Nordic countries where the impact of the number of children on women's participation to the labour force remains low. The motherhood-induced employment gap has negative consequences on income, career opportunities and access to social security benefits for mothers. These losses can be interpreted as indirect costs of having children that primarily concern women. Some countries attempt to compensate for the disadvantaged position of mothers with regard to independent income and self-responsibility by providing cash for care or by taking care work into account in the calculation of social entitlements.

To diminish these costs, company policies as well as national policies would seem to play an important role, albeit not necessarily through policy specifically targeting families. By encouraging the reconciliation of mothers' work and family life they can contribute to gender equality. However, the analysis shows that the effectiveness of family policies in encouraging mother's employment varies widely across countries. Furthermore, the effectiveness differs even within a country according to individual characteristics such as the woman's level of education and income or the family status. In some countries, family policy shifts have been huge in recent years, especially in the UK, Germany, in the Netherlands and in Eastern European countries, but it is too early to assess the outcome. Most of the long-running family policy debates continue, mainly concerning the choice between cash benefits or services, the welfare mix and the individualization of risks (IPROSEC, CINEFOGO, WELLCHI, MOCHO, etc). Many of the studies reviewed in this chapter focus on EU 15 despite the growing body of information about change in the 12 new member states with respect to childcare developments and work-life balance policies.

To sum up, reconciliation of paid work and family life has long been on the Community and national agendas throughout the European Union, resulting in numerous policy proposals designed to achieve a variety of often incompatible objectives with regard to fertility, employment and gender equality. In general, in countries where governments have long supported childcare provision and parenting, women's employment rates are today higher than in countries with poor policy support to parenthood, but the various studies do not provide convincing and systematic evidence that isolated family policy measures are the cause, or that similar effects would be achieved elsewhere if specific policies were pursued.

Furthermore, the studies reviewed suggest that family support measures concentrating essentially on women's childbearing and childrearing years are not sufficient to enhance the work-family balance. Not only does the availability of childcare facilities and parental leave matter but so also do the costs of childcare for parents and the level of compensation and duration of parental leave. In addition, the various forms of support for parenthood are not equivalent with respect to mothers' employment and gender equality. The available studies illustrating the possible side effects of reconciliation policies do not suggest that there is a formula that could be applied everywhere, nor are there any entirely new measures capable of guaranteeing that the many different objectives will be achieved.

Instead of focusing on single policy measures, the effectiveness of policies needs to be examined using a holistic approach to policy support for parenthood, as recommended in several research projects. Some researchers have attempted to identify the overall effect of a whole range of policies that are known to have an impact on families, taking account of the

many policy actors intervening in the field. They show that policies that are based on an overall and a life-long approach to work-life balance are likely to have the most positive demographic outcomes. Countries in which generous and wide ranging reconciliation measures have been implemented are also those countries where the fertility rate is the highest among EU member states, although again other factors may explain the relationship.

Finally, the review of literature points to the difficulties encountered in assessing the overall effectiveness of policies on mothers' participation in the labour market: Policies undoubtedly have an effect but are not sufficient to explain the entire process. Values, representations of gender roles, motherhood and parenting, the conceptualization of children's education, and political and societal contexts are intervening factors in the likelihood of mothers remaining in or returning to the labour market.

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Chapter 5

The effectiveness of policies for work-life balance and child well-being

Marie-Thérèse Letablier and Olivier Thévenon

Policies supporting parenthood are also aimed at improving family life and the well-being of children. Very different authors like Esping-Andersen (1999, 2002), Lewis (2006), Heckman and Masterov (2007) or Moss (2007) advocate in favor of a child centred approach of policies aimed at balancing work and life, instead of a focus on women's employment rates or on fertility objectives. The work-life balance issue has progressively become part of the rhetoric, both in politics and academia, replacing the narrow conceptualization in terms of reconciliation of work and family life. The work and life balance rhetoric implies a life cycle perspective, taking account of intergenerational relations, thus extending care responsibilities to the elderly relatives and not only to children. Moreover, work-life balance implies a larger set of actors enabled to support parenthood responsibilities, not only in terms of the monetary costs of raising children, but also in terms of time allocation. We now examine the effectiveness of policies supporting parenthood for family life and work-life balance on one hand and for child well-being on the other hand.

Family life and work-life balance

Family life in statistics

In May 2005, the European Foundation for the improvement of life and working conditions launched EurLIFE, its interactive online database on quality-of-life issues, using existing data from Eurostat and the Foundation's first European quality of Life survey (EQLS). The data base covers 12 quality of life domains, each including 15 to 20 indicators: Health, education, employment, Income deprivation, family and life satisfaction are among the domains covered by the database. EurLIFE gives access to data covering a 10 years period. In 2007, new indicators were included in the database covering now the 27 EU member states and the candidate countries Turkey and Croatia.

On average, Europeans seem very satisfied with their family life: respondents give a satisfaction rating of around 7.9 on a scale of between 1 and 10, with a small gap between men and women. In Latvia and Lithuania, however, satisfaction with family life is low and is lower for women than for men. People generally consider family life as very important, giving an average score higher than 9 on a 1 to 10 scale. Women tend to consider family life more important than men. With respect to housework, a large gender difference is on the share of housework borne. In all countries, except in Austria and Germany, more women than men feel they do more than a fair share of housework. The issue of work-life balance can be found under the employment section in EurLIFE. Almost 30% of men in the EU 25 find that their job prevents them from giving time to their family, compared to 28% of women[23].

[23] The EurLIFE database is available on the Foundation's web site: http://www.eurofound.europa.eu/areas/qualityoflife/eurlife/index.php

Factors influencing the quality of family life

When people are asked about what matters most for their quality of life, the majority ranks family and social relations, along with income and health, as indispensable ingredients of a good life. It is not surprising therefore that the quality of life is increasingly a key focus of social policies.

In recent decades, European families have undergone deep changes in their structure and composition, characterized by a fall in size, a lower incidence of marriage, an increase in marriage breakdown and separations, and changing patterns in transitions to adulthood. These trends differ between EU member states, due to variations in demographic trends and in patterns of family formation. Family life is hugely influenced by the size of the family, the number of children and the relationship to work. Single parents now form a notable part of families especially in Northern and continental Europe, and their number is increasing everywhere, while at the same time the number of childless couples is increasing in some countries.

Despite these developments, the family remains an essential support for coping with the challenges of daily life. Results from the EQLS indicate that in the NMS10, the extended family appears to play an important role in facing economic risks and in socially integrating family members. However, as underlined by Anderson (2007) “such family solidarity may not be available to all family members: older people and those who are unemployed may fail to benefit” (p. 12), therefore suggesting that policy makers should not assume that family support and solidarity are universally available; rather policy should focus on creating conditions for good family life. When asked in surveys how governments could better support family life, respondents advance measures like reducing unemployment and promoting flexible working hours. However, respondents in the EU 15 tend to promote labor market participation measures whereas in the NMS the stress is more on family policy measures such as child allowances and parental leave (Anderson, 2007).

Satisfaction with work-life balance

The issue of balancing work and family life is now a major issue for contemporary social policies in Europe. Results from the Foundation’s European Working Conditions Surveys (EWCS) and the EQLS suggest that people who succeed in balancing their work and family life are more satisfied with their family life in general. But it also appears that in all countries, and especially in the NMS 10, vulnerable groups such as lone parent families find it difficult to balance time commitments. However, women report a lower satisfaction rate regarding work-life balance than men, and in particular when it comes to the sharing of households tasks. Women also report a higher implication than men in caring for dependent adults or elderly relatives. Whereas much attention has been paid so far at EU level to childcare, more attention has to be paid to elderly care and to intergenerational issues, thus replacing the role of families in a life cycle perspective.

Child poverty

Child well-being has become an increasing concern of policy at both national and international level (in the EU, OECD, UNICEF). One of the main concerns has been the risks and consequences for children of living in a poor household. Broader approaches to the dimensions of well-being and the determinants of child development are also increasingly considered. We first examine how child poverty is defined and measured in comparative research. Then we look at the trends in child poverty and also at the reasons given to this development. After discussing the problems of validity and reliability of such measures, we explore other measurements of child well-being based on multi dimensional indicators using surveys and administrative data, as they have been explored in some of the contributions to the WELLCHI network funded by the European commission. We suggest here that child well-

being cannot be evaluated by a single indicator of child poverty since other domains of well-being have to be included in the measurement, such as child health or child development. In a second step, we survey the literature on the impact of policies supporting parenthood on the well-being and the cognitive development of children. Finally, the impact of gender inequalities on the risks of poverty and social exclusion is explored, in particular for disadvantaged groups.

Defining and measuring child poverty

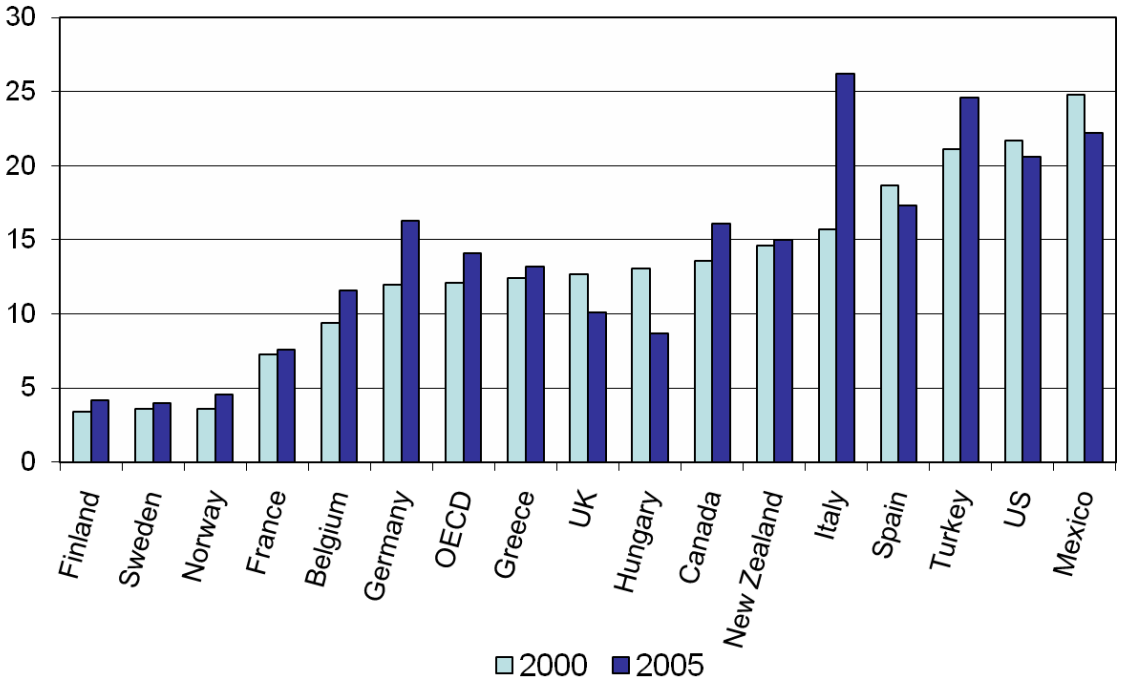
The indicator of child poverty has been used in Scandinavian and Anglo-Saxon countries for defining the objectives of social policies, on the assumption that the situation during childhood impacts on the development in adulthood. Reducing child-poverty has been given priority on the policy agenda in several EU member states in the 1990s onwards. In the UK, an objective of eradicating child-poverty byl 2020 was announced by the government in 1997 and since that time a large amount of research has been dedicated to this issue.

Measuring child poverty implies considering the households in which the child is living. The standard of living of a child is defined with regard to the standard of living of the household in which he/she lives, where children are counted as consuming units who benefit from the household income. Children do not contribute resources to household income, except through child benefits or other child related allowances. The measurement of poverty also takes account of the composition of the family and especially of the size. In addition, to make comparisons across countries, income is converted into a standard of purchasing power in order to have a similar reference point in all countries (purchasing power parity). Household income is considered both before and after social transfers. The measurement of poverty relies on the median standard of living. The poverty threshold is a relative notion that corresponds to a portion of the median standard of living of all households: poverty threshold are conventionally fixed at 40, 50 or 60% of the median income. The 60% threshold is generally used in cross comparative research, although the threshold used in France for instance is usually at 50%, which gives a more restrictive perspective on poverty.

Trends in child poverty in EU member states

In the European Union, 19% of children are exposed to the risk of poverty (Commission européenne, 2008). In some countries, more than one child in four is poor or deprived. In addition, in most countries, children are more exposed to poverty risk than the population on average. Children who grow up in poverty and social exclusion have lower opportunities than others to succeed at school, to be in good health and to get a good job later on. For these reasons, the EU has given priority on its agenda to the reduction of child poverty and social exclusion. In spring 2006, the European Council decided to implement measures aimed at reducing child-poverty by giving equal opportunities to all children whatever their social origin. In 2008, a report on child poverty was published by the social protection committee in which the main causes of poverty are analyzed. The report also includes recommendations to make improvements on this issue (Commission européenne, 2008). According to this report, in 27 EU member states in 2005, 19% of children under 17 were at risk of poverty, against 16% of the whole population. Between 1996 and 2001, child poverty remained unchanged (19 to 20%) in the 15 EU member states whereas poverty was decreasing (from 17 to 15%) in the whole population. Between 1995 and 2005, child- poverty has only declined in Spain, Hungary, Austria and the UK (Whiteford and Adema, 2007- see graph 1). But child poverty has been rising in many countries in the period 2000-2005, in particular in Italy, Germany, Belgium (poverty threshold at 50% of the median household income). But it has also decreased in the UK, Hungary and Spain. Nevertheless, the highest rates are still found in Italy (over 25%), Spain, Germany and Greece while the lowest are in Nordic countries with a rate below 5%, though slowly increasing. France also displays a fairly low child poverty rate (around 8%).

Graph 1: Child poverty in some OECD countries, 2000 and 2005



Source: Income Distribution Questionnaires, OECD, 2007
Poverty thresholds set at 50% of median household income

According to European data (with a threshold at 60%), child poverty is lower in Nordic countries, especially in Denmark and Finland where the child poverty risk is around 10%. However, in more than half of EU member states, the child poverty risk exceeds 20% and even more in Romania (25%) Latvia (27%) Poland (29%). Only a few member states display a child poverty risk lower than for the whole population: Belgium, Denmark, Germany, Cyprus, Slovenia and Finland (Graph 2). The standard of living of poor children varies across countries (European Commission, the Social Protection Committee, 2008).

In a research comparing child poverty in Europe, Aude Lapinte (Lapinte, 2002) focuses on children aged 16 and under, considering that over 16 young people encounter more specific problems that are differently treated in EU member States. The study was based on the third wave of European Household Panel covering all the EU member states except Sweden, and providing data on households' income for 1995. The study also gives an assessment of the impact of social policy on child poverty reduction. One of the findings is that child poverty is dependent on the family size and structure (two parent-families or lone-parent families, unemployed parents etc.). Whereas a majority of children lived in two-parent families, a high proportion of children lived in families with two unemployed parents in Ireland and in the UK. By contrast, more than 50% of children in Portugal and Denmark lived in dual-earner families (Lapinte, 2002). The author underlines that social and family benefits have higher impact on reducing child-poverty in Nordic countries than in Southern countries. She also shows that whereas vertical redistribution is more effective in Ireland, Greece and Spain, horizontal redistribution, noticeably towards lone parent families, is more effective in Denmark, the Netherlands, the UK and Finland. In France, redistribution is more effective towards large families.

Reasons for child poverty

Over the last years, the focus in research has increasingly been on the new social risks impinging on the well-being of children (Taylor-Gooby, 2004; Lewis, 2006). The new risks tend to affect people at younger stages of their lives due to an increase in precarious

employment and to changing family forms, thus extending the demand for state support into areas of life that were before seen as being private (Flaquer, 2007b). New social risks result from difficulties in accessing employment and also from difficulties in managing conflicting pressure on family life. Long term unemployment, hard working conditions, precarious employment, lone parenthood, limited social rights, tend to be concentrated on the young, the low skilled and on women, and to affect children. For Flaquer (2007a) the coordinator of the Wellchi network, one of the reasons for the rise in child poverty in developed countries may be the inadequacy of social policies to respond to new social risks in terms of social transfers and provision of services. This is particularly true for lone parent families who, according to a comparative research conducted by the Brodolini Foundation in 2005-2006, strongly rely on state support to get out of poverty.

Lone-parent families and also large families are more at risk of poverty than other families. The disposable income for a child depends on the family size, and the composition and characteristics of the household in which he/she is living. In the EU on average 22% of poor children live in lone parent families and 25% in large families, whereas only 13% of children live with only one parent. In 90% of cases, the lone parent is the mother. However, reasons for lone parenthood differ deeply from one country to another (Fondazione Brodolini, 2007). More than 20% of children living in large families are exposed to poverty risk. Although large families are not common in Southern Europe nor in Eastern countries, it is in these countries (Greece, Spain, Slovenia) than the poverty risk for children living in large families is the highest. The opposite is observed in Nordic countries and the Netherlands where large families are more common (26 to 33% of all families) but where the poverty risk is the lowest. Children in immigrant families face more difficulties than other children, as also do children with parents suffering from a handicap or drug addiction.

Age and level of education of parents also explain the child-poverty risk. Children with “young” parents (lower than 30) are more exposed to poverty than others living with older parents. The risk is on average 27% if the mother is under 30 against 19% if she is 30 to 39, and 16% is she is older. Young parents on average have lower wages than older ones and are more often exposed to unemployment and precariousness of employment.. The parents’ level of education also impacts on child-poverty: 30% of poor children have parents who have stopped school before achieving the secondary level of education. However, for all families, the main issue is access to the labour market.

Since earnings from work constitute the major source of income for families, the employment situation is determinant with respect to poverty risk: 62% of households with children and without a job are exposed to the risk of poverty. In EU 25, almost 10% of children live in households where no adult is working. In most countries, the situation has not improved since 2000 despite an improvement of the UE labour markets. Finally, child poverty rates are more than three times as high for jobless lone parent families as for employed lone parent families. And children living in one earner families are almost three times more likely to be poor than children living in dual earner families (Förster and D’Ercole, 2005). So parental employment is a key issue for reducing the child poverty risk which has a significant negative effect on child development (Kammerman and al., 2003).

Measures and determinants of child well-being

Measuring child well-being and development

Child well-being refers to the quality of children’s lives. However, there is so far no single definition and no one method of measurement of child well-being. Two approaches can be identified from the literature on this topic. In a first set of researches child well-being is approached with a multidimensional concept incorporating mental/psychological, physical

and social dimensions. The definition behind this approach however leaves limited room for the material dimension of child well-being, *e.g* referring to child poverty or to child material deprivation. By contrast to this definition provided by researchers, a second approach considers the perception that children have well-being. This subjective approach uses a self reported measure. Some research based on multidimensional indicators has included subjective life satisfaction measures in the set of indicators. But a major limitation of this subjective approach lies in the difficulty of collecting perceptions from young and very young children. Such indicators are only reliable for specific age groups.

Two theoretical approaches also frame the research on child well-being, opposing a "developmentalist" perspective and a "children rights" perspective. Moreover, the "developmentalist" perspective is more likely to be associated with a focus on poverty and deprivation than the "children's rights "perspective which is more often associated with a "positive" approach to child well-being.

In fact, most studies refer to specific dimensions of child well-being, often emphasizing social and cultural variation. However, so far child well-being has rarely been approached from an overall perspective. The UE, the OECD and the UNICEF are now actively involved in exploring indicators of child well-being.

The Laeken primary and secondary indicators of social inclusion contain two indicators that relate to children. Children in poverty have been named by the European Union as targeted groups in the common outlines and the common objectives of the National Action Plans for social inclusion, and also in the March 2005 EU Presidency Conclusions. Following the proposal made by a group of experts (Bradshaw, Hoelscher and Richardson, 2007) of an index of child well-being for the EU 25, and the recommendations of the task force on child well-being and child poverty (Social Protection Group Indicators Sub-committee) the EU has contributed to producing new indicators of child well-being. The idea was to extend the definition of child well-being beyond child poverty (Bradshaw, 2007). The indexes produced by this group of experts are now used by the OECD and by UNICEF. These indexes are based on a multidimensional understanding of well-being, informed by a view of children's rights, and drawing on national and international experiences of indicator development. The child is at the center of the analysis and the data are about children. No less than 51 variables have been used to define 23 domains that have been structured into 8 clusters: material situation, housing, health, subjective well-being, education, children's relationships, civic participation, risk and safety (UNICEF, 2007). These indexes are however constrained by the availability of data.

Cross – country comparisons on the six OECD dimensions

The index does not limit the approach of child well-being to an economic perspective but rather opens it up to wider social considerations on living conditions[24]. According to the index, the Netherlands, Sweden, Denmark are at the top of the scale concerning child well-being while the Slovak republic, Estonia and Lithuania are at the bottom. However, data are missing on several clusters for several countries, therefore limiting the validity of the scaling. It is however worth noting that the UK is among countries with the lower rate *(i.e.,* mostly central and east European countries) showing a low performance on each domain.

The UNICEF report on Child Well-being in rich countries also collects and compares indicators for child-being in 21 countries[25] (including Canada and United States) broken down by the six core dimensions mentioned above (UNICEF, 2007). The report establishes country performances for each dimension. The performance is calculated by averaging the scores for the components/indicators chosen to represent this dimension. An aggregate score is calculated for each country. The breakdown into six dimensions provides a diverse

[24] On new methods for researching child poverty, also see Bastos, 2004
[25] Luxembourg and the Slovak Republic are not included in the overview because of insufficient data.

and nuanced picture of child-well-being. It also provides a comprehensive overview of dimensions on which progress can be expected[26].

The main findings of the report show that the Netherlands stands in the top 10 for the six dimensions of child well-being. European countries dominate the top half of the overall table with Northern European countries ranking in the four top ranks. But all countries display weaknesses: for instance, the UK (and the US) stand in the bottom third of the rankings for five of the six dimensions considered. No single dimension of well-being stands as a reliable proxy for child well-being as a whole, and several countries find themselves with differing rankings for different dimensions on child well-being. Finally the report concludes that there is no obvious relationship between levels of child well-being and GDP per capita. The Czech Republic, for example achieves a higher overall rank for child well-being than several wealthier countries including France, Austria and the UK (UNICEF, 2007).

With regard to the first dimension, i.e. *material situation*, indicators currently in use (the proportion of children in households with equivalent income less than 60% of the median and the proportion of children living in workless households) reveal huge disparities among EU member states. Whereas Denmark, Slovenia and Finland display the lowest child poverty rate (Eurostat, 2008) with less than 10% of children living under the poverty threshold, the UK, Portugal, Poland, Spain, Italy and Slovak Republic display a child poverty rate above 20%. In 2006, the proportion of children under 17 living in workless households ranged from less than 3% in Luxembourg to slightly more than 16% in the UK. The lowest proportions are found in South European countries (Greece, Slovenia, Cyprus, Portugal, Spain, Italy) while the highest proportions are found in Central European countries and the UK. However, as noted by Bradshaw (2007), the relative child poverty rate has only a fairly weak correlation with overall child well-being as measured by the Bradshaw and al. (2007) index, and the percentage of children living in workless families has an even weaker correlation. Finally, child well being may be referring to three clusters of indicators that are: the relative child income poverty domain (combining child poverty rates and child poverty gaps) the child deprivation domain (combining lacking own bed room, holidays last year, a computer, a car, a desk, quiet place to study, less than ten books in the home) and the parental worklessness domain. Nevertheless, the selected indicators in the index give a parsimonious picture of how countries perform on the different clusters. And according to Bradshaw (2007), it is the cluster performance rather than the overall index that is useful for national governments to focus on in order to draw policy lessons from comparisons.

Parental employment as a determinant of child development

Within the last decade, the literature, dominated by Anglo-Saxon studies, has paid a growing attention to the determinants of childrens' development in the first years of their experience. Two main issues have been considered: the impact of parental employment, and the experience of poverty. The results however differ according to whether short or long term consequences are considered, and according to social and family background, and work intensity of parents.

The short-term consequences of parental employment on child development has been an issue of very lively debate in the US and subject to a growing body of research on both sides of the Atlantic. A substantial achievement of recent developments has been to provide better controls of the different factors which are likely to influence the relation between parental employment and children's performance, and to account for cross-individual heterogeneity.

Overall, there is a limited consensus in the literature about the effects of maternal employment and childcare. Most of the research carried out in the US context focusing on the first years of infancy suggests that maternal care during childhood is essential for child

[26] The assessment provided by this report relies on a concept of child well-being that is guided by the *United Nations Convention on the Rights of the Child*, also corresponding to the views of a wide public.

development and emphasizes the risk of detrimental effects of parental employment on children's cognitive development (Han et al., 2001; Brooks-Gunn et al., 2002; Baum, 2003; Belsky, 2004; Ruhm, 2003; Ruhm, 2004b; Baker et al., 2005).

Among these studies, Baum (2003) investigated the effect of maternal employment within the first year of life of children. He suggests that mother's work in the first year of a child's life has detrimental effects on child's cognitive development. Where significant, the results also indicate negative effects of maternal employment in the child's first quarter of life. However, the negative effects of maternal marketplace work are partially offset by positive effects of increased family income. Brooks-Gunn et al. (2003) also report negative associations between maternal employment during the first year of life and children's cognitive outcomes at age 3. The effects are found to be more pronounced when mothers were working 30 hours or more per week and for certain groups (i.e. boys, children with married parents, etc.). Although quality of childcare, home environment, and maternal sensitivity also mattered, the negative effects of working 30 hours or more per week were still found, even when controlling for child-care quality, the quality of the home environment, and maternal sensitivity.

Ruhm (2004b) also finds similar negative associations and concludes that maternal labour supply during the first three years of the child's life has a small negative effect on the verbal ability of 3 and 4 year olds and a substantial detrimental impact on the reading and maths achievement of 5 and 6 year olds. Working during the second and third years appears to have less favorable or more deleterious consequences when the mother is also employed in the first year. The results are robust with the inclusion of controls for day care arrangements or paternal job-holding and there is some indication that early employment may be particularly "costly" for children in "traditional" two-parent families. Finally, the data suggest that paternal and maternal employment have qualitatively similar effects, hinting at the importance of time investments by fathers. Some relatively similar conclusions are drawn for the UK by Gregg and Washbrook (2003) who found that maternal employment can have a deleterious impact on a child below age 2 or 3, but the impact depends on the quality of the associated childcare solution.

In contrast to these results, other studies find negative or mixed effects of maternal care (Bernal and Keane (2006), Gregg et al. (2005), Stafford (1987), Waldfogel et al. (2002)). One first reason explaining differences in results is that the negative association between mothers' employment and childrens' outcomes does not hold for all types of families, and especially in "deprived" families. In that case, mother's employment provides income which is of benefit to children. Children living in sole-parent families are particularly sensitive to this opportunity, as illustrated by Esping-Andersen (2008) who compared the cognitive scores of children living with a sole mother, either working or not. He found that children get better scores in cognitive development, such as measured by the PISA evaluation, *if* the sole mother works in Denmark, the Netherlands and the United-Kingdom. He also emphasizes the role of the quality of childcare in order to explain why such a result may not be replicated in the United States. A similar conclusion is stated by Dex and Ward (2007) who found no evidence of maternal employment influencing child development for three year old children, except for those where non participation in the labour market creates economic difficulties.

Moreover, such a positive relation is also found for the US when longer-term consequences for the cognitive achievement of "disadvantaged" adolescents are considered. Ruhm (2005) found such positive relations when investigating how maternal employment is related to the outcomes of 10 and 11 year olds in terms of both cognitive test scores and childrens' overweight. Controlling for a wide variety of child, mother and family characteristics, his results suggest that limited amounts of work by mothers benefit youths who are relatively "disadvantaged". Working long hours, which occurs relatively rarely, is unlikely to leave children much worse off. Nevertheless, such results are not replicated for adolescents living

in a more favourable context, since maternal labour supply is estimated to have much more harmful effects on “advantaged” adolescents. The negative cognitive effects occur partly because maternal labour supply reduces the time these mothers spend in enriching home environments.

In addition, the quality of the substitute to parental time for child care, and the working conditions of parents, are found to be important determinants of the relation between parental employment and child development. One basic concern is indeed that labour force participation of parents (and especially of mothers) can reduce the amount of time parents are able to allocate to childcare, and thus can impact negatively on both well-being and development of children. The evidence allowing some general statement on such a concern is however lacking. By contrast, the available evidence underlines the problems of home environment, of the quality of the relation between the child and his/her parents, and of the quality of the substitute to parental time when relying on external or informal childcare as especially important to assess the impact on children (Ruhm, 2004a; Belsky, 2004). A NICHD early childcare research network (2005) suggests that in both the cognitive and socio-emotional domains, quality and type of childcare have a clear impact on child outcomes, even after controlling for family factors.

One must also emphasize that most of these studies pay little attention to the role of fathers in child cognitive development despite the growing attention paid to parental interactions in the care of children in line with the rise in mothers’ employment rates. Dex and Ward (2007) suggest that children are more likely to have developmental problems if their fathers have no flexible working arrangements, do not share parental responsibilities and do not take paternity leave after birth. These factors are likely to be associated with education and earnings level, making a causal link difficult to prove. Nevertheless time spent by fathers with their children may have a positive impact on children well being.

Finally, the positive association between parental employment and child develoment for “disadvantaged” families suggests that poverty is a key factor in this development. The impact of poverty on the future of children at school has also been investigated. Some studies carried out in the United States conclude that children living in poor households attend the educational system on average for two years less than the other children. The proportion at risk of having problems of health, of committing crime, or of being unemployed when they are adult is significantly higher (Brooks-Gunn et al., 1997; Brooks-Gunn, 2003). The impact of poverty on children is perhaps less marked in Europe, but remains a marker of differentiation in children’s educational experience. As underlined by Esping-Andersen (2008), data reported by Gregg et al. (1999) show that the probability of attaining a higher degree of vocational training is reduced by almost a half by the lack of income affluence during childhood. Their probability of graduating from a University is also three times less, whatever their abilities are.

The role of attitudes towards maternal employment

Attitudes towards maternal employment and its impact on children are also important dimensions explaining cross-country variations in the framing of policies. Pfau-Effinger (2007) observes wide variations across countries in attitudes towards the well being of pre-school children and paid work of mothers. Her findings are based on the responses in the ISSP 2002 “Family and Gender roles III’ survey to the statement “A pre-school child is likely to suffer if his or her mother works”. Whereas almost 65% of the respondents “agree” to the statement in Austria for instance, only 24% do so in Sweden and around 32% in Demark and East Germany. More than one in two respondents agree to this statement in Poland, West Germany and Spain, underlining the cultural values behind mother’s roles and the conceptualization of children’s well-being. However, whereas more than 80% of respondents agree with the statement “Work is best for women’s independence” in Austria, Spain, France, East Germany and Denmark, only 57% in the Netherlands and 55% in the UK agree with

this, indicating that there is a tension between values related to women's identity and the conceptualization of children's well-being. To overcome this tension, she suggests that policies support an "active motherhood" by implementing both social rights to receive care and social rights to provide care (Pfau-Effinger and Geissler, 2005). The combination of these two types of social rights and their broadening should enhance the well being of children while providing incentives to mothers' participation in the labour force.

These difference in attitudes illuminate the differences in policy frameworks supporting child development. In Scandinavian countries, comprehensive parental leave and childcare support are based on the idea that good quality services are good for children whatever their age roughly from 12 or 15 months onwards. However, as mentioned in OECD (2007) Scandinavian countries in some ways have different perspectives on the age at which children may be cared for by somebody other than the parents, and therefore the age at which mothers are encouraged to go to work. In Finland and Norway, the paid parental leave pattern and home care allowances encourage one of the parents to provide care until the child turns three, while in Sweden children often start to be in collective childcare at the age of one and a half, and in Denmark at the age of one year.

The effectiveness of policies to foster child well-being and development

Not only has the amount of policy expenditure dedicated to children to be considered but also the policy instruments, since they may have different outcomes for child well-being. We examine in this section what the literature has to say on the effectiveness of policies supporting parenthood for child poverty and deprivation, and for child cognitive and social development. We then examine the arguments supporting the policy objective of investing in children that has been developed recently by different authors.

Policies to eliminate child poverty

The risk of poverty is far higher for lone parent families than for other families with dependent children. However, in some countries: Portugal, Italy, Bulgaria, and to a lesser extent Denmark, large families (3 or more children) are highly exposed to poverty risk. In both cases, the chances of escaping from poverty rely on social transfers and on provisions aimed at reducing the costs of children. Generally speaking, there is a causal relationship between the level of social expenditure and child poverty in most countries. Child benefits are one of the major measures reducing child poverty, but there are large disparities among EU countries regarding the percentage of social expenditure dedicated to support families, from 2,2% in Spain to 16% in Luxembourg (see above, chapter 2). Also, mothers' contribution to the household income through paid work contributes to reduce the poverty risk of children, while at the same time it increases the income gap between high and low educated families, dual earner families and lone parent families (Esping-Andersen, 2005).

Strategies to combat child poverty are relatively well known. Comparative research has highlighted the role of social transfers in reducing the poverty of children living in lone parent families in some countries like France for instance, while confirming at the same time the importance for the parent of being employed. This presupposes the existence of good quality childcare services at a reasonable price. The cost of eliminating child poverty was calculated by Esping-Andersen (2002, 2005) who estimated that it was not expensive for a national budget. This author suggests the development of a "preventive" strategy based on "investment in children" as a way of reducing the risk of poverty and of promoting equal opportunities for children. Investing in children means placing a peculiar emphasis on education to develop human capital and reduce the transmission of inequalities across generations. Esping-Andersen's proposal relies on the observation of the clear relationship existing between structural poverty and low school achievement. There is also a positive correlation between the persistent risk of child poverty and early school leaving. Southern

European countries (except Greece) are both concerned by early school leaving and high child poverty while Finland not only displays leadership in school performance but also in eradicating persistent child poverty.

A policy aimed at reducing child poverty was implemented in the UK by the Blair government in the 1990s onwards. Beyond general objectives such as giving every individual the opportunity to achieve his capabilities in a market economy, this policy is part of a global strategy aimed at reducing poverty by encouraging people to shift from welfare to work, by making work pay, by struggling against certain specific disadvantages (health, school, …), and by paying attention to ethnic and geographic disparities. The most effective outcomes of this strategy have been in reducing child poverty (Joseph Rowntree Foundation, 2005). Recognizing the multidimensional nature of child poverty, the strategy targeted the main dimensions of the poverty risk, among which the first were school difficulties with the *Sure Start Programme* targeted at very young children in order to improve their cognitive development before attending primary school; and secondly early pregnancies that are fairly frequent in the UK, hindering the future of young mothers and their children. In addition, two mean tested benefits were created: the family tax credit (for children) and the tax credit for employment (Join-Lambert, 2005). According to the UNICEF Innocenti research center, only four countries have registered a significant reduction of child poverty among which was the UK, which had reached its objective of reducing child poverty by 25% by 2004-2005 (Unicef, 2005). The success of the British strategy may also be explained by the formulation of explicit quantitative objectives in each domain of risk, the regular publication of indicators for assessing the strategy and the implementation of an evaluation process (Join-Lambert, *op. cit.*). Such a programme has not been adopted in France where child poverty was lower than in the UK. In fact, as also in Nordic countries, family policy impacts significantly on income redistribution, thereby preventing the risk of poverty for most families (Blanpain, 2004).

The impact of parental leave policies on child well-being

The impact of parental leave on child well-being has been reviewed by both Ruhm (2XXX) and Kamerman (2006) within the *International Network on Leave Policy and Research*. Both overviews suggest that generous periods of leave following childbirth improve child health, provided leave is paid, sufficiently long and that the job is protected during this period. The authors also emphasize the role of other family-friendly policies allowing time to both mothers and fathers for caring. The incidence of parental leave should be considered as a part of a more complete framework of support. Accordingly, the role of parental leave cannot be assessed separately from the role of childcare services.

The role of kindergartens and preschool services in fostering child development:

Growing attention has been paid within the literature to the impact of early enrolment in preschool and kindergartens on children's later cognitive and social development. A small number of results can be summarised. Evidence on the positive incidence of early enrolment in kindergarten and preschool on cognitive development and social behaviour is generally forthcoming. However, there is no clear evidence from research on the "optimal" age at which this enrolment should start, and on the volume of preschool hours that is best for children.

Many studies reach positive conclusions on the benefit of attending preschool for achievement at school. The effects are not huge, but certainly significant on test scores (Magnuson et al., 2007a; Ermish and Francesconi, 2001; Lefèvre and Mérrigan, 2002). On the basis of a longitudinal survey in the United Kingdom, Sylva *et al.* (2004) concluded that pre-school experience for children under three (compared to none) had a significant positive effect on child development and that an earlier start (before three) is better than at six for intellectual development. For children over three, early education in pre-schools is generally viewed as positive for child-development (OECD, 2007). However, part of this benefit can be

short-lasting: when looking at what happens after kindergartens; Magnuson et al., 2007b found that a portion of the initial advantage fades by first grade in the US.

A second consideration is how disadvantaged the child can be in terms of family background, income, education or life-style of their parents when they start school. Here again, a couple of studies provide some evidence that preschool gives a bigger boost to poorer or otherwise less advantaged children. They emphasise especially the positive effects of early access to kindergarten and preschool on children's ability to read, to develop vocabulary, or to concentrate at school (Sylva et al., 2004; Evangelou et al, 2005).

Goux and Maurin (2008) contribute an interesting study to evaluate if children benefit from an early enrolment in preschool (i.e. at age 2 rather tha age 3) compared to children cared for by their mother. They found no significant result that children's performances at primary school are worse when they have attended preschool at age 2. In contrast, they emphasize that an early enrolment in preschool can be very fruitful for children living with a single mother, since it is proved to have a positive impact on her labour market participation. Such positive impact on the achievements of low income families is also found by Morris and Michalopoulos (2000) assessing the Canadian self-sufficiency programme.

Moreover, the effects of early support are perceptible beyond the period of early childhood. Cameron and Heckman (2001) show that the gap in college-going rates of different racial and ethnic groups is partially due to differences in income and social backgrounds of parents, but especially to differences in children's ability which is strongly influenced by the experience in early childhood. This evidence explains why many poor or disadvantaged families fail to utilize programmes that subsidise college tuition for the disadvantaged. Heckman and Masterov (2007) then emphasize the importance of both cognitive and non-cognitive abilities in shaping child educational and economic outcomes. They stress that gaps in college attendance across socio-economic groups are largely shaped by abilities formed in the early years, and claim consequently that early intervention is surely the most efficient way to remedy these deficits. Since human and social development is a cumulative process, later interventions are certainly less effective.

Migrant families can also be the main beneficiaries of such an early support, as found in a study focusing on West Germany. Spiess et al. (2003) thus established that while there is no significant correlation between Kindergarten attendance of children of German citizens and children's later school placement, a positive association is found in immigrant households: later school placement is significantly associated with kindergarten attendance prior to school enrolment.

The quality of care and child development

It is often said that early collective socialization in quality childcare structures is beneficial for the cognitive development and social behavior of children. There is, however, no clear evidence showing this impact, controlling for other factors such as the paternal presence or the quality of home learning environment. Furthermore, while the actual impact of childcare enrolment on child development may crucially depend on the quality of care, only very limited studies consider the impact of the different components of care and preschool quality: child to staff ratio, implication of parents in the definition of the pedagogical approach, individualization of care, etc..

Investing in young children: the productivity argument

To the question of how social policy can compensate for adverse family environments in the early years, policies have given various answers over time. One policy response is to reduce the material deprivation of poor children with transfers from the state towards families. Another response is to develop programmes for children outside the home, even sometimes

by removing children from their family. Exploring the US case, James H. Heckman and Dimitri V. Masterov (2007) suggests a third approach to the question, supporting an investment in early education for disadvantaged children. The argument that is that on productivity grounds it makes sense to invest in young children living in disadvantaged social and family environments. For this investment, there is no equity-efficiency trade off. The argumentation is based on the assumption that early interventions may partially mediate the effects of adverse environments and thus reverse some of the harm of disadvantage and may have a high economic return (Heckman and Masterov, 2007: 2). Investment in early education may be of benefit not only to the children themselves but also to their children, as well as to society at large. Investing in disadvantaged young children reduces inequalities associated with the accidents of birth while raising the productivity of society at large. The analysis provides an understanding of the effects of early intervention programmes, their channels of influence and their costs and benefits. It draws on an accumulated body of knowledge showing that early interventions for disadvantaged young children are more effective than interventions that come later in life. They also underline the self-productivity of early investment. Thus, they consider that this investment may be the most effective policy for improving the human and social capital of a society: "*at lower cost to society, bolstered families will produce better educated students, more trained workers and better citizens*".

Such an early investment should be considered as a *preventive* strategy, since a large body of research, mostly in the United States, shows that post-school remedial programmes cannot compensate for a childhood of deprivation. Analyzing a broad variety of early intervention programmes targeted on disadvantaged children in the US, the two auhors show that the economic return to these programmes is high, since promoting early education is a factor of performance for schools, for reducing the effects of child poverty, and for social performance in general, notably by reducing participation in crime and other damaging behaviour. They show that early education programmes reduce crime, promote high school graduation and college attendance, and reduce special education costs and help in preventing teenage births. Theses programmes concomitantly raise achievements: rates of return are estimated at 16% (4% for participants and 12% for society at large). Finally, the two authors found that both cognitive and non cognitive abilities of children are the major determinants of the economic return to education, both types of abilities being shaped early in life. They conclude that early interventions can partially remedy deficits in parental environment and parental practices and suggest developing policies aimed at improving the early years of disadvantaged children by developing enriched pre-school centres coupled with home visiting programmes (Heckman and Masterov, *op. cit*.).

Conclusion and recommendations

This chapter has been dedicated to the literature on the effectiveness of policies supporting parenthood for child well-being and work-family balance. First, the definition and measurement of child well-being have been examined, raising the issue of the policy implications of various definitions. A specific focus has been on the material dimension of child well-being and on the effectiveness of policies aimed at reducing child poverty and deprivation. The broad disparities across European countries raise the issue firstly of the importance of the child social inclusion objective in policies supporting parenthood and secondly of the effectiveness of the various policy instruments that are being implemented in the EU member states. A specific focus has been on early education policies, highlighting their impact not only on children's cognitive development but also on social inclusion of disadvantaged children and on productivity for the society at large.

A right balance between paid parental leave and the provision of high quality kindergartens and preschool services are suggested to be important supports for child development, especially for those living in "disadvantaged" families. This overview however does not give strong arguments to identifiy what the "ideal" age could be for children to enter preschool, but there is evidence that this age would depend on family and economic context. Some

evidence is here reported that an early enrolment (between age 2 or 3) of "disadvantaged" children has at least no negative impact on their school achievement, and has positive incidence on single-mothers' employment, which helps to prevent poverty. In addition, although the quality of care is of prime importance, the evidence identifying which of the quality components are determinant is lacking.

The literature on the effectiveness of policies (most of it based on the North American experience) tends also to suggest that a fairly high social and economic return may be expected from an investment in children. The next chapter turns to the more long-term returns which can be expected from investments in work and family life reconciliation policies.

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Chapter 6

Indirect costs of children in a macroeconomic perspective: The impact of the gender gap in education and employment and of fertility on a country's growth

Angela Luci

We have seen so far that parenthood penalizes mothers more than fathers in terms of employment discontinuity as well as career and income losses. Yet these indirect costs of children for mothers have further negative consequences. In the first section of this chapter, we will see that inequality between men and women in terms of human capital accumulation, employment and income is economically costly not just for women but also for society as a whole, because it limits a country's economic growth and welfare. In addition, women's career and income losses due to the presence of children contribute to explaining the fertility decline which can be observed in many European countries over the last decades, as discussed in chapter 3. The second section of this chapter shows that a change in the fertility behaviour of women affects not only individuals, but all of society due to its macroeconomic consequences.

The impact of women's education and employment on growth

Economists today agree that the active participation of women in education and in the work force significantly contributes to a country's economic growth. Despite legal equality between men and women, gender-specific disparities persist in all European countries. In most countries, employment and income disparities between men and women are larger than educational disparities. Within the last decade, girls have caught up with boys in the likelihood of graduating from secondary schooling in most, but not all European countries. Nevertheless, in all European countries there persist significant gender-specific differences in terms of technical knowledge, professional skills and work experience, which count as "human capital" differences. We know from chapter 4 that the presence of children is a main determinant to explain the gender-specific employment gap. This is also valid for the gender-specific human capital gap: the gap goes back to the gender-specific traditional division in the family, which implies that women, and especially mothers with young children, accumulate less labour market experience than men. Furthermore, because women anticipate shorter and more discontinuous careers, they invest less in professional education. In addition, the longer hours that women spend on housework may also decrease the effort women put into their professional careers, which also has a detrimental effect on their human capital stock.

There exists a series of theoretical arguments that investigate the growth reducing effect of the gender-specific disparities in education, employment and income which exist due to the presence of children. When talking about education, human capital is meant in a wider context. Barro and Sala-i-Matin (1995) or Knowles, Lorgelly and Owen (2002), for example, show how gender-specific differences in education reduce a country's growth in theory. A theoretical study by Galor and Weil (1996), for example, investigates the question how employment and earned income of women promotes growth over generations. There also exists a series of empirical investigations of the impact of women's education, employment and income on macroeconomic growth, for example by Barro and Sala-i-Martin (1995), Klasen (1999), Klasen (2002) and Pissarides (2006). Recent theoretical and empirical

studies agree that gender-related differences in education, employment and income hinder economic growth. Therefore, indirect costs of children are not only to the disadvantage of mothers and of children's welfare, as we have seen in the previous chapter, but beyond this the indirect costs are to the disadvantage of the society as a whole.

The impact of women's education on growth - in theory

Economists today agree that gender-specific determinants have an important impact on growth, but this finding was made quite recently. Until the 1980s, economists did not take gender aspects into account in growth models, until they found out that adding gender-specific determinants significantly helped to explain differences in income levels and growth between countries. The rising recognition of gender-specific determinants came with the evolution from exogenous to endogenous growth models.

Growth is usually measured as a long-term development of national income on the basis of change in per capita income. As one of the first economists to do so, Solow (1956) formulated a exogenous growth model. This model only takes into account the level of labour and capital, which is in turn determined by savings, population growth and depreciations (steady state convergence theory). Yet, later empirical studies found out that the determinants of Solow's exogenous growth model can only explain up to 40% of what influences a country's specific income level (c.f. Blanchard, 1999, for example).

Economists, therefore, investigated alternative determinates of growth not represented in Solow's growth theory. In a first step, an exogenous advance in technology was added to the model by Solow himself. Yet, this model is also unable to explain the real reasons for an increase in income, because technological advancement is considered exogenous. It was not until the 1980s that endogenous growth models were developed to explain long-term growth of productivity. Robert Lucas and Paul Romer primarily developed endogenous growth models during the mid 1980s. They endogenize technological advancement by integrating human capital as a third input factor in the production function. This significantly improved the empirical evidence of the growth model. Barro and Sala-i-Martin (1995) further developed this approach. They endogenized technological advancement by splitting capital between physical capital and human capital. The important difference between exogenous and endogenous growth models is that in the endogenous growth models, human capital is no longer exogenous. A simultaneous doubling of physical and human capital doubles output and makes continuous growth without convergence possible. Barro and Sala-i-Martin (1995) use their endogenous growth model to prove theoretically the positive impact of investments in human capital on economic growth.

In a next step, Knowles, Lorgelly and Owen (2002) show how gender-specific disparities in human capital impact a country's growth. They use a neoclassical growth model that sets female and male education as separate explanatory variables to clarify the impact of gender discriminating distribution of education on a nation's growth. Their model supposes that investments in women's human capital positively impact a country's productivity and growth. The model takes into account long-term effects of education by including the output elasticity of female and male human capital as well as of physical capital. Knowles et al. (2002) also model coefficients that represent differences in education between men and women. They demonstrate theoretically that human capital influences growth by means of its effects on the level of output per worker, which, in turn, influences output growth. The model shows that given a fixed level of male qualification, a rise in female qualification raises output. In an additional model by Knowles et al. (2002), education acts as male education as well as the gender difference in education. The model suggests that given a fixed level of education of men and women, gender-specific differences in education have a negative effect on a country's output. Hence, Knowles at al. (2002) theoretically prove that lower education for women lowers a country's growth performance. When gender-specific differences in education are large, rates of return from education of women are higher than those from men

due to falling marginal returns of human capital. Consequently, investments in women's human capital raise a country's capital stock, underlining the importance of education for women and girls for a country's labour force productivity.

Klasen (2002) adds that, assuming that boys and girls possess evenly distributed capabilities and that children with high capabilities become better educated, it can be said that gender-specific discrimination in education reduces the "potential talent pool" of educated children. If a person's human capital stock consists of capability and education, discrimination in education reduces the average human capital stock, thereby also reducing the nation's potential for growth. Furthermore, it is common knowledge that children's' education has positive aspects not just for themselves, but for all of society, and this applies no less to girls than to boys. Hence, investment in girls' education positively affects their skills and knowledge, their intellectual capacity, their social competence as well as their health and life expectancy. This benefits not only on their own quality of life but the whole nation. As girls will pass down their knowledge and skills to their own children later in their life, education of girls also promotes a nation's welfare in an inter-generational context.

Finally, the World Bank (2001) states that the level of women's education also raises the educational level of men by means of a constant dialogue ("life long learning") as well as the educational level of children. The president of the World Bank acknowledged this scientifically proven fact at the fourth Women's World Conference in Beijing in 1995 with the following saying: "When we educate a boy, we educate a person. When we educate a girl, we educate an entire family and an entire nation."

However, even though the model by Knowles et al. (2002) suggests that women's human capital promotes growth, it is important to note that the term "human capital" is not ideal to describe a person's productivity. Gardiner (2000) emphasises that even though there is some awareness that human capital is much more than formal education, difficulties in measuring other aspects such as experience, skills and social capital reduces the informative value of the term "human capital". This goes especially for women with children, as the term "human capital" is uniquely related to market work, and experiences from house-related capabilities and child rearing (social competence, organisational skills...) are not considered as integral parts of the definition of human capital.

The impact of women's employment on growth - in theory

In the models discussed so far, education directly affects output. However, female education also affects a nation's income in more complex ways: for example, it raises women's participation in employment and earnings and reduces women's fertility. Galor and Weil (1996) discuss this chain of impacts in a growth model with a generational time span. They combine a growth model with endogenous labour supply of women and men with a household model that models a couple's choice between unpaid household activities and paid labour. Thereafter, economic growth (accumulation of capital caused by investments in women's education) raises the relative wages of women. Higher women's wages, in turn, raise women's opportunity costs of staying at home and thus increase female labour market participation. Women's employment provides the household with an additional income, which makes greater savings possible. The increase in savings raises the capital stock per worker and therewith increases output (feedback effect). Consequently, the more women actively participate in the labour market, the faster a national economy will grow.

Klasen and Lamanna (2003) add that high levels of gender-specific discrimination in employment artificially restrict the "talent pool" of a nation's labour force, because less qualified men push potentially highly qualified women out of the job market. As a result, the average available labour force within a national economy is kept artificially low (measured in units of productivity). This hinders a country's ability to be internationally competitive. In this context, it also becomes clear that child care infrastructure and other policy instruments that

encourage a reconciliation of work and family life play an important role in growth, as they enable mothers to participate in the work force.

The World Bank (2001) adds that higher wages for women affect the decision-making power on saving and consumption within households. More bargaining power within the household, as a result of personal income, allows mothers to invest in the education and health of their children according to their own preferences. This positively affects children's health, reduces mortality rates, increases life expectancy and, last but not least, raises intellectual capacity, which later benefits the national economy in the form of raised human capital. Hence, women's employment and income also promote growth in an inter-generational context.

Finally, Abu-Ghaida and Klasen (2002) further argue that women's disadvantages in employment also lower a whole nation's welfare through a population's presumed aversion to inequality (intrinsic effect). Gender-specific differences in employment and income lead to social-political instability for a country and make necessary a redistribution of wealth through tax and transfer systems.

Empirical evidence of the impact of women's education on growth

The relationship between women's education, employment and income on the one side and macroeconomic growth on the other is not easy to investigate empirically because of the problem of reverse causality. The double-sided and indirect effects of women's empowerment in terms of education, employment and income on growth present several challenges to empirical estimation methods.

The first empirical studies produced unexpected results that made waves within the research world: Barro and Sala-i-Martin (1995) estimate in their growth regression that education of women has a negative effect on growth. Their puzzling findings motivated many other economists to investigate the effect of women's education on growth. The general consensus was that more complex data ascertainment and estimation methods were necessary. Forbes (2000) and Klasen (2002) criticize Barro and Sala-i-Martin (1995) for their inadequate consideration of colinearity and endogeneity problems. Further development of estimation methods improved the significance of estimation results and hence Klasen (2002) finds a significantly positive impact of women's education on growth.

Barro and Sala-i-Martin (1995) empirically investigate a series of potential determining factors of growth differences between countries. In contrast to theoretical predictions based on models, they estimate a negative impact of women's education on growth. For the growth regression, the countries' data is divided into 2 decades in order to limit time series variations. The first decade from 1965-1974 contains 87 countries and the second decade from 1975-1985 contains 97 countries.

The endogenous variable, the growth rate of real per capita income (GDP) is measured as the average rate for both decades (two endogenous variables: average growth rate 1965-1974, average growth rate 1975-1985). The first two exogenous variables that are taken into consideration as growth determinants are GDP per capita of the base year (to control for the growth convergence mechanism) and human capital, measured on the basis of the proxy variables education and health (where life expectancy proxies health). Education is divided into male education and female education. The educational variables contain the number of years in primary school (years of schooling up tol 10 years of age), the number of years in secondary school and the number of years in higher education. According to the theory of Knowles et al. (2002), one may expect that female education positively influences growth. A further exogenous variable is the ratio of education expenditures, which indicates education quality, since years of schooling only reflect the quantity of education received. This ratio is expected to impact growth positively. The ratio of government expenditures to GDP is also a further exogenous variable. This ratio is expected to impact growth negatively as it is

assumed that income taxation in order to finance government consumption distorts household decisions. Further exogenous variables are the relationship between investments and BIP, the spread of the black market for foreign currencies as a proxy variable for market distortions, changes in terms of trade, countries' political instability and fertility rates.

OLS-estimations and SUR-estimations (Seemingly Unrelated Regression), which do not take into account potential correlation problems, yield significantly positive coefficients of male secondary schooling and male higher education, but the coefficients of female secondary schooling and female higher education are negative. The coefficient of female secondary schooling is insignificant and the coefficient of female higher education is only marginally significant[27]. The growth reducing effects of female education contradict the theoretical prospects. Barro and Sala-i-Martin (1995) reason that this result emerges due to the high income level in wealthy countries. High gender differences in education can be seen as signs of economic underdevelopment and, therewith, as signs of high potential for income growth (convergence mechanism). Most wealthy countries with high income levels and low growth potential have smaller gender-specific differences in education. This is why a growth regression including observations of wealthy countries results in a negative impact of female human capital on growth.

The estimated negative impact of female education on growth raises questions about how data was gathered and measured. Several succeeding studies criticize Barro and Sala-i-Martin (1995)'s study. Klasen (2002), for instance, states that Barro and Sala-i-Martin's estimation does not sufficiently account for the high co-linearity between female and male education. The correlation between both variables is over 90%, according to Klasen. This problem of multicolinearity makes it almost impossible to separate the effects of female and male education on growth. Furthermore, Klasen (2002) refers to an insufficiently solved endogeneity problem between growth and education. A higher human capital stock may generate growth, but inversely a country's growth may promote investments in education. This inverse causality makes estimations with appropriate instrumental variables necessary. Forbes (2000) names another central problem of measuring growth: the lack of access to data over long time periods. Plus, countries often have very different measurement conceptions and methods for the variables economists are interested in. Data is often incomplete and inconsistent in terms of time. Measurement errors and omitted variables due to missing data reduce the measurement's significance (omitted variable bias). Systematic measurement errors lead to either positively or negatively biased estimators, which depends on the correlation between measurement errors and other variables in the regression. If countries tend to tone down the gender-specific difference in education that they report (that is, they report a smaller gap than actually exists) and if these countries have an under-average growth at the same time, the negative impact of gender-specific educational differences on growth will be underestimated. If variables that increase inequality between men and women and reduce growth, such as the degree of corruption for example, are omitted in the regression, the negative impact of gender-specific educational differences on growth will be overestimated. Unobserved country-specific effects, such as production technology standards that are not represented by proxy variables, go into the residuals of the estimation equation and bias the estimators. Therefore, Klasen (2002) recommends applying a Generalized Method of Moments (GMM) estimation method for dynamic panel data, which eliminates growth determinants that are unobservable and/or difficult to measure and remain constant over time (country-specific effects such as climate and geography or a country's political and legal system). Finally, Klasen (2002) points out that insufficient data availability makes measures of the impact of female education on growth somewhat problematic. Women's household and child rearing activities are measured only in a few countries and overall changes in quantity and quality of this sector are generally not measured. It can

[27] The variables of primary education of men and women are neither separately nor jointly significant. This closely relates to the fact that secondary and higher education produce higher growth rates than primary school.

therefore be assumed that growth effects from women's education are underestimated, because advances in productivity within private realms remain unaccounted for.

Since 1995, data collection and estimation methods have been further developed and a number of economists have concentrated their research on the growth effects of female education. The advancement of empirical methods allowed for more trustworthy results, the majority of which demonstrate that gender-specific differences in education of income hinder a country's economic growth.

Klasen (2002), for instance, proves a positive impact of women's education on a country's growth based on new estimation methods. The regressions are based on cross-country data as well as on panel data (combination of cross-country and time series data) and the estimations are based on instrumental variables (lagged variables) and System GMM. Both methods adequately take into account endogeneity and multicolinearity problems. Klasen uses data from 109 countries that spans three decades, 1960 to 1992, and, therewith, measures long-term growth more effectively than did Barro and Sala-i-Martin (1995), whose estimations were based on a time period that covers only 20 years. Growth is measured as change over time in a country's "Purchasing Power Parity" (PPP) per capita. The PPP per capita allows for a better comparison of living standards than GDP per capita, because it accounts for different price levels between countries and, therewith, makes it possible to compare standards of living. The growth rate of PPP per capita is determined by a series of exogenous variables, which are population growth, labour force growth, the degree of a country's openness (free trade), the investment rate in relation to GDP and gender specific education levels. A path analysis captures the overall growth effect of education, which indirectly impacts growth via investments, population growth and labour force growth. Klasen (2002) proves empirically that gender-specific discrimination in terms of education is a direct hindrance to growth.

Empirical evidence of the impact of women's employment on growth

The impact of women's employment on growth has been studied empirically much less than the impact of women's education on growth, and the relevant studies have all been conducted in the past 10 years. Klasen (1999) uses data that include observations for 109 countries and the years 1960 to 1992. The exogenous variable, which again is the change in the purchasing power parity (PPP) per capita, is explained by the initial income level of the year 1960, the degree of openness, gender disparities in education and growth in female labour force. The female labour force is measured by the share of women working in the formal labour sector relative to the number of all women of working age as well as the share of women working in the formal labour sector relative to the country's entire labour force. The estimation results suggest that gender disparities in employment significantly contribute to the difference in growth performance between countries.

Pissarides (2006) confirms these findings for Europe. He emphasizes that Europe is able to promote its growth by enhancing employment possibilities for women, as foreseen by the Lisbon agenda of 2000. In Europe, women work on average 8 hours less than do American women in the markets, but they work 10 hours more in the home and therefore are more engaged in "home production" (housing, child rearing). A marketisation of women's home production would get Europe closer to the objective of more growth and employment.

So far, the analysis has showed a positive impact of women's education and employment on a country's macroeconomic growth. In most empirical studies that investigate this impact, measures of women's employment are limited to the female share of the labour force. Surely it would be interesting to measure the impact of the economic empowerment of women, and not only their labour market participation, on growth. Examining the real economic role of women would not only entail measuring female labour market participation, but also taking into account women's working hours (full time, part time), women's qualifications and income, their detailed working conditions (ProClarity, degree of social security) and the part they play in decision making in the economy, in politics and society, for example. However,

the restrictions of the empirical studies are due to limited data availability. Female labour market participation is the best available indicator for the economic role of women when the purpose is to take into consideration several decades and over 150 countries. It is not possible to create an index which represents the economic empowerment of women, for all countries and all time periods. Missing observations, especially for developing countries and early time periods, would bias the estimation results to a great extent. Nevertheless, there exist several wider measures of female empowerment today. The United Nations Development Programme, for example, offers a Gender Related Development Index (GDI), which represents a gender specific Human Development Index (HDI)[28] that tries to capture women's well being. The GDI takes into account women's life expectancy, education and income and penalises gender equality in these fields. The GDI index is available for a large set of countries, but contains yearly observations only from 2006 on, and therefore can only be used for cross country analysis. The same problem applies also to another existing index which is the GEM (gender empowerment measure), a composite indicator that captures gender inequality in political participation and decision-making (women's and men's percentage shares of parliamentary seats), economic participation and decision-making power (women's and men's percentage shares of positions as legislators, senior officials and managers and women's and men's percentage shares of professional and technical positions) and power over economic resources (women's and men's estimated earned income in PPP US$).

However, even empirical research results that deal only with female employment have to be interpreted with care because the quality of the results can only be as good as the quality of the available data. Measures of female labour market participation are confronted with serious measurement problems. Firstly, measurement methods and definitions of female employment can differ between countries and data sources in quality and coverage. Differences in statistical and conceptual practices can lead to a gender bias in official statistics and concepts of labour market participation. Secondly, it may be that the finding that under-proportional employment of women reduces growth is also due to a measurement effect: household and child rearing activities are usually not captured by economic measures. Hence, changes in the quantity and productivity of women's household activities can be measured only insufficiently or not at all. Substituting these activities with employment, which is recorded as data, raises a country's measured economic output ("accounting effect", c.f. Waring, 1988; Klasen, 2002). Secondly, data weakness arises because female work is often informal and therefore unrecorded. Non-paid work and own-accounted work are rarely included in the statistics. This goes especially for women's subsistence activities in the agricultural (or black market) sector, which concerns not only developing countries, but also countries in the European Union. In some of the former Communist countries in Central and Eastern Europe, as for example in Romania, the introduction of the market economy in the 1990s has sharply decreased the options for women in formal employment and pushed women into informal subsistence farming (cf. Esim, 2001). Due to these unrecorded activities, changes in the quantity and productivity of female work can be measured only insufficiently and the impact of female employment on growth risks being underestimated.

The impact of fertility on growth

Whereas recent studies unambiguously give evidence for a positive impact of women's education and income on growth, the impact of fertility on growth is scientifically not as clear. In theory, the exogenous growth model based on Solow (1956) provides a negative impact of population growth on fertility, whereas endogenous growth models, for example by Romer (1986) and Lucas (1988), suggest a positive impact. Empirical investigations do not give

[28] For more information about HDI, see next section.

clear evidence, either. Nevertheless, recent empirical studies agree that a growth in the qualified work force positively impacts a nation's macroeconomic growth. Therefore, decreasing fertility rates due to the rising costs of children are thoroughly linked to the risk of lowering income growth in Europe.

The impact of fertility on growth - in theory

The exogenous growth model based on Solow (1956) predicts a negative impact of fertility on macroeconomic growth. As we have already seen, in this model, GDP per capita is determined by the two production factors capital and labour, which depend on the savings rate, population growth and depreciations. Falling marginal returns of capital and labour lead to a convergence of growth between countries. It is assumed that the saving rate is fixed. Consequently, population growth lowers GDP per capita. Preliminary population growth would lead to a new equilibrium at a lower level of GDP per capita. To avoid this "dilution" of capital induced by population growth, the saving rate would have to rise, which is not possible according to the assumptions of the exogenous growth model. As with population growth the ratio of capital to labour falls, productivity of labour and consequently wages also decrease. As labour is abundant and capital is relatively rare, the interest rate of capital increases. This phenomenon is called "capitalistic intensification". Solow's addition of exogenous advance in technology to the model does not change the result.
Solow's negative effect of population growth on income per capita is in line with the arguments of Malthus (1798). Malthus sketched the picture of a "population trap" by emphasising that income growth leads to population growth, which in turn leads to an income decline. Ricardo (1815) agrees with Malthus in stressing the fact that population growth precedes an expansion of population's resources, especially food resources. Thereafter, population growth leads to poverty and immiserization due to a fixed amount of land for cultivation and the finiteness of natural resources.

The predictions of the exogenous growth model pose, however, a logical problem: according to Solow, a continuous population decline would be extremely growth stimulating, even if the population size goes towards zero. Moreover, the model's predictions do not correspond to the observations that can be made for the 18th and 19th century in Europe, where rapid population growth went hand in hand with GDP per capita growth, especially in times of industrialisation (c.f. Blanchet, 2002; Galor and Weil, 2000). Boserup (1965, 1981) explains this phenomenon by recognising the human capacity to increase food supply. Thereafter, food scarcity in times of population growth, as predicted by Malthus, was the motor for new innovations in agriculture. New techniques, division of labour and specialisation lead to agricultural extension and intensification ("Green Revolution", see also Nerlove and Raut, 1994). Hence, population growth stimulates innovations due to resource limitations. These innovations increase productivity and enable further income growth. Boserup's arguments contributed to the scientific recognition that new theoretical frameworks had to be developed, which investigate the impact of fertility on growth.

Endogenous growth models that integrated technical advancement by considering human capital as a third production factor threw light on further growth determinants. Arrow (1962), for example, identifies technical advancement as a key element of economic growth and emphasizes that innovations are driven by "learning by doing", which means that increased productivity is achieved through repeated practice and self-perfection. Phelps (1966) completes this idea by highlighting that the learning processes of each worker have positive externalities and spillover effects on the other workers, which leads to economies of scale. Consequently, returns of human capital cannot be considered as decreasing, but must be considered as constant individually and as increasing in aggregate (see also Romer, 1986). Lucas (1988) adopts Arrow's and Phelps' concept to explain even increasing individual returns of human capital. Constant or increasing returns of human capital imply that GDP levels do not converge, but increase at the technology growth rate. Technical progress, in turn, is generated by the accumulation of human capital. In this context, not only education

but also fertility constitutes an economic advantage: population growth increases the number of workers available to the economy and the size of manpower stimulates research efforts (c.f. Phelps, 1966). The bigger the labour force, the bigger is a nation's "talent pool" and the bigger are the spill over effects within the workforce. In addition, the higher the density of a population, the faster is the technology transfer and the knowledge exchange within a country (c.f. Lee, 1986).

However, the predictions of the endogenous growth models also pose a logical problem: a continuous population increase would always be growth stimulating, even if the population size goes towards infinite. Moreover, Klasen (1999) emphasises that the quality aspects of the labour force should not be underestimated. Whereas Phelps (1966) points out that the quantity of the labour force induces quality by spill over effects, Klasen (1999) accentuates a possible trade-off between the quantity and the quality of the labour force. Lower fertility sets free money to invest more in the human capital of each individual, which raises individual intellectual capacity. Especially in the case of increasing individual returns of human capital, a nation's talent pool would profit rather from a rise in individual quality than from a rise in the quantity of its human capital stock. Thereafter, high welfare equilibrium would result from low fertility rates combined with high levels of human capital, whereas low welfare equilibrium would result from high fertility rates combined with low levels of human capital.

The theoretical arguments discussed so far suppose an ambiguous impact of population growth on income. There is a series of further arguments that take into account other aspects, as for example labour market or age structure dynamics, pension schemes or even ecology. To start with labour market aspects, the impact of fertility on growth with respect to labour market dynamics is twofold. On the one hand, population growth can lower a country's income due to decreasing wage income and increasing unemployment, which both imply decreasing consumption and savings. On the other hand, a population decline can lower income due to labour force shortages (c.f. Hantrais, 2004). Taking into account age structure dynamics of the population does not clarify the impact, either. On the one hand, an ageing population may lead to higher savings, which implies a rising GDP per capita (c.f. Artus and Legros, 1999). On the other hand, an ageing population disposes of fewer younger generations. As it is the younger generation that adapts new technologies more easily, an ageing population runs the risk of slowing down the motor for technical innovations (cf. Beaudry and Green, 2000). In addition, an ageing population implies higher dependency rates, which financially strain a country's social protection system due to an increase in health and pension expenditure (c.f. Blanchet, 1991; Mason, 2005). These additional costs risk slowing down economic growth. Moreover, countries with pay-as-you-go pension systems face serious financing problems in the case of a fertility decline (c.f. Sinn, 2004). More precisely, the pension system of pay-as-you-go financing adheres to an inter-generational component to reassure responsibility between generations. As the working population finances retirement insurance fees for its parents, fertility decline presents a grave problem: fewer and fewer young people must finance the retirement of more and more elderly people. The young are overburdened financially, payments for the elderly shrink, and lower savings and consumption hinder growth. Finally, even neo-Malthusian ideas give no clear indication of the impact of fertility on growth. On the one hand, due to the finiteness of certain natural resources, population growth can lead to environmental exploitation and degradation, which clearly reduce living standards. On the other hand, it is possible that these negative aspects of population growth can stimulate ecological innovations, which enable sustainability and economic growth to be attained in the middle and long run (c.f. Robinson and Srinivasan, 1997). Hence, considering a series of addidtional arguments certainly provides a deeper insight into the possible effects of fertility on growth, but does not lead to an unambiguous finding.

Empirical evidence of the impact of fertility on growth

Here again, empirical analysis is confronted with an endogeneity problem. The estimations of the impact of fertility on growth may be biased due to reverse causality. On the one hand, an increase in GDP per capita may increase population growth, because an income increase may raise the demand for children just as it raises the demand for goods (classic population theory according to Malthus). This phenomenon can be observed mainly for less developed countries. On the other hand, an increase in GDP per capita may lead to lower fertility rates, because parents may start preferring to invest in each child's qualitative education and because higher wages raise the opportunity costs of staying at home (modern population theory, c.f. Galor and Weil, 2000, for example). This phenomenon can be observed mainly in highly developed countries over the last quarter of the 20th century, where in some countries fertility levels fell below replacement levels, as we have seen in chapter 3.

Early empirical studies from the 1960s to the 1980s use OLS estimations, which is not appropriate to deal with the problem of reverse causality. The bigger part of these studies, which mainly focus on developing countries, find a positive, but very moderate impact of population growth on GDP per capita (see Blanchet, 1991 for an overview). In contrast, by differentiating between short term and long term effects, Kelley and Schmidt (1994) find a rather negative impact of fertility on growth in the short run for developing countries. Barro (1991) introduces several demographic variables into convergence growth models and finds that fertility and population growth have a negative impact on growth, whereas population size and population density have a positive impact on growth. However, with population growth as the only demographic variable, the impact of population growth on GDP per capita estimated by Barro (1991) becomes insignificant.

More recent empirical studies take into account the population's age structure which reflects productivity (c.f. Brander and Dowrick, 1994; Bloom and Canning 2001). The common result is that population growth alone is not significant, but the growth of the working age population has a significant positive impact on growth. More precisely, Prskawetz and al. (2006) find that in Western Europe, growth of the working age population has a positive impact not only on aggregate output and on output per capita (accounting effect, transition component), but also on output per worker (behavioural effect, productivity component). In a review paper, Kelly and Schmidt (2005) conclude that both the accounting and the behavioural effect explain up to 24% of GDP growth observed in Western Europe between 1960 and 1990. Prskawetz and al. (2006) suggest that in Western Europe, the peak of the accounting effect took place in the 1980s. In those years the baby boom generation caused an increase in the working age population. Furthermore, Prskawetz and al. (2006) forecast that Europe's ageing population, which implies a decline in the working age population, will have a negative impact on growth from 2030 on. They conclude that not only the size of the work force, but also the age structure within the work force plays an important role in growth. In this context, a well-balanced age structure seems to be the most growth promoting: whereas a younger work force drives the absorption process, an older work force drives the mature productivity process.

To sum up, empirical studies so far show no robust correlation between population growth and GDP per capita. Yet recent studies that take into account the structure of the working age population unambiguously come to the conclusion that a growth in the work force positively impacts a nation's economic growth. Concerning the impact of the age structure within the workforce on growth, more research is needed. Prskawetz and al. (2006) foresee an ageing of the work force within the next decades in Europe, but stay vague about its economic consequences.

In addition, some words have to be said about the fact that in all the cited empirical analyses in this chapter, GDP per capita represents a nation's welfare. Just as female labour market

participation insufficiently represents women's empowerment, GDP per capita insufficiently represents a nation's welfare, not to mention well-being or standard of living. First of all, measures of GDP discount the non-monetary economy and hence do not consider unpaid productive activities like voluntary work, domestic work and subsistence production. The evaluation and measurement of women's housework is a difficult task, because housework, raising children and caring for family members is viewed as the opposite of market work and hence is not assigned an economic value. Were all men and women to dedicate equal numbers of hours to housework and caring, it would suffice to measure GDP to capture differences in economic development across countries. As this is not the case, GDP is not an ideal measure of economic activity. Furthermore, GDP measures leave aside black market activities. These unaccounted activities bias income measures downward. Another consequence arising from these unrecorded activities is that GDP increases when non market production becomes marketable. This market shift biases measures of GDP upwards, for example when meals or other products that used to be made at home are now sold at the market as semi-finished or finished products. Moreover, GDP as an indicator or a nation's welfare is often criticised because it only reflects average national income, but does not indicate income distribution or the pattern of expenditure. It also ignores the quality of goods (durability) and negative externalities of growth such as the damage to the environment. GDP assumes that if there were more goods in circulation, general welfare would automatically increase and hence, GDP growth does not account for sustainability. Nobel Prize winner Joseph E. Stiglitz, for example, sees GDP as an imperfect indicator because improvements in the quality of life, which do not show up in material consumption, do not increase GDP. In order to take into account other determinants of well being, various kinds of "quality of life" indices were developed recently. The most influential indicator is the Human Development Index (HDI), which was introduced by the United Nations Development Programme in its annual Human Development Report in 1995. The ideas of Nobel Prize winner Amartya Sen were influential in the development of this indicator. The HDI combines normalized measures of life expectancy, knowledge (literacy and educational attainment) and living standard (GDP per capita in PPP US$). The use of Purchasing Power Parity (PPP) takes into account countries' different price levels and converts the data into a common currency. The PPP can be a better indicator of living standards, especially of less-developed countries, because it compensates for the weakness of local currencies in world markets. Yet, as even the HDI's information value is limited, further research is being done in the field of measuring "quality of life", or even "happiness", which is assumed to correspond to the freedom to make personal choices. Today, the new indices are becoming a tool for judging the true wealth of nations, but due to limited data availability, especially concerning the time period, they enhance rather than replace GDP as a measure of a country's well-being. The major advantages to using GDP per capita as an indicator of standard of living are that it is measured frequently and widely. Furthermore, the technical definitions used within GDP are relatively consistent between countries.

Hence, empirical studies dealing with the link between women's economic empowerment and fertility on the one side and a nation's welfare on the other side are of restricted explanatory power due to limited data availability. Furthermore, the empirical results tend to suffer from endogeneity problems, which are often not sufficiently taken into account due to the data's limited time periods. Consequently, in order to enable empirically compelling investigations in this field, further data collection is of prime importance. It is advisable to concentrate on developed nations if one wants to achieve in the near future more specific observations of women's empowerment, the structure of a country's working age population and of a country's welfare for several time periods. These data would allow an intensified analysis of the link between macro-based evidence and individual behaviour. The OECD currently compiles a family database, which may be useful in regard to future macro-micro research. The database categorises information under four broad headings, which are family structures, labour market positions of families (i.e. maternal employment by family status; employment profiles over the life-course, time for caring…), public policies for families and

children and child outcomes. Yet in order to extend the analysis to a large time span and new member states of the European Union, it is foreseeable that the OECD data base will need to be completed by other data sources.

Conclusion

We have seen that women play a significant role in a country's macroeconomic growth. Economic theory and recent empirical analysis unanimously suggests that women's education, employment and income contribute largely to growth. Therefore, while there is undeniable social value in dismantling discrimination of any kind, a reduction in gender discrimination is not an "aim of its own" that benefits women only, but is also meaningful in economic terms and therefore is profitable for all of society.

Persisting gender-specific disparities in terms of education, employment and income in all European countries show that gender equality under the law is on its own insufficient. The presence of children is one main reason for gender-specific discrimination. Mother's careers and wages often do not match their qualifications. Sooner or later, many mothers hit the so-called "glass ceiling" of career and income opportunities. The negotiating power over wages is weak for mothers, since family related leaves or absence carry costs for the employer. The struggle to balance family and career results in the fact that continuous employment and secure full-time jobs are uncommon for mothers, which often makes investment in women's education seem unprofitable.

Moreover, income losses due to the presence of children have a negative impact on women's fertility decisions. However, as there is no clear empirical evidence of the effect of a nation's population growth on economic development, policy implications have to be formulated with care. It seems that policy makers cannot expect multiplicative effects of population growth on macroeconomic growth. Nevertheless, a stabilisation of population growth in order to replace generations seems to be advisable for European countries. To achieve this aim, countries should enable parents to have the number of children they like.

Therefore, taking into account the macroeconomic aspects of the cost of children leads to the following conclusions: Firstly, it is important to provide equal opportunity for mothers in terms of access to human capital, employment and paid income. Secondly, it is important to provide parents with the possibility of a "free choice" of the number of children they have. In order to achieve these aims, a family policy that focuses on the reconciliation of work and family life seems most appropriate. In this sense, policies that promote a more equal division of professional, household and child care responsibilities between mothers and fathers, like for example schemes that encourage parents to share parental leave, are a suggested step towards gender equality. Nevertheless, the macroeconomic discussion of this chapter suggests that a family policy that confines itself to equalizing parents' responsibilities without assuming its own responsibility is not forward-looking enough in terms of macroeconomic sustainability. A rise in female employment at the expense of male employment and of fertility rates would not contribute to promoting economic growth. Consequently, the macroeconomic analysis framework provides a strong argument for countries to discharge parents from parts of their family responsibilities in order to enable them to pursue professional activities and have children at the same time. Investments in ubiquitous and all-day public childcare infrastructure play an outstanding role in this context. Furthermore, a development of child-care facilities for all ages and all-day schools would not only promote women's participation in the labour force without reducing fertility and male employment, but it would also allow children to grow up in an environment of equal opportunity.

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Policy implications of the literature review

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The Communication on "The demographic future of Europe – from challenge to opportunity" (COM (2006) 571final), adopted by the European Commission in October 2006, the communication "Promoting solidarity between the generations" (COM(2007)244 final), adopted on 10 May 2007, and the conclusions of the European Council, adopted at its meeting on 30-31 May 2007, argue in favour of modernising policies supporting parenthood: policies should be made more effective in creating conditions conductive to child-raising, in supporting women's participation in the labour force and gender equality, and in improving the social inclusion of families and the well-being of children.

The modernisation of policies supporting families is expected to be crucial, not only in enabling Europeans to have the number of children they want, thereby contributing to Europe's demographic renewal, but also in combating child poverty (a priority in the context of the Open Method of Coordination applied to social protection and social inclusion). Moreover, the modernisation process is crucial for promoting equal opportunities for women and men, for parents and non-parents and for children from different backgrounds and, ultimately, for the success of the Lisbon strategy, which depends, to a significant extent, on increasing the labour force participation of women.

The purpose of this report is to provide an overview of the existing knowledge about how and to what extent family policies intend and succeed in compensating for the cost of parenthood and in supporting the well-being of families. We first introduce the challenges associated with the assessment and compensation for the cost of children, and present some evidence about the mix of policy measures that EU Member States have implemented to support families with children. Then, we discuss the design of the policy mix which produces the most effective outcomes in terms of preventing child poverty, increasing the living standards of families, enabling the labour force participation of parents, fostering equality between women and men, providing sustainable public finances and increasing fertility rates. Relevant questions for policy makers are identified, and policy responses emerging from the literature review are explored from an internationally comparative perspective.

What are the challenges for policies supporting parenthood?

The increase in the number of mothers remaining in the labour force when they have young children has raised difficult policy dilemmas to governments. Incentives to raising women's participation in the labour force have sometimes been seen has competing with measures encouraging fertility and childbearing. Governments are faced with decisions about whether and how support parents to balance employment and other activities, while encouraging gender equality in domestic and care work. Although public provision of financial support and services was often treated in the literature as an intervening variable facilitating or impeding work and family life balance, much of the research tend to indicate that public provision of childcare is a precondition for combining female employment and childbearing. Other factors are however to be considered such as the direct economic, social and opportunity costs of parenting, especially for women, the access to labour markets, pay and career opportunities, and the well-being of children, as well as the reduction in child poverty.

How can the cost of children for parents be assessed?

From the perspective of households, the economic assessment of the "cost of children" refers to the reduction in the standard of living due to the presence of children in the household compared to childless households. These costs involve direct and indirect components:

- *Direct costs* are measured with reference to the changes in spending due to the presence of children in the household. These changes include new expenditure items, such as those related to childcare and child-rearing, as well as spending on food, clothing and housing. The birth of a first or a third child is, for example, often estimated to produce a significant increase. This increase can, however, be balanced by economies of scale due to the enlargement of the

family. The assessment of the impact of children on the standard of living of households takes into account such economies by using an equivalence scale to weight differences in spending patterns according to household size.

- However, these measures underestimate the actual cost of raising children since they do not include the *indirect costs* associated with the time allocated to children, such as career breaks and other potential consequences of the presence of children for the career prospects of parents.

The combination of these two components might lead to a situation where the costs induced by the presence of children increase with household income, due to either higher direct expenditures or higher forgone earnings. Strictly speaking, compensation for these costs would involve providing more support for families with higher incomes, thereby contravening the objective of income redistribution which drives social policies. Consequently, compensation for the economic cost of children cannot be considered independently from a wider concern about the contribution of family policy to redistribution policies. Moreover, policy strategies may differ according to whether they prioritise compensation for direct cost – through family or child cash benefit – or the minimisation of indirect costs by means of policies aimed at reconciling work and family-life – by means of entitlements to periods of paid leave, provision of childcare services or childcare subsidies).

What does the empirical evidence say about variations in the cost of children?

According to studies carried out in EU Member States, children account for between 20 and 30% of the budget of the households, but this proportion depends on several factors such as the number and age of children, education, family income and the bargaining process within the household. For example, in France, the marginal "direct" cost of a child is estimated to decrease with birth parity due to economies of scale. The cost also increases with the age of children, especially during the transition to adulthood. Changes in consumption patterns are mainly responsible for this increase: while spending on food and housing is dominant for younger child, the main budget items for young adults are transport, holidays and education. Some studies find that the proportion of the household budget devoted to children is higher for wealthier households who can afford to spend more on consumer goods, such as clothes, leisure activities, housing environment and schools or universities.

A number of studies have investigated the level of *indirect costs*, as well as the determinants of the "family earnings gap" caused by, for example, the foregone earnings that can be attributed to the presence of children compared to the income situation of childless women. These studies find that, among EU Member States, the UK, (West) Germany or Portugal incur higher costs than, for example, France or Sweden. Significant penalties in pay are also found in Denmark, Ireland, Spain (see table 1).

Table 1: Unadjusted Estimates of the Family Gap in Pay

	Number of Children	
	1 child	2 children
Germany	88%	85%
Denmark	109%	103%
Netherlands	100%	96%
Belgium	93%	98%
France	100%	105%
United Kingdom	90%	75%
Ireland	99%	94%
Italy	105%	105%
Greece	102%	100%
Spain	93%	94%
Portugal	82%	90%

The unadjusted family gap in pay is the percentage difference in earnings of women's with 1 or 2 children compared to childless women. These estimates are based on the ECHP wave 1. The relative ratio of earnings can be higher than 100% for women with 1 or 2 children compared to childless women since they are older on average.
Source: Davies R., Pierre G. (2005), The family gap in pay in Europe: a cross-country study, Labour Economics, 112:469-486.

Why does the family gap in pay vary so much across countries? Differences in pay structures and in job characteristics are of prime importance compared to differences in labour force participation patterns. Differences in the impact of motherhood on career development are also relevant. For example, the family pay gap is larger in the UK than in most other Member States because of the higher propensity of mothers to work in low-paid part-time jobs and also because women working full-time may be earning less than men. Career breaks also contribute to a smaller increase in women's earnings. In Germany and the UK for example, the arrival of a child is clearly associated with lower earnings of mothers, even though in the UK one can observe a recovery of women's earnings once the spell of family formation is competed. By contrast, in France the child-specific component of the earning gap of women is much lower than in Germany or in the UK. The main reason is that, although children affect women's labour market participation rates and consequently women's labour market experience, they have little or no significant impact on women's job selection and on the rewards from being in employment.

Whatever the intensity of the gap is, the birth of children induces indirect cost for households which can be reduced by shortening the period of labour market interruption.

Why are policy makers interested in reducing the cost of children for parents?

Children bring benefits to their parents as well as the rest of society. This is a major argument for developing policies designed to share the cost of raising and educating children. Examples of positive externalities are intergenerational transfers from children to older people through pensions systems. The economic gain in productivity and the social rewards resulting from collective behaviour, such as investing in children's education, also result in benefits due to policy intervention and hence justify the fact that society bears a share of the costs of raising children.

However, policies supporting families have to confront a number of challenges. Not only are they expected to enable Europeans to have the number of children they want, thereby contributing to Europe's demographic renewal, but they are also required to reduce child poverty (a priority in the context of the Open Method of Coordination applied to social protection and social inclusion), to promote equal opportunities for women and men, parents and non-parents and children of different backgrounds, and to contribute to the success of the Lisbon strategy, which depends to a significant extent on an increase in women's labour force participation.

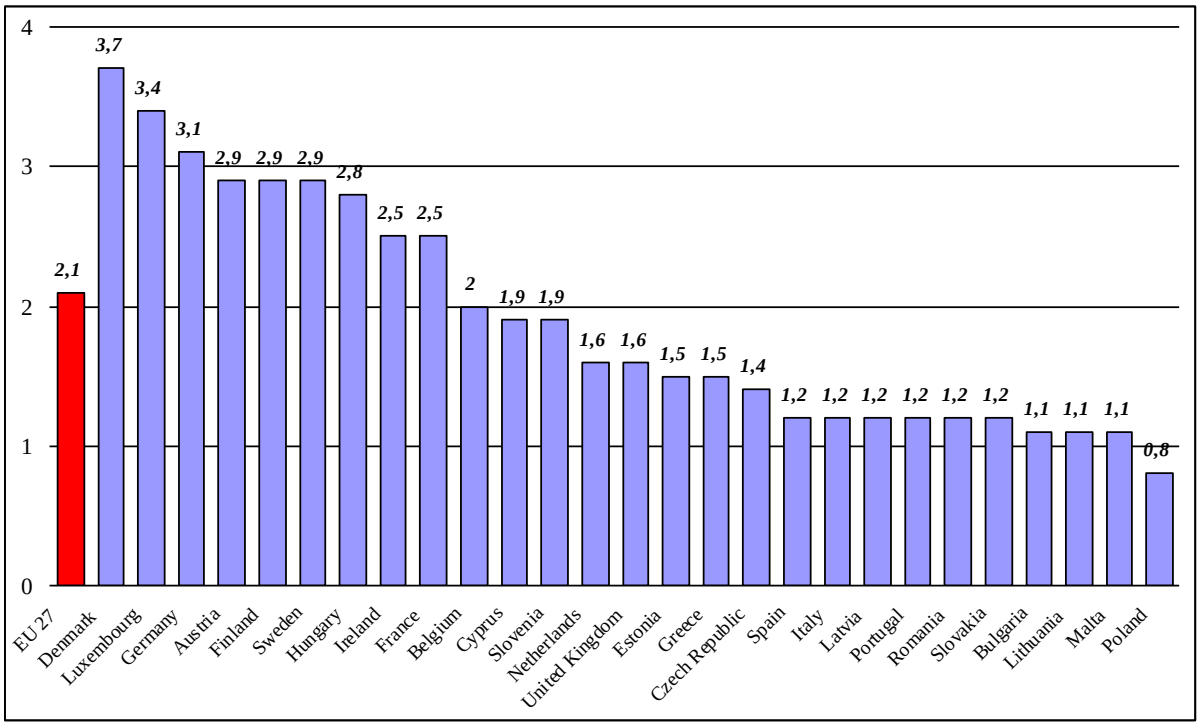
These policy objectives are given greater or lesser priority on the policy agendas of the EU Member States, since the situation with regard to women's participation in the labour force, fertility rates, or the incidence of child poverty differs significantly across countries. Moreover, these objectives may be in conflict with one another and policy packages vary according to national priorities. The provision of wide-ranging support for families is one way of reconciling these objectives.

In such a context, there is a clear window of opportunity for the development of public policy supporting families. On the one hand, the aim of policies may be to reduce the direct cost of children, i.e. the differences in standards of living that can follow the birth of children with the provision of in-cash support. On the other hand, the provision of comprehensive support to reconcile work and family life is expected to reduce the indirect costs of children.

What policy instruments are used to support the cost of children for parents in Member States?

The measures that prevent parents from incurring certain costs or that compensate for these cost include cash benefits (immediate and deferred, for example in the form of pension credits), services (including access at reduced rates) and tax relief. The way such measures are delivered and funded varies between Member States, as does the level at which they are administered (national, regional, local).

Chart 1: Family/child benefits as a % of GDP, 2006



Source: ESSPROS database - Eurostat

According to the Eurostat ESSPROS database, in 2006 spending on families and children in the EU27 Member States amounted to 2.1% of GDP on average, ranging from 3.7% in Denmark to 0.8% in Poland. Nordic countries and also Luxembourg, Germany and Austria appear to devote the largest share of GDP to families, whereas South European as well as Central and East European countries spend relatively little on families and children, with exceptions such as Hungary and Slovenia.

ESSPROS classifies family/child benefits under nine types of benefits that can be grouped in three core family policy measures: cash support, child-rearing allowances during maternity and parental leave and services (in kind benefits). However, a wider range of policy instruments can be included under the heading of 'family policies', such as social protection provisions other than those focusing specifically on families with children but which have a visible effect on family income, for example supplements for children in housing benefits, health insurance coverage for children or pension supplements. Spending on education may also be taken into account, particularly in countries that have developed a pre-school system. Tax breaks in certain countries represent also an important component in the support provided to families. Support from companies or NGOs can also be considered.

What are the most cost-effective ways of supporting families with children?

The literature considers the issue of efficiency in terms of a "costs" and "benefits" balance derived from the implementation of policy programs supporting families. The "benefits" refer to the impact of policies on household members' well-being and on their employment or fertility behaviour. When trying to assess such impacts, researchers are confronted with the fact that an impact is recorded simultaneously in several areas of behaviour. Results can even be conflicting when, for example, one policy measure is found to have a positive impact on parental employment or poverty, but a negative one on fertility decisions. This means that, irrespective of their cost, policies cannot be considered to be efficient if they fail to achieve a satisfactory balance between the outcomes associated with the different goals assigned to policies supporting families. Hence, policy "costs" have to be set against their long-run returns.

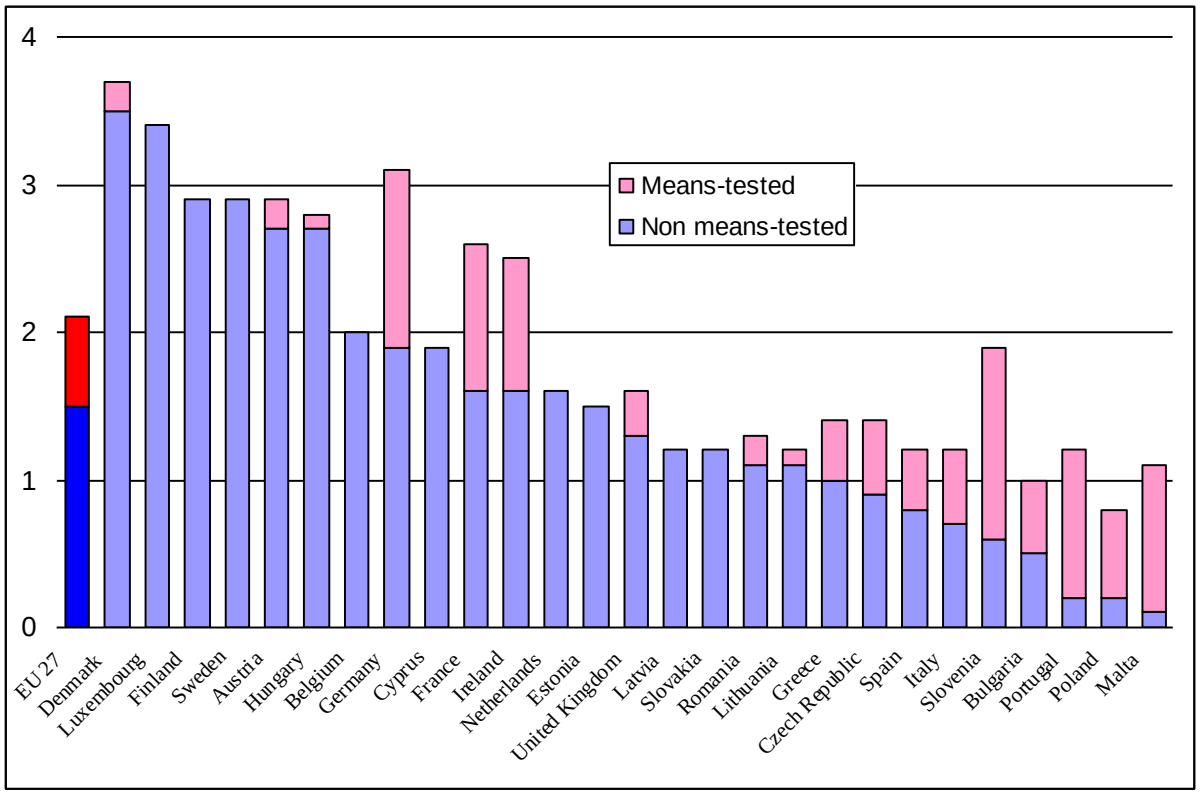
How effective are labour market policies in supporting families?

It is often argued that employment-related policies are most cost-effective, since they combine different objectives. In this case, however, the support needs to be sufficiently wide ranging to meet the many needs of families. Thus, policies that encourage parents, living alone or with partners, to be in work are found to offer an efficient means of reducing the risk of poverty, while raising the standard of living of families with children and promoting greater gender equality in the labour market. Higher employment rates can also generate a higher income for the state by means of taxation, which can contribute to the funding of social and family policies. This virtuous circle can be achieved, however, only if the support provided is sufficient to meet the basic needs of families and to help both parents combine work and family life and to share caring tasks. If the policy is too narrowly focused on work, it does neither improve the standard of living of families, nor prevent income inequalities, nor promote child development or higher fertility rates. The literature suggests that a mix of support is needed, including cash benefits to support the welfare of families, entitlements to employment-protected leave after the birth of a child, and the provision of high quality affordable childcare services, if these various dimensions are to be reconciled. The most positive outcomes are observed in countries where support is wide ranging. Such provision is undoubtedly costly, and some EU Member States may not be able or willing to devote the necessary amount of spending to family support measures.

Are programs targeted at families with the greatest needs more effective than universal programs?

The provision of "targeted" support to low-income families is often regarded as a means to limit the fiscal burden. Practices vary across the Member States according to the relative importance of means-tested and non-means-tested benefits (Chart 2).

Chart 2: Family/child benefits (*Means-tested and Non Means tested benefits)* as a % of GDP, 2006



Source: ESSPROS database - Eurostat

Means-tested benefits are more common in Member States with low levels of social expenses devoted to families and children, especially in Southern European Member States (with the exception of Cyprus) and also in a majority of Central and Eastern European Member States (with the exception of Estonia, Latvia and Slovakia). Nordic countries, by contrast, have no or very few means-tested benefits and devote a high percentage of GDP to supporting families and children. Germany, France and Ireland stand in a particular position due to the combination of means-tested and non-means-tested benefits and a relatively high percentage of GDP devoted to families and children.

Universal benefit programmes have been shown to be more powerful in reducing poverty than targeted support for low income families for a number of reasons. Universal programmes receive support from a wider range of stakeholders, and the amount of support remains consequently greater. Universal programmes are also likely to be more effective in withstanding budgetary constraints during periods of crisis and austerity. Targeted programmes may fail to reach the families with the greatest needs due to high transaction costs and lack of information for some potential recipients. Moreover, targeted support is generally considered to be less readily acceptable by tax payers, who do not expect to benefit themselves from such support; it appears to be less robust over time and seems to be less effective in reducing poverty.

However, the provision of "universal" access to all benefits and services is usually more costly and needs to be sufficiently well funded to have an impact. It is therefore argued that a realistic and cost-effective support system needs to be based on two pillars:

- The first pillar provides "universal" in-cash and in-kind support to cover basic needs. On the one hand, universal cash benefit aims to limit the risk of poverty; on the other, the provision of a universally-based minimum of childcare services goes some way towards guaranteeing more egalitarian conditions of care and a more egalitarian preparation for schooling among young children.
- The second pillar provides "targeted" benefits and/or services to meet specific needs and to supplement support for the population with the greatest needs.

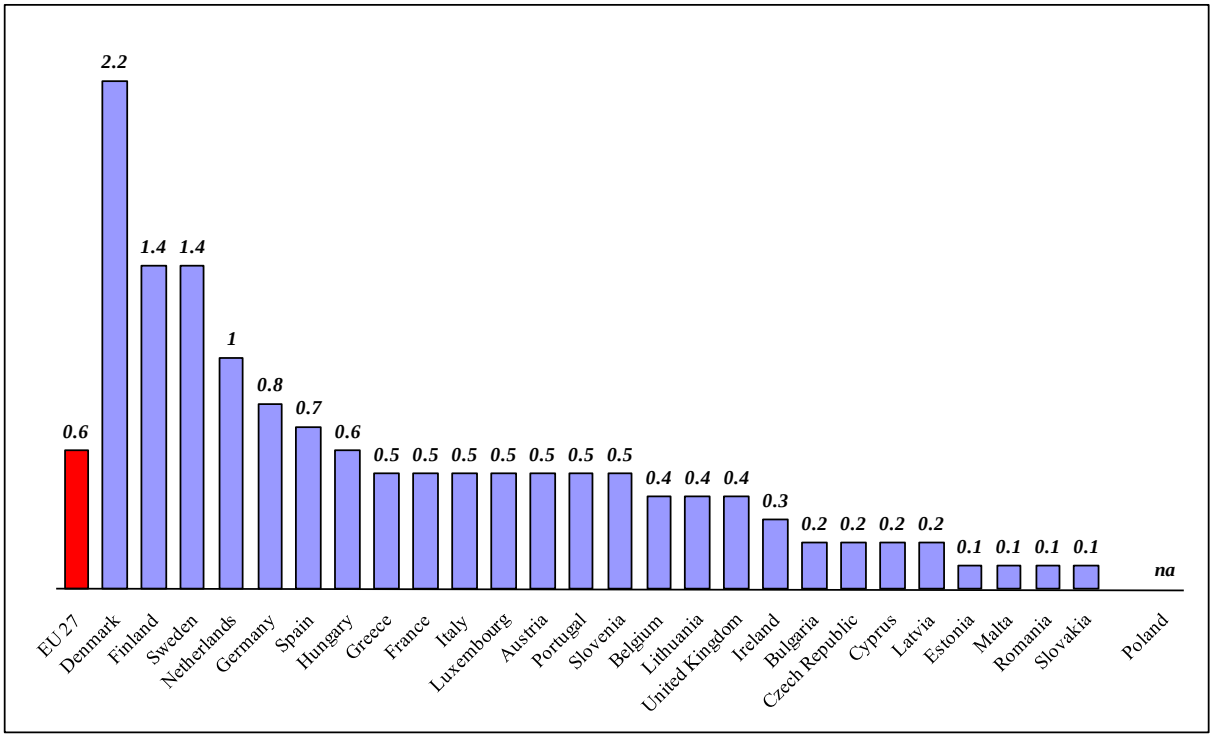
Several advantages of a two pillar policy support are proposed in the literature:

- By maintaining a range of universal support measures and covering all categories of families, such a combination is likely to receive more widespread support, even during periods of economic austerity.
- Maintaining a set of universal support measures limits the stigmatisation of families receiving support.
- The combination of the two pillars is likely to create confidence about the sustainability and durability of the system. This confidence is certainly needed to ensure that people use the existing support, and that policy delivery is effective. Confidence also partially explains the success of policies supporting families in countries like the Nordic states or France with a long tradition of government intervention.

Is support in cash or kind more effective in tackling the cost of children?

Childcare support can be provided either in cash or in kind. To promote access to high quality services, many countries have implemented programmes to support both the development of services and the solvability of households. Several EU Member States increased cash payments to parents to enable greater access to childcare facilities. However, the ratio between support in cash and in kind still varies across countries. In the Nordic states, priority is given to support in kind, whereas in Central and East European countries, childcare support is mostly offered in cash. On average, the 27 EU Member States devoted 0.6% of GDP to benefits in kind or services to families and children in 2006, ranging from 1.4% or more in Nordic countries to 0.2% or less in the Czech Republic, Cyprus, Latvia, Romania, Bulgaria, Estonia, Malta, Slovakia and Poland, as shown in chart 3.

Chart 3: Family/child benefits in kind as % of GDP, 2006



Source: ESSPROS database - Eurostat

Whether it is preferable to provide childcare support in cash or in kind remains a controversial issue. It is often argued that support in cash gives parents the opportunity to choose between different forms of childcare, which encourages childcare providers to respond better to the needs of parents (see below). However, in-kind support is defended by three main arguments:

- Firstly, programmes providing benefits in kind (services) guarantee that the support is actually used by parents to access childcare services with a minimum standard of quality. Benefits in kind can also guarantee that children in families with different socio-economic statuses or living conditions and backgrounds have access to a relatively homogenous quality standard of services. This argument is based on the traditional paternalistic view of social welfare.
- Secondly, programmes offering services in-kind are useful in overcoming the risk of inefficiency associated with the provision of cash benefits, especially when benefits are targeted. Such benefits can indeed fail to cover families with the highest or with specific needs, unless comprehensive programs are developed to identify their targets accurately. The administrative costs of such programs can potentially be high. In-kind benefits provided on a universal basis can consequently help to overcome such inefficiencies.
- Thirdly, the development of cash payments often includes subsidies for parents who themselves care for their own children during their early years. However, the incidence of such a diversified set of subsidies creates inequalities: women who are disadvantaged because of their labour market position or the lack of affordable high quality childcare services are often forced to accept cash benefits and stay at home, while those in higher socio-economic positions can make use of childcare services. Thus, although cash payments make it easier for governments to respond to social demands for more choices regarding childcare, they have an ambiguous impact on women's labour market performance and thereby create (or reinforce) inequalities.

What are the most effective policies to enhance the well-being of families?

In addition to employment and demographic objectives, policies supporting parenthood are also aimed at improving family life, the reconciliation between work and family obligations and the well-being of children. Work–life balance has progressively gain ground on the policy agenda in most EU member states, emphasizing the importance of time devoted to children as well as the importance of reducing their monetary costs. According to the EurLife data base of the European Foundation for the improvement of life and working conditions, Europeans generally consider family life as being very important. However, almost 30% of men in the EU25 find that their job prevents them from devoting time to their family, compared to 28% of women. Several surveys suggest that people who succeed in reconciling their work with family life are more satisfied with their family life in general. But reconciliation appears to be more difficult for some vulnerable groups such as lone parent families, notably when they receive limited policy support. The issue is therefore to identify what kind of support can be developed to improving the work and family life reconciliation. It is also to identify what is considered as being the best support for the child well-being.

Can the various objectives of family support be achieved simultaneously or do they compete with each other?

The reconciliation of paid work and family life has long been on the Community and national agendas throughout the European Union in order to promote gender equality and the labour force participation of women. These goals are sometimes seen as competing with the goals of children's well-being and fertility. However, in a number of the countries where governments have long supported childcare provision and parenting, women's employment rates are today higher than in countries with poor policy support to parenthood.

The effectiveness of such policies is found in some of the literature to stem from a holistic approach to policy support for parenthood, suggesting that countries with longstanding and diversified support for families may score better on the three criteria of achieving relatively high female employment, low poverty and high fertility rates. Reconciling work and family life therefore tends to be promoted as a more effective policy strategy than supporting the choice between work and care. The existence of a continuum of support throughout early childhood would seem to be a key characteristic of countries where the aim is to achieve higher fertility, greater female labour market participation and higher employment rates for lone parents, while reducing the risk of poverty.

Affordable all-day care facilities for children of all ages are being actively promoted in a number of countries and at EU level to support to mothers' employment and encourage families to have more children on the grounds that good provision of childcare facilities and short periods of parental leave can prevent mothers from long career interruptions after childbirth, thus limiting the negative impact on wage progression and career prospects. At the same time, a leave system that motivates fathers to take up leave should contribute to a more equal sharing of work and care between parents, although the evidence shows that the number of days of leave taken by either men or women remain quite unbalanced. A minimum entitlement to paid parental leave and early enrolment in childcare and education services has also been shown in some studies to be beneficial for children's well-being, especially for those from a disadvantaged family background. With regard to fertility, most research findings agree that such policies have an impact on the timing of births and possibly also on fertility levels. The impact of reconciliation policies is clearer than those exclusively based on cash support. A longstanding and stable institutional and family environment may also be a critical factor in producing positive outcomes.

Furthermore, the literature suggests that family support measures concentrating essentially on women's childbearing and childrearing years are not sufficient to enhance the work–family balance. Support beyond early childhood is necessary to help the conciliation between work and family life, foster gender equality and reduce the impact of children on career prospects.

Whereas a large range of practices are identified across Europe with respect to childcare in the very early months of life, there is no evidence from the literature that it is better for infants to be cared for by their parents at home or by professional in childcare services. Research findings differ from one country to another and no consensus seems to emerge on the issue.

Does provision in kind provide better access to high quality childcare than market-based provision with cash support?

In general, provision in kind is thought to provide greater access to childcare services with a minimum level of standardised quality, especially with respect to the qualification of care workers and the child–staff ratio. By contrast, the provision of childcare subsidies in cash is believed to provide more freedom of choice and diversity of supply, better matching of parents' needs and "consumers'" preferences. A rapid increase in market-based childcare capacity can also be achieved, as has been the case in the Netherlands or in the United Kingdom in the recent years. There are, however, concern about the beneficiaries of market forces who are more potentially urban areas and higher income households. Provision in kind usually takes the form of public services whereas provision in cash allows parents to buy services provided by the private sector. But there is a considerable evidence of mixed provision everywhere, even in countries with an available and affordable public childcare service. Some EU Member States like the Nordic countries have supported the development of services in kind placing particular emphasis on the quality of childcare associated with a high level of qualifications of care workers, an affordable cost for parents and the use of pedagogical methods ensuring the cognitive development of children. Some other countries have developed benefits in cash, ensuring that parents will be able to buy services on the market, according to their preferences. Although the former solution ensures more equality for families and children, the latter provides parents with more freedom of choice and more flexibility.

The choice between public and private childcare services with regard to quality is somewhat complex, because it depends on what outcomes and policy objectives are being sought. Whereas the quality of childcare in public services is regulated, controlled and hence similar all over the country, except in federal states and where local authorities are in charge of provision, the quality of childcare in private collective services may vary widely according to the price that parents are able or prepared to pay for care. The more they pay the greater the quality they expect. The risk is to create a dual childcare market with "high quality" childcare for well-off parents on the one hand and low quality childcare services for those parent who cannot afford better quality services. Hence, several conditions have to be met in regulating private as well as public childcare and prevent polarisation: the definition and control of quality standards that service providers have to comply with, the recruitment of trained and qualified staff, the related wages of childcare workers, the standardisation of child–staff ratios and the allocation of childcare subsidies conditional on the use of certified services.

The French case provides an interesting perspective on the debate since support is provided *both* in cash and in kind, depending on the parents' preferences. In opinion survey, a majority of parents with young children state their preference for childcare in a "crèche" because of the focus on the child's development and the early socialisation of children in a collective environment. Parents who have their child cared for by a registered childminder tend to emphasise their needs as working parents: childminders are more flexible with respect to working time than collective services. Some parents may also prefer a childminder because they find the environment more family-like than in a crèche. Nevertheless, the quality of childcare by childminders remains a controversial issue. Not only their qualifications, but also the possibility of controlling the quality of the care offered in particular are criticised. Furthermore, even if highly subsidised by social and fiscal benefits, childcare provided by childminders remains unaffordable for the poorest parents in most countries and does not seem to be a viable substitute for collective public childcare arrangements.

What is the impact of mothers' paid employment on children living in lone-parent families?

EU employment policy encourages parents to join the labour force, whatever their family situation. Lone parents, especially lone mothers face particular challenges in this regard. In some countries whether the well-being of young children with lone parents are better catered for when the parent is in paid employment or stays at home remains a controversial issue. Some of the literature suggests that children of lone parents are effectively better off when the parent is in paid work since employment appears to be the best protection against poverty and precariousness. However, lone parents need be supported by affordable childcare facilities and by other facilities aimed at balancing work and family life.

Is it preferable to make provision for a short period of well-paid parental leave or a long period of leave with a low level of compensation?

Even though all EU Member States guarantee a minimum provision of maternity and parental leave, the length, remuneration and flexibility of the existing periods of leave differ markedly across countries. Research findings tend to highlight the positive impact of paid parental leave on children's health and cognitive development. However, these findings depend on the quality of the time devoted by parents to care for their children, and also on the quality of services that can be substituted for parental care. Research also shows that the employment of parents, notably of mothers, can have a positive effect on the well-being of children living in an underprivileged environment. This finding does not only apply to lone-parent households, but also may be explained by the parents' socio-economic background, household composition, the home environment and ethnic origin. Whereas many of the studies showing the negative impact of the mother's participation in the labour force on child well-being have been conducted in the US and the UK, where parental leave is generally unpaid and the range and quality of childcare services have long been relatively underdeveloped, a positive impact of the mother's labour force participation on child well-being is found in EU Member States where parental leave is paid and childcare services are of good quality.

Another controversial issue about parental leave is its impact on mothers' employment progression and social rights. Comparative research has highlighted the negative impact of long parental leave on women's patterns of employment and the probability of resuming work after the interruption. It is generally assumed that a three-year period of parental leave discourages less qualified women from returning to work after the leave, reduces employability and thereby increases the risk of poverty for families and the vulnerability of the mother. Several Member States have opted for a shorter parental leave of about one year allowing a higher rate of wage replacement (Nordic countries and Germany), while other Member States have opted for a long period of less well-paid parental leave (in France for example where recent reforms have attempted to encourage part-time leave combined with part-time work during the three first years of the child in order to maintain links with the enterprise while childrearing). The former pattern is expected to maintain the link between the parents, the employer and the work place, thereby limiting the negative outcomes of parental leave on careers and pensions rights.

Part-time leave can also be an option to maintain the link with employers and, at the same time, to provide time for parents to care for their children. This option also provides more flexibility for parents to make time use arrangements. In this perspective, many EU countries have introduced the possibility for parents to take leave on a part-time basis. Too long a period of part-time work taken by one parent can, however, have long term consequences on his/her earnings and career progression since part-time work, usually when taken by women, is found to be an important determinant of the gender and family wage gap.

How can a more equitable sharing of parental leave be ensured between mothers and fathers?

In addition to the negative impact of long breaks in employment on wage progression and promotional prospects, a negative impact on gender equality has also been reported. Indeed, whether long or short, full-time or part-time, paid or unpaid, the take-up of parental leave is highly gendered, since in all countries, few fathers take parental leave or even part of it. However, more fathers tend to take leave in countries where parental leave is relatively short and well paid and, above all, where there are specific incentives for fathers to take up parental leave as in Iceland, Sweden and more recently in Germany. Hence, three parameters have to be considered to ensure a more equitable sharing of parental leave between women and men: a replacement income proportional to individual wages, the existence of a non-transferable period of leave and the flexibility of leave take up, such as the possibility to divide the leave into several periods and to combine it between parents over time.

What are the effects of early childcare outside the family on the later development of young children?

Another controversial issue concerns the impact of children's early enrolement in collective care on their later development. However, a large number of studies suggest that high quality formal day care in the year prior to kindergarten increases readiness for school, and also non-cognitive development.

Furthermore, although the early enrolment of children, i.e. within their first two years of life in childcare centres or preschool is not proven to be better for the child in all cases, several studies suggest that child development (measured by delayed performance at school or slow cognitive development) is, at least, not worse than when they are looked after for three years by their parents, provided they have access to high-quality childcare. This statement is especially true for disadvantaged families, such as those headed by a lone parent, for whom an early enrolment of children in childcare services is also found to reduce the risk of poverty (which is detrimental for the well-being of all the family members including children). Surely, it is not only the enrolment of the child that matters in the case of poverty but the fact that the mother is bringing in an income, as stated above. However, in any case, the quality of childcare services is a critical factor in determining its impact on child development.

What are the long-term benefits of investing in family policy for society and for families?

Many governments may be reluctant to increase their expenditure on families, especially in periods of retrenchment of public spending. The benefits expected for children and, later, for society as a whole, imply that such policies must be considered as an "investment" rather than a "burden" for society.

Can policies focused on children be viewed as an investment?

Some authors emphasise the benefits of investment in early childhood, especially for disadvantaged children, on "productivity grounds". Investment in high-quality childcare for example significanlty increases the exposure of children to education. Such investment may result in better educated pupils capable of developing their human capital later in life, thus making them less likely to experience unemployment later on during their working life and offering them better employment prospects. Social capital may also be positively affected if the provision of high quality care services in early childhood reduces initial social inequalities associated with family background.

The evidence of returns on investment in early childhood remains relatively scarce given the difficulty of properly evaluating them in the long run. Findings are also influenced by the assumptions underlying calculations. Nevertheless, examples of rough estimations can be given. One estimation found a 9% increase in female employment in the United Kingdom and the corresponding GDP growth for an initial cost of £3 billion. An evaluation for Zurich in Switzerland concluded that each franc invested in childcare services generates a return of 3 francs in the form of increased tax revenues resulting from the increase in the parents' labour supply. Similarly, returns on investment are roughly estimated at 143% of initial spending on childcare in Denmark.

What macroeconomic rewards can be expected from reconciliation and gender equality policies?

Investment in reconciliation measures and in early childhood can benefit not only mothers and children in terms of income and human capital. The return on investment from family policies in terms of tax revenues and productivity gains are also recorded at the collective level. Although empirical evidence on the exact incidence of policies is lacking, analysis of the relationship between female labour market participation, human capital, fertility and economic growth suggests that the investment in work and family reconciliation policies generates a dynamic that benefits all of society. A series of theoretical arguments have been formulated suggesting that gender-specific differences in education reduce a country's growth. Other theoretical studies suggest that women's employment and income promotes economic growth. A series of empirical investigations have been conducted into the impact of women's education, employment and income on macroeconomic growth. Recent empirical studies agree that gender-related differences in education, employment and income hinder economic growth. Therefore, the indirect cost of children in terms of the loss of qualifications for mothers, employment

opportunities and income are not only to the disadvantage of mothers and their children's well-being, but also to the disadvantage of the society as a whole. Consequently, policies fostering reconciliation between qualifications, labour market participation and family life can thus be expected to impact positively on the growth dynamics in the long run. Moreover, policies that promote a more equal division of professional, household and childcare responsibilities between mothers and fathers can be expected to stimulate a country's growth performance and raise aggregate welfare. These arguments may provide a motivation for sharing the costs of children and developing public policies supporting families.