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Social Policies and Employment of Married Women in Europe

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Social Policies and Employment of Married Women in Europe¹

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Abstract

The analysis of the temporal and cross-country patterns of women's labour market participation and fertility shows how several factors affect the compatibility between childrearing and work (labour market characteristics, social services, and family wealth). The most significant factors which facilitate reconciliation of childrearing and work are the opportunities for part-time arrangements, the availability of childcare and parental leave options. The combination of these options seems to allow different solutions for combining work with having children. Empirical evidence and comparative results show that it is more difficult to combine work and having children in Southern Europe than in the rest of Europe.

Keywords labor market participation fertility

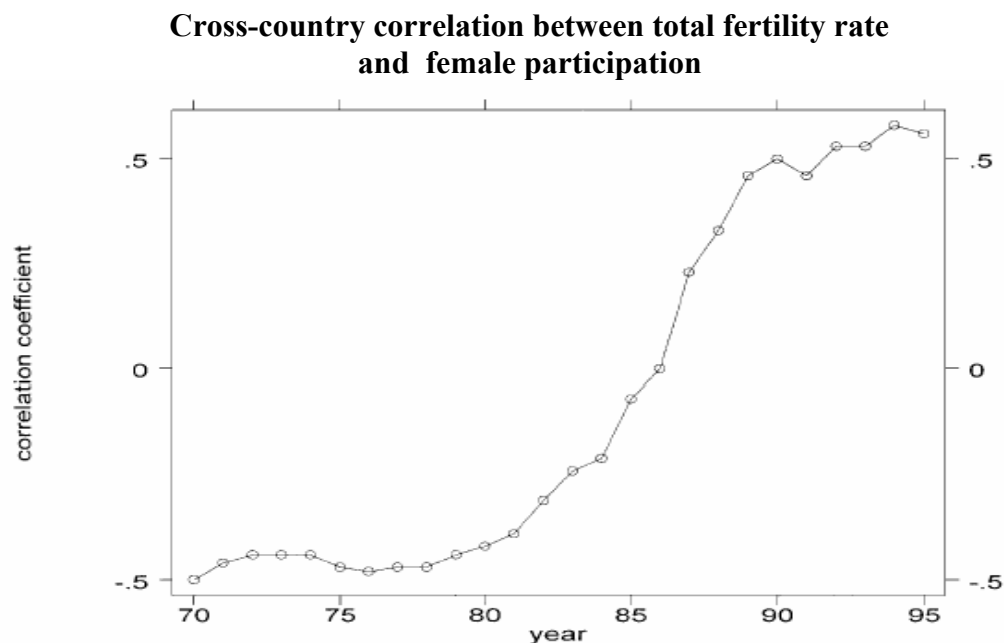
JEL Classification: J2, C3, D1

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1. Introduction

Recent analyses focusing on the temporal pattern of fertility and female participation show that as early as the mid-1980s, the sign of the cross-country correlation changed from negative to positive and became more volatile (Figure 1.1). After 1985, the participation of women in the labour market continued to increase in all countries, but fertility rates started to decline at a lower rate or, in some countries, began to grow again.

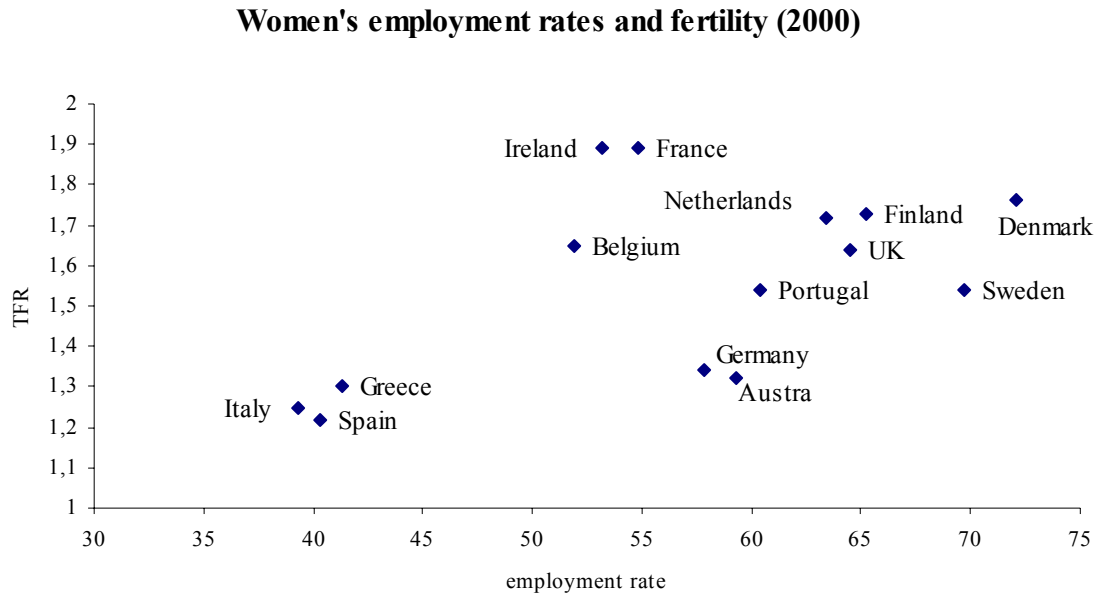
Figure 1



Source: Brewster and Rindfuss (2000)

The countries that currently have the lowest levels of fertility (Spain, Italy and Greece) are those with relatively low levels of female labour force participation while the countries with higher fertility levels (Denmark, France) have relatively high female labour force participation rates (Figure 2).

Figure 2



Source: Eurostat (2001), *Statistics in Focus*

Various authors (Ahn and Mira 2002, Esping-Andersen 1999, Brewster and Rindfuss 2000, Billari *et al.* 2002) empirically analyzed the cross-country correlation between the total fertility rate and the female labour market participation, confirming the change in sign and in the significance of the coefficient. The interpretation of the temporal change in the relationship between participation and fertility has mainly been found in the changes in social norms towards working mothers and in the effects of policies that diminish incompatibilities between childrearing and female employment: more generous parental leave, greater availability of childcare, and greater opportunities for flexible hours and part-time employment (Ermisch 1989, Hotz and Miller 1988, Del Boca 2002, Brewster and Rindfuss 2000, Benjamin 2001). The empirical evidence indicating a positive relationship between women's participation and fertility is certainly encouraging in view of pension system sustainability. Boosting female employment, if supported by such policies, will not necessarily lead to significant declines in fertility as was experienced in the past.

Other studies of this phenomenon have shown different results, revealing a weaker and less significant correlation, but not a change from a negative to a positive sign. These analyses, pooling cross country and time series data, allow for country-effects and show that

only in Southern European countries is there a negative correlation between fertility and female employment (Engelhardt *et al.* 2001). This result implies that it is important in these countries for female participation and fertility to be considered as a joint decision and that policies encouraging fertility may have an adverse effect on female employment and *vice versa* (Del Boca 2002).

Social policies have been implemented in most European countries to make childrearing less difficult to be reconciled with employment. In some countries the view in favour of pro-natalist actions has prevailed, and government intervention has been directed towards promoting higher fertility. In others, the view that, independently of the possible consequences on fertility levels, governments are not justified in interfering with intact families' decision and in particular with how many children to have, which is essentially a private decision, has prevailed.

In this chapter, we will examine the effect of several aspects of the different institutional and social factors (related to the welfare systems and labour markets) on women's labour market participation and fertility taking as a starting point the relevant literature and then analyzing a cross-country analysis using the European Community Household Panel Data (ECHP) dataset and taking into account country specific factors.

2. Temporal patterns and cross-country differences

Several important changes over the last decades have characterized the temporal pattern of both women's labour market participation and fertility, increasing the differences across countries.

The temporal changes in fertility are determined by the combined effects of a *tempo* and a *quantum* effect: on the one hand, the total fertility has declined over the last decades (the *quantum* effect), on the other hand the age at first child has increased (the *tempo* effect). As a consequence, the number of children per family has decreased over the years, while new mothers in 1970 were older than in 1960 and again older in 1980 than in 1970 for most European countries (Gustafsson and Wetzel 2000, Billari *et al.* 2002).

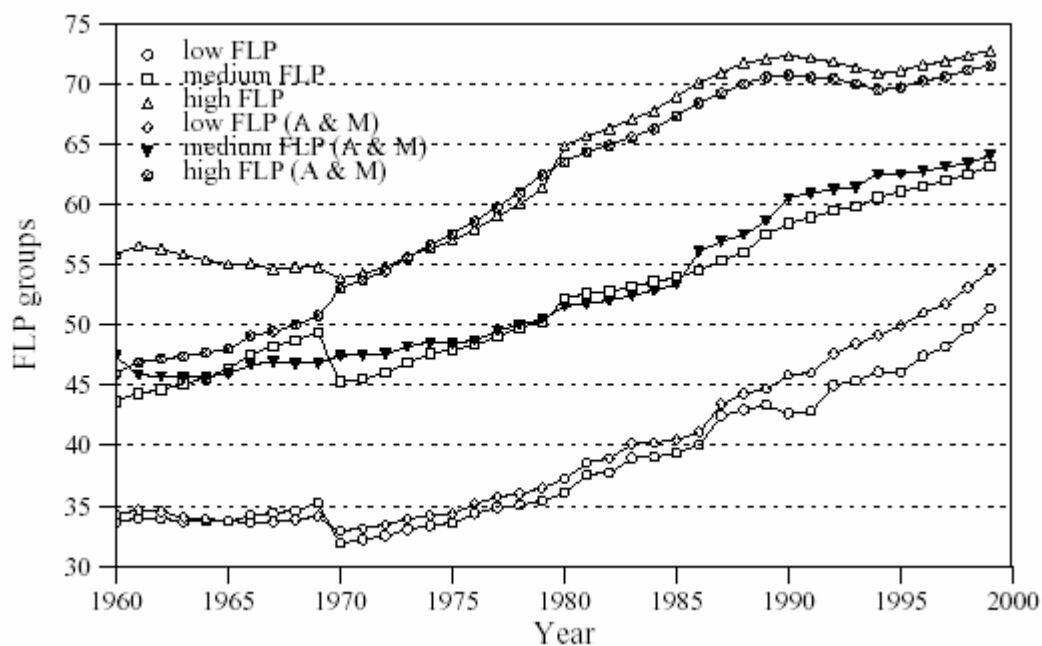
An explanation for this fact is likely the increased educational levels of women. More highly educated women are more likely not to have children or to have the first child at a much later age than women with lower levels of education.

The *quantum* and *tempo* effects have had different impacts across countries, implying a rapid ageing of the population in long lasting low fertility countries (with related problems for social security and transfer programs), especially in the South of Europe. Some studies argue that very low fertility will eventually disappear when the deferral of the first birth ends (Bongaarts and Feeney 1998), but less optimistic results have come out of later studies which use different methods (Lesthaeghe and Willems 1999).

Although the increasing long-term trend in female participation rate is similar for most countries, persistent differences in levels suggest that different countries are constrained by country-specific institutional and social factors. Analyzing the behavior of OECD countries, Ahn and Mira (2002) and Engelhardt *et al.* (2001) have divided the 21 OECD countries into three groups. The high participation group, in which the participation rate (FLP) is higher than 60%, includes the U.S., Canada, the U.K., Sweden, Norway, Denmark, Finland and Switzerland. The medium participation group includes countries where the participation rate is in the 50-60% range. The low participation countries are where the female participation rate is less than 50% (Italy, Spain and Greece). The two values of each of the three trends shown in Figure 3 represent the differences between the studies of Ahn and Mira (2002) and Engelhardt *et al.* (2001).

Figure 3

**Average level of female labor participation rates in low,
medium and high participation countries**



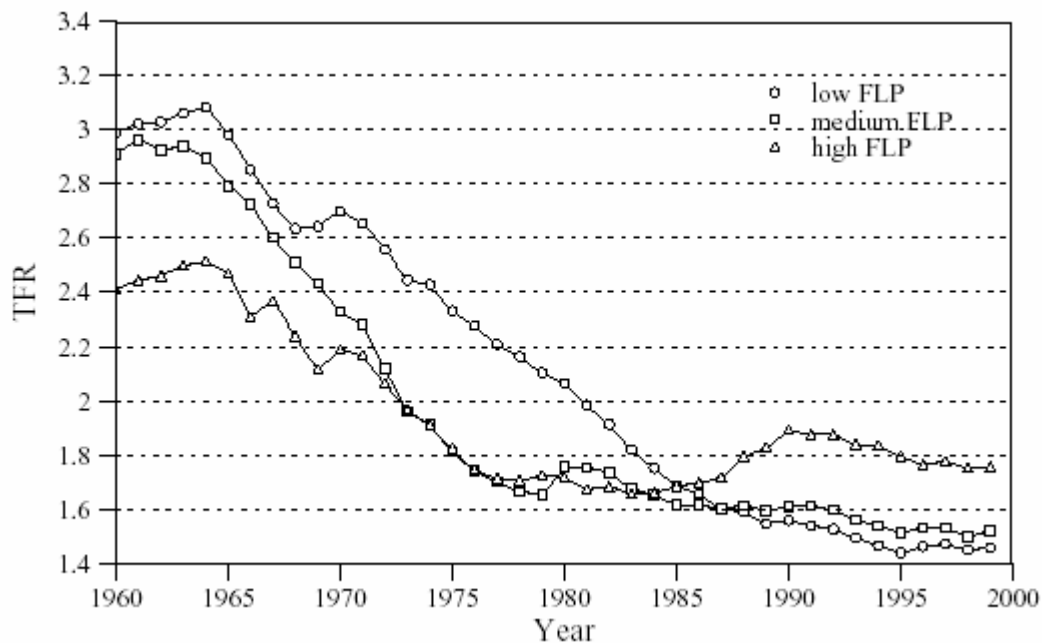
Source: Englehardt and Prskawetz. (2002)

Figure 4 shows that in those countries characterized by high participation the total fertility rate starts at 2.19 in 1970, declines to 1.65 in 1980 and then returns to 1.78 at the end of 2000. On the contrary, in countries characterized by low participation, the fertility rate starts at 2.72 in 1970 and continues to decline to 1.4.

Figure 4

Average total fertility rates in low,

medium and high participation countries

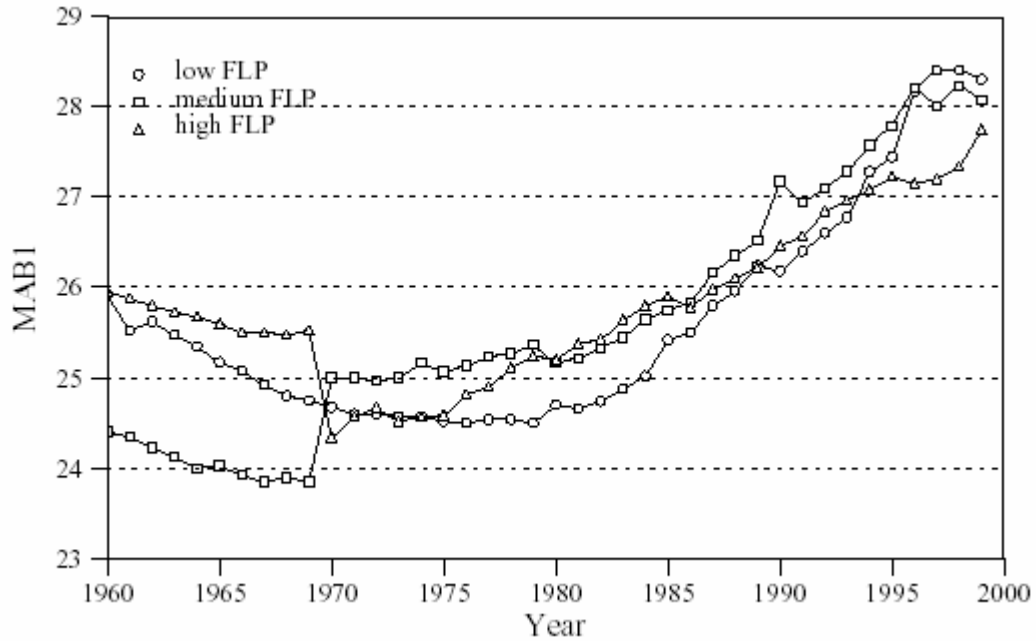


Source : Engelhardt and Prskawetz (2002)

Figure 5 illustrates the *tempo* effect. It shows the growth of women's mean age at first birth in the three groups of countries, indicating the significance of postponement of the fertility decision. The average age in the 1960's was in the 24-26 range and grew to around 28 in the year 2000. The phenomenon of postponement has implied a reduction of completed fertility and a large number of women who remain childless. In countries where fertility has declined more, a higher number of women, especially of educated women, has remained childless.

Figure 5

Mean age at first birth in low, medium and high participation countries

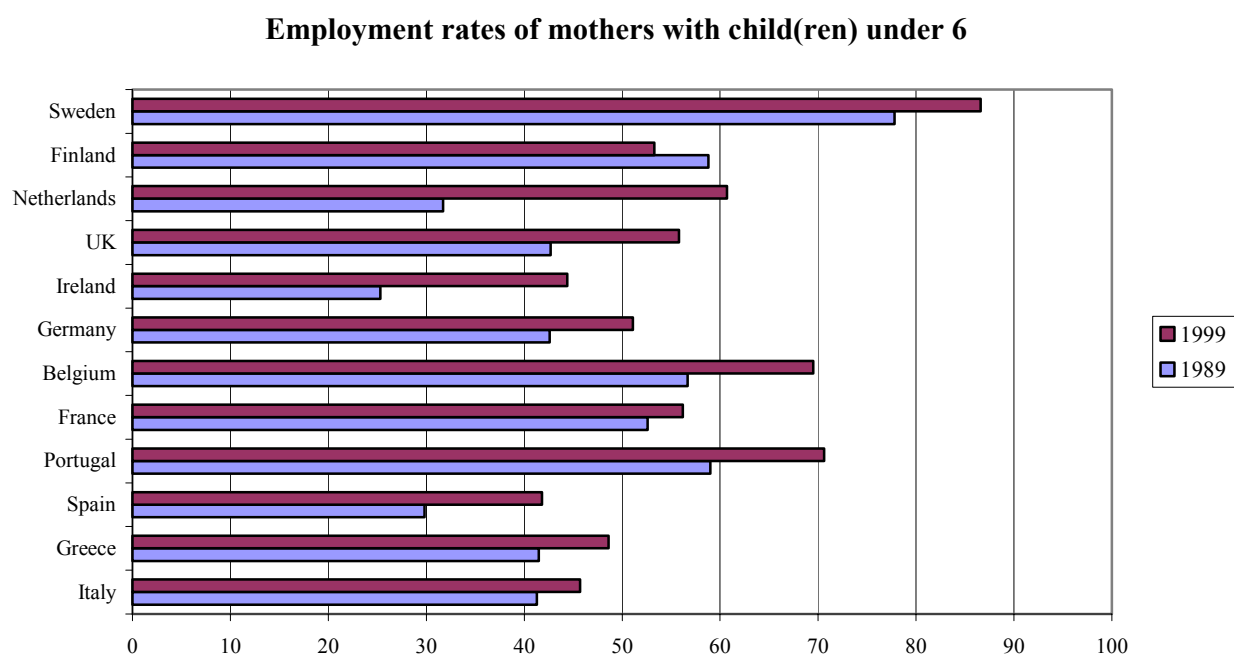


Source Engelhardt and Prskawetz. (2002)

Because of these different temporal patterns, more and more empirical research focusing on the relationship between women's participation and fertility is being done, especially in Southern European countries, where it still seems hard for women to reconcile work and motherhood, while in Nordic countries more attention is being given to the effects of the high participation of mothers on wages, careers, and child outcomes.

In Nordic countries, in fact, the employment rates of mothers with young children increased quite significantly over the last decades, while the increase was much smaller in Southern Europe. The low employment rate among young women with children and the low fertility rate symbolise the difficulties encountered by women in Southern European. Figure 1.6 shows the significant differences and the growth in the period 1989-1999 between the employment rates of mothers with children under six in Europe. Italy, Greece, and Spain are ranked at the lowest level.

Figure 6



Source: OECD, *Employment Outlook*, 2001

Several studies have questioned whether low fertility rates represent a voluntary choice by the household to free the women from family obligations rather than being the effect of economic constraints. Bongaarts (2001) provides data on desired and realized fertility for several European countries showing that preferences fall short of achievement. This study also reports that when fertility is low, desired fertility is usually above realized fertility.

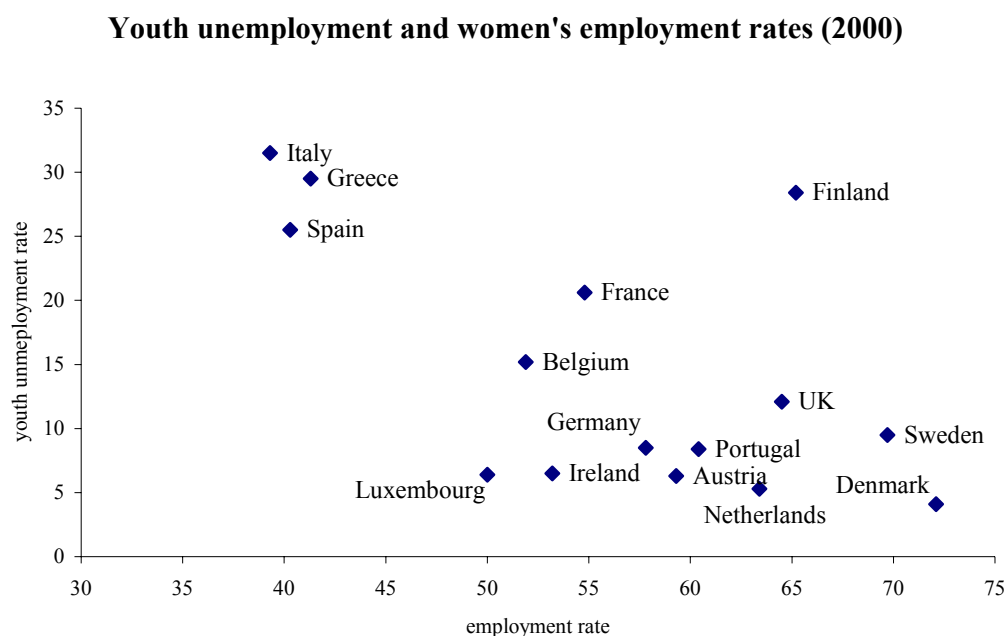
3. The characteristics of the labour market

The regulations of the labour market have an important impact on participation rates. In spite of recent institutional changes, Southern European labour markets are still highly regulated: strict rules apply regarding the hiring and firing of workers and permissible types of employment arrangements. The hiring system and the high entry wage as well as very strict firing rules severely restrict employment opportunities for labor market entrants. These labor market regulations have been largely responsible for the high unemployment rates of women and youth.

If we look at unemployment among youth, in those countries where high percentages of youth are unemployed (Italy, Greece, Spain) women participation rate is lower (Figure 7).

Moreover, when the unemployment rate is high, fewer women leave the labour market during the childbearing years because it is more difficult to re-enter later.

Figure 7

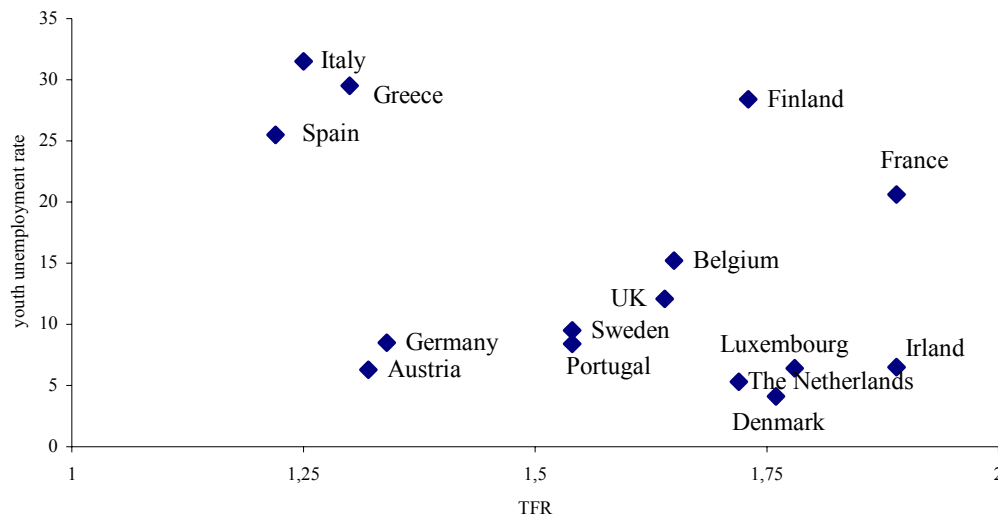


Source: Eurostat (2001), *Statistics in Focus*

Empirical evidence also shows the strong difference in fertility rates between countries characterized by high unemployment rates (Spain, Italy, Greece) and countries characterized by low unemployment rates. Figure 8 shows that where youth unemployment is higher (Spain, Italy, Greece) the fertility rates are lower.

Figure 8

Youth unemployment and fertility (2000)



Source: Eurostat (2001), *Statistics in Focus*

In countries where the unemployment rate is higher, young couples tend to postpone household formation and fertility. Young people, both men and women, wait to be well established in their jobs before getting married and having children. The lack of stable jobs among Spanish men is an important factor that forces many young people to delay marriage and childbearing: between 1987 and 1995 the proportion of employed Spanish men aged 25-39 years who held permanent work contracts fell from 55 to 37 per cent. The low level of confidence among young workers about their future employment prospects is an important determinant of the low fertility (Ahn and Mira 2001).

A negative relationship between unemployment and fertility also emerges for Italy. On the one hand women tend to participate more in the labour market to protect household income from negative shocks to the partners' wage and employment, on the other hand they do not leave work during childbearing years to protect their own labour market prospects (Bettio and Villa 1998).

The experience of unemployment not only reduces current income, but also affects the level of income that the families consider necessary for the well being of their children. Tests of the hypothesis that expectations of future labour market outcomes affect current

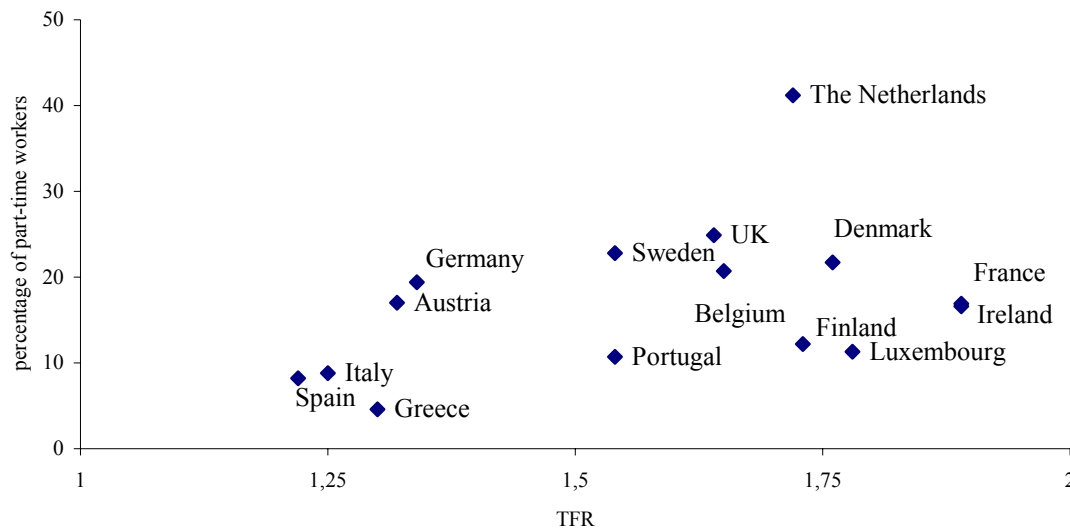
fertility decisions show that unemployment is one of the variables that most significantly affects the expectations of future wages and job opportunities and therefore may be responsible for the decline in fertility (Del Bono 2001).

The possibility to combine work and childrearing depends strongly on the occupational structure and working arrangements. Changes in the occupational structure, especially for part-time employment, have expanded employment opportunities for women (O'Reilly and Fagan 1998). However, the development of the service sector and the part-time opportunities have not increased equally in all advanced countries. While in the North European countries, a high proportion of women work in the tertiary sector and are employed part-time, in the South of Europe the tertiary sector is less developed and part-time employment is very limited. In countries where part-time opportunities are scarce, married women are forced to choose between not working or working full-time, neither of which is necessarily their preferred option. Married women who choose to work tend to have full-time work commitments, which is not compatible with having large numbers of children.

Part-time jobs opportunities are very limited in Southern European countries when compared to Nordic and Central European countries (Appendix A 1A.1). The positive link between part-time jobs and women's participation in the labour market has been shown in studies based on cross-country analyses. Empirical analyses of several countries show that being a mother (compared with being childless) decreases the probability of choosing full-time work and increases the probability both of not working or working part-time. The availability of part-time jobs increases the probability that women are employed in all European countries (Bardasi and Gornick 2000, Tanda 2001). Greater opportunities for part-time employment also reduces the opportunity costs of having children with a positive impact on fertility rates. Figure 11 shows that in countries where part-time opportunities are higher, fertility rates are also higher (Netherlands, Denmark, U.K., Sweden).

Figure 9

Part-time and fertility (2000)



Source: Eurostat (2001), *Statistics in Focus*

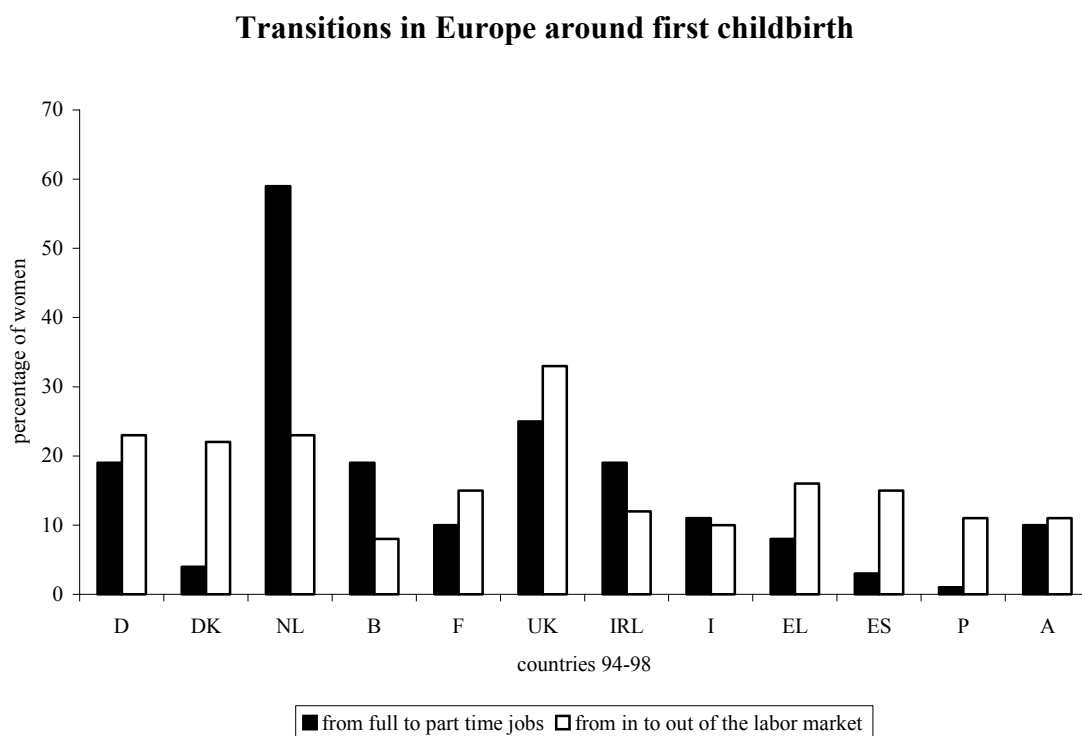
The availability of part-time opportunities has a positive impact on both the probability of women participating in the labour market and the probability of having children in Italy (Del Boca 2002). However part-time work may have also negative effects on wages and career prospects (especially in countries where it is widespread). Part-time jobs tend to be more frequent in low-qualified occupations with a negative impact on women's career opportunities. U.K. and U.S. mothers are more likely to work in part-time jobs and earn lower wages compared with women without children. Mothers working part-time also have significantly lower hourly wages in Germany and Sweden (Ermisch and Wright 1993, Gustafsson and Wetzel 2000).

When we look at the employment conditions of women before and after childbirth we see that after the first birth, mothers either become unemployed or inactive or experience downward occupational mobility. That is, even if a woman remains employed she may end up in an occupation that is inferior to the one held before the birth in terms of quality, payment and responsibility (Guettierrez-Domènech 2002). This may stem from the fact that mothers might sometimes be willing to supply labour that involves fewer responsibilities during the childrearing years and/or because employers may be reluctant to hire mothers for

high profile positions since they believe that their family role may absorb most of their energy and interfere with their productivity.

A comparison across European countries (Figure 10) shows that that only in the Netherlands, Belgium and Ireland the probability to change from a full-time activity to a part-time activity after the first childbirth is higher than the probability to leave the labor market. In Southern European countries a smaller number of women change their status after childbirth. As we have discussed above, the proportion of women working in these countries is much lower than in the rest of Europe, and they are prevalently employed in full time permanent jobs.

Figure 10.



4. From maternity to parental leave

It is usually claimed that maternity leave increases female participation because women are not forced to exit from the labour market after childbirth to take care of their newborn children. Therefore, maternity leave is an important policy to help women to reconcile household responsibilities with work activities.

In 1992 a European Union directive mandated a paid maternity leave of 14 weeks and in 1998 a directive mandating a 3-months parental leave was also approved. However, maternity leave policies are still quite different across Europe both for duration and benefits of compulsory and optional leave. Denmark, Finland and Italy are the most generous country in terms of duration of base maternity leave, while France, Spain and Portugal have longer optional parental leave periods (see Appendix A Table A.1.).

The benefits received during the base period are particularly low for Greece, where also no benefits are paid during the optional period. Spain, Portugal, the Netherlands and the U.K. also give no benefits during the optional period. In the U.S. maternity leave has only recently been introduced with the FMLA, Family and Medical Leave Act (1993) and its coverage is still quite limited: only 12 weeks of unpaid leave for women working full-time in firms with at least fifty employees. Before 1994, however, many employers created maternity leave programs as a response to the growing presence of women in the workforce (Sundström 1994, Kelly and Dobbin 1999).

Maternity leave is likely to have a positive impact on women's employment rate since more women would enter employment if they knew they had access to leave. A relatively strong correspondence between the generosity of child-related policies of maternal employment (including maternity leave) and women's employment profiles emerges from cross-country comparison. In Northern European countries, where policies are more generous, female participation in the labour market is higher (Gornick *et al.* 1997).

Quite different results, however, have been reported for the U.S. During the period 1980-1990 the labour supply of new mothers did not increase more in States where maternity laws were enacted. After 1993, when the FMLA Act was introduced, the effect of maternity leave appears limited probably because a 12-weeks is such a short period, the coverage is not universal and in many cases leave is unpaid (Klerman and Leibowitz 1999).

The expected effect of the duration of leave is in fact ambiguous: in theory, the longer women stay out of the labour force, the greater the loss they incur in terms of skill deterioration and lost opportunities for promotion and training. A negative relation between

maternity leave and female employment is therefore expected. However a longer leave may also be seen in a positive light since it gives mothers more time to recover while retaining job security. Therefore, the positive effect of maternity leave on fertility and female employment seems to depend strongly on the length of leave and on the generosity of the benefits that women receive during the leave. A comparison of the effect of compulsory and optional maternity leave regulations in European countries shows that a long compulsory maternity leave period seems to have a negative impact on the probability of women working, possibly increasing the costs of hiring women. In contrast, the length of the optional maternity leave has a positive effect on women's employment rate.

France is an example of the negative effect on female employment of long maternity leave. In France, in fact, parental leave has been associated with a benefit called the Allocation Parentale d'Education (APE). The full-rate APE can be considered as a kind of mother's wage, but it is only temporary in that it only applies until the youngest child reaches the age of 3. This is a strong incentive for mothers to leave the labour market, especially when they have relatively low wages or precarious jobs. Périvier and O'Dorchai (2001) argue that:

[t]he APE has had positive consequences for most women who have taken it up at a partial rate or who have chosen the full-rate but could fall back on a secure job. Usually, these women are skilled. However, it has had the strong perverse effect of removing from the labour market those women who, generally speaking, were unskilled. Once the three years of entitlement to the APE had expired, these women were generally no longer able to find a job because of the training opportunities foregone and their inactivity during too long a period. In conclusion, it has encouraged unskilled women to return home and has strengthened the disparity and inequality, that were already strong to start with, between skilled and unskilled women. (p. 117)

Looking at the labour demand side, maternity leave policies, by imposing additional costs to the employers, may have a negative impact on women's job opportunities, careers and wages or, more precisely, on what is defined as the "family gap", which is the wage difference between women with and without children (Waldfogel 1998). Employers, in fact, may find it risky to hire young women who may be absent from work for long periods. Moreover, they also prefer to employ women in jobs with fewer responsibilities, where they can easily be replaced during maternity leave. Again, the effects on wages and career depend on the length of the leave.

In fact, in the 1980s and 1990s the gender gap in pay decreased in the U.S. because of equal pay and equal opportunity policies, while the "family gap" increased because of the lack of family friendly policies, including maternity leave and childcare. The results show

that a short period of maternity leave does not affect human capital accumulation and therefore does not affect negatively new mothers' wages. On the contrary, the possibility to return to the same job after the leave period has a positive effect on women's pay, because of gains in firm-specific work experience and job tenure. Similar results were found for Europe (Ruhm 1998).

Looking more closely at the Nordic countries, we see that formal parental leave has no effect on Swedish women's wages, probably because most women in Sweden work in the public sector. Instead, interruptions due to unemployment prove to cause greater losses than interruptions due to maternity leave and childcare. Longer leaves have a negative impact on wages, likely because of the signalling effect: employers tend to penalize those who take longer leave because this is a signal of lower job commitment (Albrecht *et al.* 1999). A negative impact of interruptions is also found for young women in Germany, but in this case the effect for interruptions due to maternity leave is greater than the effect of interruptions due to unemployment (Kunze 2001).

Further, in a comparative analysis of Finland and Norway, some evidence was found for the hypothesis that the extension of parental leave may have positively influenced fertility. The effect is most significant for Finland where more extensions were available during the period of analysis (about 1960-1990), and is mainly limited to the probability of a second or third birth (Rønsen 1998). If the studies mentioned above mainly concentrate their attention on the effects of maternity leave regulation for women workers, it is also interesting to consider the impact on decisions made when parental leave is also available.

Table A.1. in the Appendix A reports paternity and parental leave legislation in European countries. Paternity leave is explicitly directed to the fathers of newborns children, while parental leave can be used either by the mother or the father. As we can see, only Northern European countries offer fathers the opportunity to stay at home for some days following the birth of the child, while in most South European countries extremely limited paternity leave is provided, if at all.

On the contrary, all European countries give fathers the possibility of parental leave, but in 1995 only 5% of the fathers in the European Union took the advantage of this opportunity. Usually this is interpreted as indication of the secondary role of fathers in childrearing, while a possible income constraint could be an important cause. Since on average men have a higher labour income than women and parental leave benefit is a portion of the wage, it is less costly, in terms of household income loss, for women than for men to take the optional parental leave. In fact, a higher percentage of fathers taking parental leave is

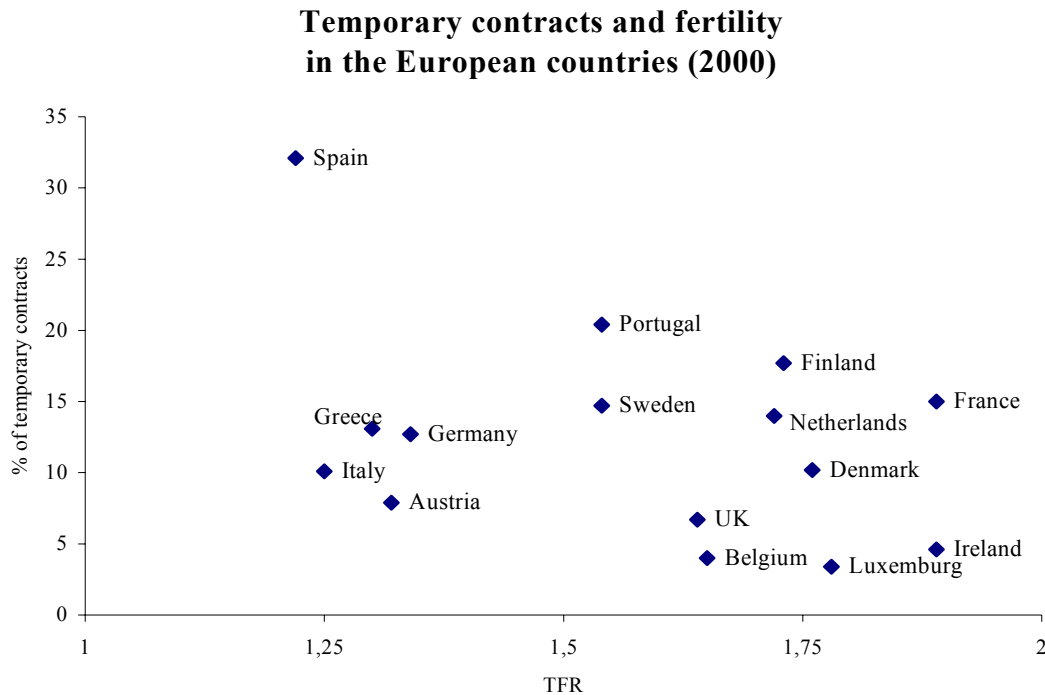
found in Northern Europe where benefits during the optional period represent a higher percentage of the average wage.

While parental leave has relatively limited negative effects on women's wages, it has a significant negative effect on men's earnings. Moreover, mothers who contribute more to the household income are less likely to leave their jobs both before and after the birth and they tend to return earlier to their jobs (Wenk and Garret 1992). Swedish families are more likely to have a second baby in cases where the father took parental leave for the first child, suggesting that policies encouraging an active participation of the father in childcare may stimulate fertility (Oláh 1996).

Another relevant aspect to be considered is that maternity/parental leave regulation usually guarantees only entitlement to permanent workers, while the extension of the benefit to part-timers and temporary workers is still quite limited. In Europe, and in particular in Southern European countries, employment has traditionally been based on permanent jobs. Only recently some elements of flexibility have been introduced into Southern European labour markets, with the introduction of temporary jobs, especially for young people. The growth of the proportion of youth with temporary and unstable jobs has increased uncertainty, causing delays in marriages (or cohabitation) and postponement of fertility due to lower coverage in terms of parental leave and benefits (De la Rica and Iza 2003).

As a consequence, young women may wait for a stable and protected job before deciding to have a child, especially in areas where the unemployment rate is high. Postponement may result in a lower fertility rate. Figure 1.12 shows the negative relation between the percentage of temporary contracts and total fertility rate

Figure 12



Source: Eurostat (2001), *Statistics in Focus*

5. Do childcare characteristics affect women's labour supply and fertility?

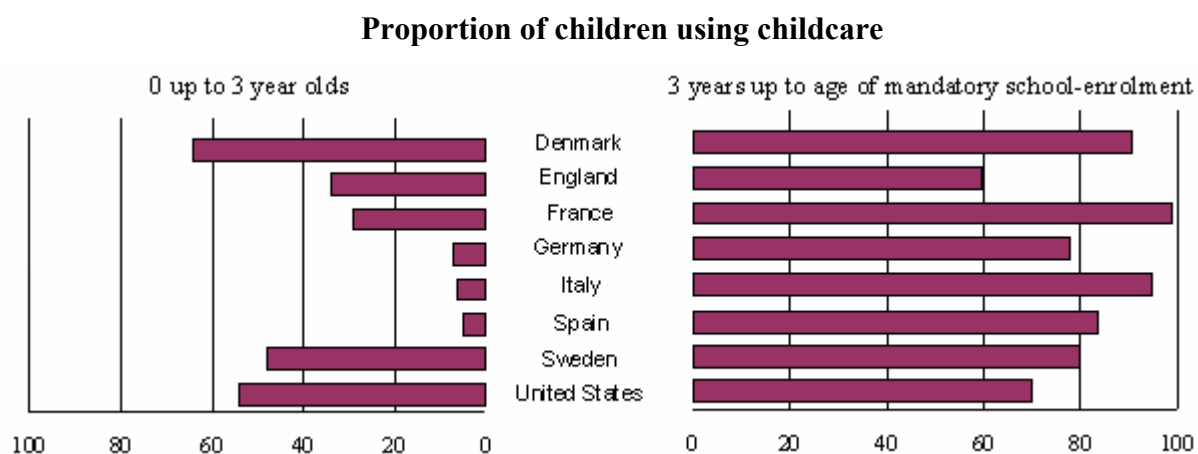
The presence of children affects mothers' preferences with respect to non-market time versus market time. Social policies directed at reducing the costs of children by increasing the availability, quality and affordability of childcare may affect fertility and participation rates. Studies on temporal patterns have shown that the increased availability of childcare is one possible explanation for the change in fertility over time and for the observed changes in the relation between women's participation and fertility (Ahn and Mira 2001, Englehardt and Prskawetz 2002).

However childcare systems have not evolved in the same way in all developed countries. In some countries the view that the choice of having children is a private one prevails and government support is targeted only to poor families with children (as in Anglo-Saxon countries). In other countries, children are considered to be public goods and public policies cover the costs of children independently of family income (as in Northern countries). The organization and financing of childcare for children in different age groups

in different countries are different across Europe (see Appendix A, Table A.2.). In the U.K., a model of private provision and financing of childcare prevails, while in Sweden, public organization and financing prevails, and in Southern Europe (Italy and Spain), there is a mixture of private and public childcare. Coverage for younger children is higher in Sweden while coverage for older children is higher in Italy. The different characteristics of childcare services have different implications on the labour supply of mothers.

Figure 13 shows the availability of childcare in several countries (proportion of children under 3 and from 3 up to the mandatory school-enrolment who benefit formal childcare arrangements). For children under 3, the supply of childcare varies across countries considerably. Nordic countries have the highest proportion (40%) while in Southern Europe it is much lower (5-6%). For older children the coverage tends to be much higher and tends to be more uniformly distributed across countries.

Figure 13

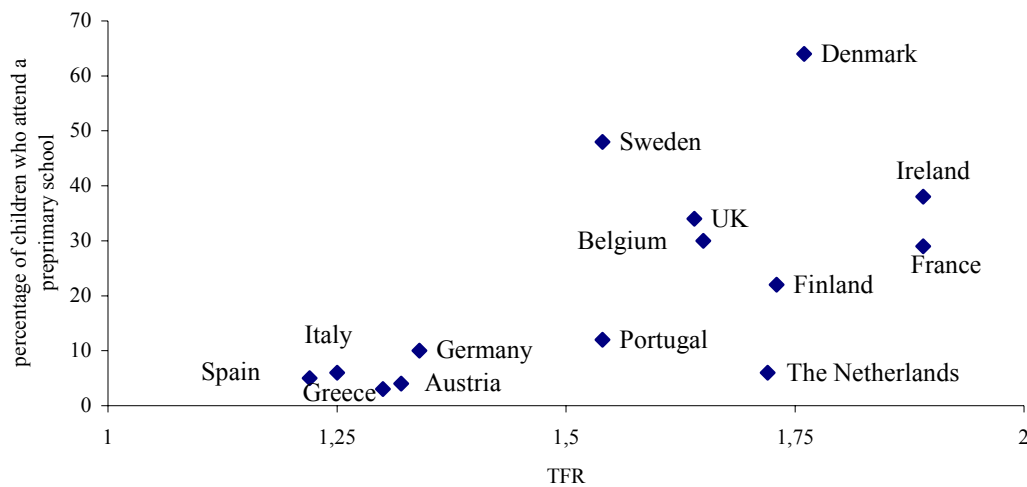


Source: OECD (2001)

Childcare availability also has important effects on fertility, while childcare costs do not seem to be an important factor. Figure 14 shows that in most of the high fertility rate countries childcare availability is relatively high, while in Southern European countries where childcare availability is very low (Italy, Spain, Greece) fertility is also low.

Figure 14

Childcare availability and fertility



Source: Eurostat (2001), *Statistics in Focus*

In Southern European countries, childcare does not seem to be designed to accommodate market work of both parents, especially given that part-time opportunities are scarce. Public childcare is only available in some areas of these countries, and with limited hours. These constraints have resulted in lower growth in the participation of Southern European mothers with younger children than in other countries.

The decision to work and to have a child are, in fact, both positively influenced by the availability of childcare. Given the low availability of childcare and the limitation in daily hours, a large proportion of Italian mothers, for example, have to rely on family support systems, mainly on the help of grandparents. The role of the extended family on women's decisions to work and to have children is relevant, and the substitutability between formal childcare and informal help by the family is fundamental (Del Boca 2002). These results indicate, in fact, that the labour force participation of women with children is affected by childcare availability as well as the availability of informal childcare. Family support, both in the form of transfers and in the form of help with the children, increases the probability of women's participation as well as their probability of having children. Similar results also emerge for Spain (where a high opportunity cost is associated with childbearing because of the lack of 'social care services' and is compensated by a strong family support network (Del Boca 2002, Del Boca, Locatelli, Vuri 2005, Baizan *et al.* 2002).

Another important issue concerns the quality of childcare. If high quality childcare is available, the preferences of mothers for time spent at home relative to time spent at work become weaker. This is particularly true for older children (3-5 years of age) and in families where only one child is present and childcare use responds also to the child's needs for socialization in addition to education and care.

On average, in countries where childcare is publicly provided, childcare quality is higher and more homogeneous. The problem of quality is more relevant in systems where childcare is mostly privately provided (and where a wider variety of types of services are supplied) because private services are usually less subject to monitoring.

Quality is related to cost. The ratio of specialized personnel to the number of children and higher levels of training are positively related to quality care, but high quality care costs more. Childcare costs are part of the family decision making in two ways. First, childcare costs can be thought of as a part of the cost of rearing a child and thus influence those decisions for which the cost of children is a relevant factor. In addition, in families where the mother is the principal caregiver, the cost of childcare can be considered as a tax on the mother's net wage and will result in a decrease of mothers' employment and working hours. The higher the cost of childcare, the higher the cost of each additional child. This leads to the prediction that higher childcare costs will also tend to lower fertility (Cigno 1991, Ermisch 1989).

The results of several studies for the U.S., the U.K. and Canada show that childcare cost is a very important variable with significant effects on participation of mothers (Blau and Robins 1988, Ribar 1992, Connelly 1992, Kimmel 1998, Powell 2002). In Northern European countries, instead, where public childcare is readily available, the cost of childcare is less influential on the mother's decision to work (Gustafsson and Stafford 1992). Similar results emerge for Italy: childcare costs are significant only in those areas where there are several childcare places available (Del Boca Vuri 2005).

6. Child benefits

As we have discussed above any governmental measure aimed at reducing the cost of children can be expected to have a positive effect on the demand for children. A theoretical distinction is drawn, however, between measures aimed at reducing the direct

costs of children (direct expenditures) and measures reducing the opportunity cost of children (foregone earnings) (Cigno 1991).

The magnitude of these effects may depend on the work status of the beneficiary. Higher cash benefits have a greater effect on unemployed women than highly paid executives. On the other hand higher cash benefits may lead to an increased demand for children but also to demand for higher quality. Child benefits may also be expected to have distinct effects on women with different numbers of children. If the same benefits are paid for each child regardless of birth order, benefits can have an increasing influence on the decision to have a greater number of children since their cost would be lower with each additional child (economies of scale).

Studies based on time series found a positive relation between fertility and cash policies. Family benefits were found to result in increased fertility of 0.2-0.3 children per woman (Blanchet and Eckert Jaffe' 1994 using French data). Other studies suggest the existence of a timing effect: higher family benefits would encourage early entry into motherhood but not necessarily a large family size (Barmby and Cigno 1990, and Ermisch 1989). A cross-country comparison, which considers benefits for one-child, two-child and three-child families separately, indicated a positive but very limited effect of child benefits on fertility (Gauthier and Hatzius 1997). These results vary widely across countries and by birth order. The cross-country comparison shows that while cash benefits do not affect fertility in Anglo-Saxon countries, they have a positive effect in Scandinavian countries, since they are likely to be correlated with other family support policies. In Southern European countries the effect is significant only for the first child, while in other countries (France and Sweden for example) it is significant for the third child. These differences reflect important differences in family support policies across countries. Studies based on macro data reveal a number of methodological pitfalls, since it is difficult to measure the incentive effects of transfers to a population which, in any case, would have had several children.

The influence of child transfers on fertility has not been widely studied on individual data. Studies on the role of financial incentives on fertility at the individual level (Lefebvre *et al.* 1994 and Laroque and Salanie 2003 for Canada and France respectively) report very weak effects.

The analysis of cash benefits must take into account two important factors. First, child benefit effects may be greater for lower income households, *i.e.* fertility would increase in households where the average number of children is higher. The second aspect

concerns the potential discouraging effects on mothers' labour supply. Given the low participation rates of mothers in several countries and the greater response of low income women to changes in tax-transfer systems (see Aaberge, Colombino and Strom this volume) these effects are likely to be significant and raise crucial policy questions. These conclusions underline the importance of estimating fertility and participations decisions simultaneously (Francesconi 2002, Del Boca 2002, Laroque and Salanie 2003, Colombino and Di Tommaso 1996, Colombino 2000).

7. Comparing the effects of social policies

As we have discussed above, the compatibility between labour market participation and fertility can be outcome of several factors: the changes in education levels and wages, as well as the changes in labour market regulations and in the service sector. In Northern countries governments have developed policies with the objective of simultaneously encouraging the labour force participation of women and fertility. These programs support dual earner families and the burden of childrearing is shifted to the state. Public childcare availability, generous optional maternity leave as well as part-time opportunities have allowed women to choose either to remain in the labour market during their childbearing years and to maintain a continuous and stable relationship with the labour market or to take care of their children themselves by taking advantage of long optional maternity leaves.

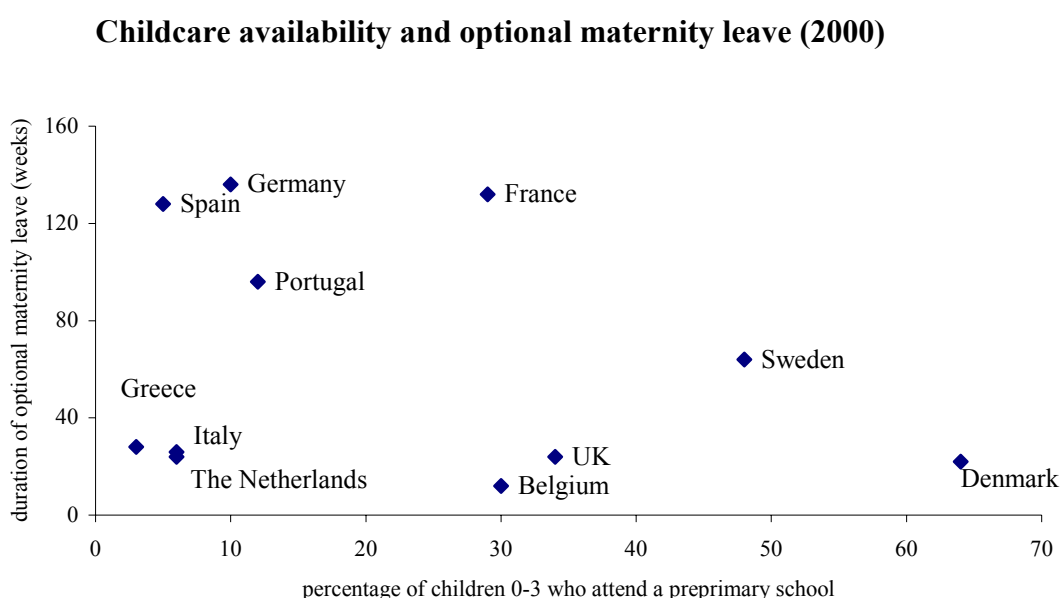
In Anglo-Saxon countries, governments have implemented programs only for the poor and they have allowed the market to produce services which respond to families' needs for childcare during working hours. In this context, where long optional parental leave is not available, mothers have less choice: they may choose between part-time combined with the use of private childcare or to leave the labour market.

The Southern European countries, on the contrary, have targeted programs mainly to working mothers (employment protection, public childcare mainly for dual earner families) leaving the burden of childrearing to the family. The development of private services has been constrained in several ways by competition with the public sector and by strict regulation. The outcome has been employment protection for those already employed at the cost of low employment and low fertility. In areas where childcare availability is higher, women can combine work and childrearing without leaving the labour market, while in areas where

childcare is not available mothers can continue working through their childbearing years only with the support of the family.

Examination of policies to assist women with children from 0 to 3, such as childcare and optional paternal leave, reveals that different combinations characterize different countries (Figure 15).

Figure 15



Source: Eurostat (2001), *Statistics in Focus*

For example, in countries with longer optional maternity leave, but low levels of childcare availability, as well as very few part-time opportunities, women may take time out of work to take care of their children. These interruptions imply negative effects on wages and career prospects and also low participation.

Nordic countries (Denmark and Sweden), instead, are characterized by shorter optional maternity leave (although paid at a higher percentage of wages), but wide availability of childcare, as well as part-time opportunities. More women in these countries have the option to use childcare, managing not to take time out of their jobs during childrearing. The negative impact on wages and career prospects is less relevant.

Finally, in most Southern European countries (particularly Italy and Greece) characterized by low optional maternity leave, low child-care and very limited part-time options, women do not have the option to use childcare, and need to rely on family support in order to continue work when their children are young. The outcome is very low participation, but high continuity in the labour market attachment.

8. Participation and fertility decisions: empirical results from ECHP

The analysis in the previous sections has suggested the importance of labour market and social policies in a woman's decision to work and/or to have children. However, empirical analysis of participation and fertility is quite complex since these decisions are affected both by individual characteristics (for which we need data at the individual level) and by policies (which are the same across individuals living in the same country).

We use here the European Community Household Panel (ECHP)² and select all women aged 21-45, married (or cohabitant) from Denmark, the Netherlands, France, Italy and Spain, available for the years 1994-1999 (see Del Boca, Pasqua and Pronzato 2005). The dependent variables are whether the wife is working at the time of the interview and whether or not she had a child in the last two years. The variables considered include personal characteristics (wife's age, education and non labor income), family characteristics (husband's income, presence of children in the household), environmental variables (regional unemployment rate, percentage of part-timers, availability of childcare)³.

One of the limitations of the economic analysis of fertility is the omission of factors such as fecundity, tastes, and other marriage-specific traits which are unobservable to the researcher. To take into account and isolate these effects, we use a fixed effect model with panel data. Unfortunately there not data available to estimate the effects of all social policies across different European countries overtime (optional parental leave for example).

² L'ECHP is a standardised multi-purpose longitudinal survey co-ordinated and supported by Eurostat, which allows study and comparison of the Member States in the European Union. The survey involves annual interviews of a representative panel of households and individuals in each country, covering a wide range of topics on living conditions such as income, employment, poverty and social exclusion, housing, health, migration and other social indicators. The unit of analysis is the household and, within the household, all individuals older than 16, although it is possible to gather demographic information on family members under sixteen as well.

³ A detailed description of the variables and the characteristics of the ECHP data set is in Del Boca, Pasqua, Pronzato 2005.

We estimate also a random effect model and we compare the coefficients associated with time varying variables .

The fixed effect and random effect estimates of the wife's age are both positive and significant in the employment equation. This is not true in the fertility equation where the fixed effect estimate is positive and the random effect is negative and significant. Schooling is a time-invariant variable and therefore it can be used only in the random effects estimates. As expected it has a positive sign in the employment equation, but also a positive effect on the probability of having a child. This effect can be interpreted in part as a permanent income effect given that fathers' education is not included in the analysis (assortative mating). Moreover, higher education might also positively affect the preference for children, *e.g.* to provide a better socialisation to an otherwise single child. The fixed and random effect estimate of the wife's labor income and are both negative and significant in the employment equation while they are positive and significant in the fertility equation. Similar results are found for the husband's income. The presence of children in the household has a negative effect both on participation and on fertility and there is no variation across estimation methods. The fixed effect and random effect estimates of the coefficient of the regional unemployment rate are both negative in the employment equation. In the fertility equation, the fixed effect estimate is negative while the random estimate is positive. The different sign of the fixed effect and random effect estimates can be rationalized by looking the regional level data: where the unemployment rate is high fertility rate is also higher (such as in the Southern regions of Italy and Spain).

The fixed effect coefficient of the regional part-time are both positive in the employment equation and in the fertility equation while the random estimate is positive in the employment equation and negative but not significant in the fertility one. The fixed and random effect estimates of child care are all positive (however only the fixed effect estimate in the fertility equation is significant). These results are coherent with the predictions of our modelling framework developed in Del Boca (2002).

The year dummies capture the effect of changes in macroeconomic conditions. The omitted year is 1994. The year dummies are negative and non significant in the employment equation and first negative and then positive but only marginally significant in the fertility equation. The country variables indicate the effect of coming from the Netherlands, France, Italy or Spain relative to Denmark (the omitted category), conditional on personal family and environmental characteristics. The effects are all positive but non significant in the fertility equation while negative and significant in the employment equation. This means

that in spite of the different characteristics of households and environments there are country specific effects (cultural attitudes, for example) that have important impacts on the probability of working .

Which set of estimates is to be preferred? The tests statistics reported indicate overwhelming rejection of the null hypothesis of independence between the unobserved individual effect and the covariates.

9. Conclusions

Empirical evidence and comparative results show that it is more difficult to combine work and having children in Southern Europe than in the rest of Europe. The primary reason for low participation and fertility in these areas seems to be the mismatch between the types of jobs sought by married women with children (part-time) and the types of job available (full-time) in a situation of lack of affordable child care. Married women who choose to work tend to have full-time commitments and this is not conducive to having a large number of children. Thus the labour market structure imposes large fertility costs.

This imbalance could be addressed by increasing the provision for childcare which would simultaneously increase job opportunities for women and reduce the costs of taking full-time jobs. By creating more flexible employment opportunities, more women would be able to continue working during their childbearing years. The fixed effect estimates of the impact of some of these variables (part time child care, unemployment) on household behavior are consistent with our predictions and reasonably precisely estimated. While part time and child care have positive impact on fertility and participation, unemployment has a negative impact.

Table 1 **Employment equation**

	<i>Fixed effects</i>	<i>Random effects</i>
Age	.040**	.035**
Schooling	-	1.251**
Wife non labour income	-.081**	-.140**
Husband total income	-.003	-.009**
Children in the HH	-.454**	-.868**
Unemployment (regional)	-.086**	-.096**
Part time (regional)	.095**	.001
Childcare (regional)	.020	.011
The Netherlands	-	-1.750**
France	-	-.498**
Italy	-	-1.154**
Spain	-	-1.119**
1995	-	-.023
1996	-	-.043*
1997	-	-.041
1998	-	-.042
1999	-	-.055
Constant	-	1.612**
Hausman specification	168.55	
test		
Obs.	12,466	49,299

**=significant at 95%; *=significant at 90%

Table 2 **Fertility equation**

	<i>Fixed effects</i>	<i>Random effects</i>
Age	.002	-.135**
Schooling		.470**
Wife non labour income	.124**	.116**
Husband total income	-.000	.007**
Children in the HH	-1.920**	-.025
Unemployment (regional)	-.011	.018**
Part time (regional)	.005	-.010
Childcare (regional)	.037**	.009
The Netherlands	-	.275
France	-	.121
Italy	-	.246
Spain	-	-.071
1995	-	-.042
1996	-	-.054
1997	-	-.004
1998	-	.117**
1999	-	.158**
Constant	-	2.471**
Hausman specification	950.57	
test		
Obs.	16,764	49,585

**=significant at 95%; *=significant at 90%

Appendix 1.A.

Figure A.1

Incidence of part-time employment as a proportion of employment

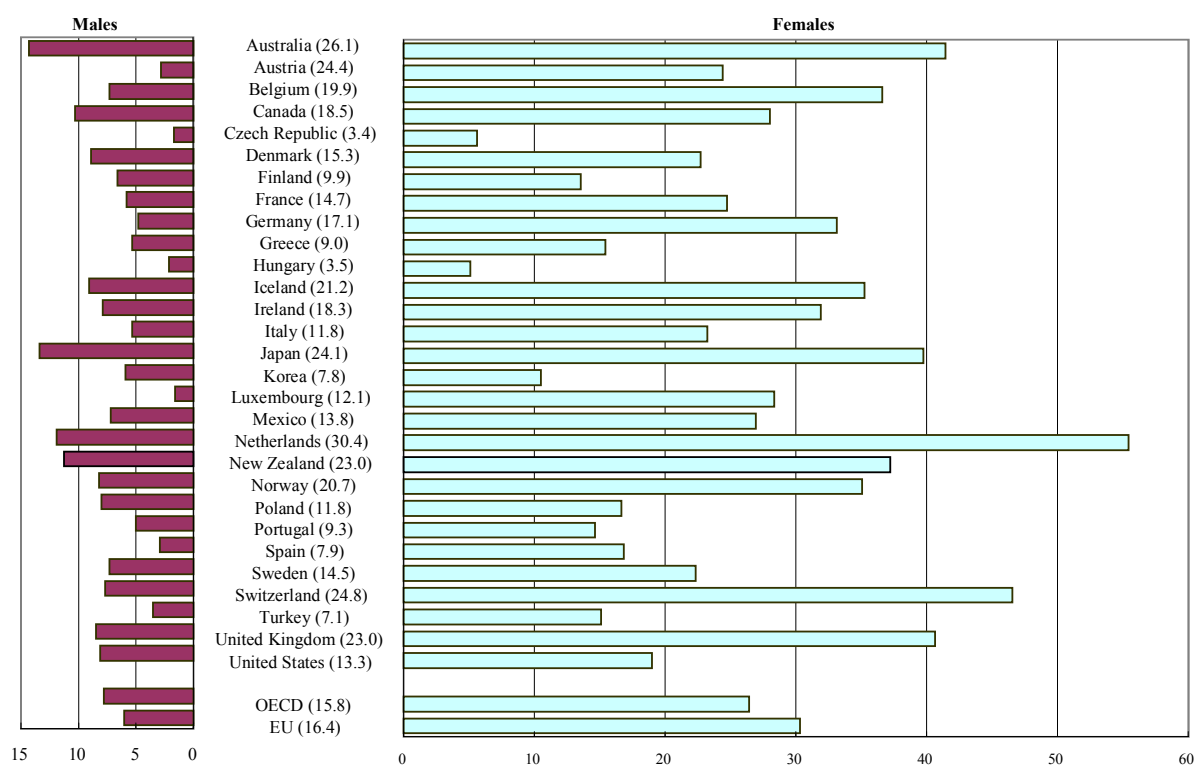


Table A.2

Parental / child-care leave for 1999-2001

	<i>Duration of base maternity leave (weeks) (1)</i>	<i>Maternity benefits during base leave (% of average wages)</i>	<i>Duration of optional parental leave (weeks) (2)</i>	<i>Parental benefits during optional leave (% of average wages)</i>	<i>Total duration of leave (1)+(2)</i>	<i>Paternity leave (*)</i>
Sweden	14	66	64	66	78	10 days
Denmark	28	100	22	83	50	10 days
UK	18	90	24	15.3	42	None
Netherlands	16	100	24	14.2	40	None
Belgium	15	77	12	50.3	27	3 days
Germany	14	100	136	25.1	150	None
France	16	100	132	42.4	148	3 days
Portugal	16	100	96	12.7	112	None
Italy	22	80	26	30	48	None
Spain	16	100	128	7.28	144	2 days
Greece	16	50	28	0	44	1 day (**)

Source: Tanda (2001) (*) Périvier and O'Dorchai (2001)

Table A.2**Formal day care programmes for young children**

	<i>Organisation/Financing</i>		<i>Coverage</i>	
	0 to 3	3 to 7	0 to 3	3 to 7
Italy	Mainly public organisation and financing.	Public and private organisation and financing.	6%	95%
Spain	Both organisation and financing is mainly public.	Both organisation and financing are mainly public	5%	84%
Denmark	Financing mainly public; provision is mainly public.	Both organisation and financing are wholly public.	64%	80%
U.K.	Mixed public and private provision of centres. Mostly private	Public and private provision. Mostly private.	34%	60%

Sources: OECD (1999; 2000)

Appendix B.

Table B.1

Descriptive statistics

	Denmark	The Netherlands	France	Italy	Spain
% of women working	78.5	56.0	64.7	48.5	39.4
% of women that had child in the past two years	23.2	18.1	21.9	18.9	18.1
Wife's Age	33.9	35.0	34.4	35.5	35.2
% of women with tertiary education	39.6	18.4	24.0	8.6	21.6
% of women with secondary education	42.7	56.7	46.5	43.0	20.5
% of women with less than secondary education	17.8	24.9	29.5	48.4	57.9
Wife non labour income (Euro PPP)	3.7	.7	1.9	.5	.5
Husband total income (Euro PPP)	16.7	20.0	18.8	15.0	14.3
% of household where there is already at least one child	64.1	64.0	72.5	74.7	75.1
% of part-time workers (regional)	21.6	36.4	15.7	6.7	7.9
Unemployment rate	6.8	5.5	11.9	13.5	21.6
Childcare provided by employer (regional)	1.4	20.9	6.1	3.3	4.7
Number of observations	5,286	10,314	6,811	14,385	12,503

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