FAMILY FORMATION AND FAMILY DILEMMAS IN CONTEMPORARY EUROPE

Gøsta Esping-Andersen (Ed.)

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Introduction.
The Contemporary Fertility Puzzle

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1. Introduction

Demographic change usually comes by stealth. But the recent history of fertility shows that sudden behavioural shifts can happen. Since World War Two, most advanced nations have experienced a very sharp drop in fertility from one generation to the next. In the 1950s, women typically gave birth to three children, but these same children, as adults, did not even manage to produce two. In many countries, the total fertility rate (the period TFR) was practically cut in half. Spain is an example of very abrupt demographics. In the times of Franco, Spain's TFR hovered around 3.0, placing it at the top end of the league. With a stable 1.2 over the past 10-15 years, Spain now has the dubious distinction of occupying the bottom end of world fertility.[1]

There are many reasons why this is puzzling. To begin with, this is not what common sense intuition would lead us to believe. Rather, we would have expected that strongly familialistic and catholic cultures, as in Spain, would favour large families far more than individualistic and protestant societies, as in the Nordic countries. Yet we see exactly the opposite. British, Danish and Norwegian fertility (at 1.8) is 50% higher than Italian and Spanish. We would also

[1] Spain's 1.2 fertility rate is shared with Italy and Greece in Southern Europe and with most ex-communist nations. The lowest rate is found in ex-East Germany (0.8), but similar low levels prevail also in a number of Southern European regions, such as the Veneto, Liguria, Galicia and Asturias. For an overview and analysis of lowest-low fertility, see Kohler et al. (2002).

expect high female employment levels to go hand in hand with low fertility. Yet again, the facts contradict common wisdom. As Ahn and Mira (1998) and also Rindfuss and Brewster (1996) point out, the world has been turned on its head. The traditional negative correlation between female employment and births has now become positive. Massimo Livi-Bacci, Italy's foremost authority on fertility, raises still another puzzling contradiction with the statement: "too few children, too much family" (Livi-Bacci 2002). Traditional familialism, once the epitomy of large families, may now cause prospective parents to hesitate before having children.

There is one fundamental point that all fertility research must come to grips with, namely that peoples' desire for children has not disappeared. Survey data from different sources all depict a common basic preference for, on average, about 2.2–2.4 children (Bien 2000; Van de Kaa 2001), be it in Finland, Spain, Germany or Canada. True, the optimal number reported declines somewhat with age, but we do not know whether this means that citizens resign themselves to a *fait accompli,* or whether they arrive at a more mature and reasoned assessment of what is best.

In short, we confront a major child gap that cannot simply be ascribed to popular values and tastes. Why then do we have fewer children than we actually want? This is one of the great questions of our times and, unsurprisingly, it has generated a large body of excellent research over the past decade. The research we report in this volume has benefited from the advances that others have made and, we hope, will help push our understanding one more step forward.

2. Theories of fertility

Most serious fertility research is guided by one of two theoretical perspectives. Firstly, many demographers see long-run fertility trends as part and parcel of the *second demographic transition* thesis (Van de Kaa 1987, 2001): a shift towards smaller and less stable families that accompanies urbanization and late industrialization. This shift, in turn, is fuelled by the rise of new *post-materialist* cultural norms that nurture individual self-realization. Binding lifelong commitments such as marriage and childbearing may

not necessarily disappear but they will become more contingent on rival priorities such as individual fulfilment, education and careers.

No doubt, this thesis helps make sense of many interconnected secular trends that include delayed marriage, rising divorce rates, the spread of *atypical* family forms, single person households, lone parenthood and, of course, fewer children. But it is also a theory full of shortcomings and contradictions. How would it, for example, account for the rather dramatic fertility cycles over the past century: falling birth rates before world War Two, followed by the post-war baby boom and, then, the sharp drop since the 1970s? Most advanced countries experienced their fertility *nadir* around 1980—with TFRs around 1.5—and then recovered partially. But some nations, like Italy and Spain, did not arrest the decline at middle-range fertility (i.e., 1.5 or 1.6), but continued their slide with no real recovery in sight.

It is difficult to imagine that *post-materialist* values were temporarily shelved in the post-war decades, and it is equally difficult to see why such values would be far more powerful in Spain than, say, in Denmark or the U.S. Or take the recent roller-coaster behaviour of Swedish fertility. From a TFR of 1.5 in the late 1970s, Sweden achieved reproduction rates of 2.1 by 1990, only to revert to 1.5 six years later. Again, it is not easy to see how *post-materialist* values could offer a guide to understanding this. All told, the theory may offer valuable insights into a very long historical shift, but it is hardly persuasive in accounting for either shorter-term diachronic or across-nation variations.

At present, average EU fertility hovers around 1.5, ranging from a Southern European low of 1.2 to around 1.8 in Denmark, Norway, and the United Kingdom.[2] Taking a long historical perspective, as in the second demographic transition, this variation may appear trivial. Yet even small differences may have huge consequences further ahead (Golini 1994; McDonald 2002) Ignoring for the moment immigration, a constant 1.3 fertility rate will, by the end of the century, produce a society that is only 25% its cur-

[2] Ireland has traditionally been Europe's fertility leader but is now experiencing a rather sharp decline and is converging with the United Kingdom.

rent size. In this scenario, the Spanish population would decline to only 10 million. If, instead, fertility stood at 1.9, the population would decline by a mere 15%. Similarly, if we see these nation differences from the viewpoint of a prospective parent, it is hardly a trivial matter whether one can expect to achieve the 2-child norm, or will have to make do with one.

The second source of theoretical guidance comes from microeconomics and, in particular, from Becker's (1991) theory of the family.[3] The theory assumes that fertility decisions flow from a bargaining process that aims to maximize joint household utility

$$U = U(n, q, z). \tag{1}$$

In this unitary model, conflicting preferences between the partners are assumed away so that all decisions are believed to be inherently consensual. The couple will consider its own consumption preferences, *z;* the desired number of children, *n;* and the quality of each child's upbringing, *q*. Quality and quantity of children are seen as interactive and this produces a non-linear budget constraint, so that the couple's lifetime income is decided as:

$$I_p = \pi_c\, nq + \pi_p z + \varphi, \tag{2}$$

where π_c is the cost of children, π_p is the cost of parent's consumption, and φ is a possible *gift,* such as subsidized child care or family allowances, that diminishes the budget constraint and allows for greater parental consumption and/or greater π_c. If φ refers to welfare state transfers, then $\varphi = f(n)$, and this should imply greater investment in q for any given n—although it may also allow greater z_p. Put differently, it is not *a priori* given that generous welfare state support (or intra-family help) will favour more births. It may simply help offset the cost of children.

The resulting production function for children is

$$N = f\left(\frac{x_c}{Q}, \frac{t_m}{Q}, \frac{t_f}{Q}\right), \tag{3}$$

[3] For an excellent overview and discussion, see Hotz (1997).

where x_c is purchased goods for children, and t_m and t_f denote, respectively, the mother's and father's time dedication in favour of the children. In standard applications it is routinely assumed that husbands' unpaid hours (t_f) are zero. The *specialization thesis* predicts that males' normal labour market advantage over women will favour maximum dedication to paid work and that women, in turn, will concentrate on home production. In this context, the key question of having children boils down to the earnings power of the father and the time preferences of the mother. The latter depends primarily on the opportunity cost (or child penalty) that she will experience, in part due to forgone income during the period of work interruption and, more importantly, due to the long-term human capital depreciation effect of having interrupted her career. Therefore,

$$t_{fj} = f(w_j + \beta\omega L_j), \tag{4}$$

where w_j refers to forgone wage income for woman j, and where $\beta\omega L_j$ denotes the lifetime earnings penalty associated with human capital depreciation. The straightforward theoretical prediction is that fertility is inversely related to the expected child penalty. In turn, the expected child penalty should increase with the woman's level of human capital (higher educated workers have a steeper earnings curve). The depreciation effect can, however, be partially offset by delaying fertility. It should be immediately evident that φ can have major effects on t_f. Maternity benefits or other social transfers will lower the w_j effect, and childcare provision will reduce $\beta\omega L_j$ to the extent that it permits the mother to minimize work interruptions. In other words, theory would also predict a positive welfare state effect on births.

Becker's microeconomic theory would appear to resonate well with the kind of society that prevailed in the post-war era; namely one with comparably low levels of female education, the housewife and male breadwinner norm, and stable partnerships. But it encounters major problems in accounting for some—but not all—behavioural change.

Most change is spearheaded by the revolution in women's roles. Women's educational attainment has risen dramatical-

ly, now often surpassing males'—in particular in low-fertility Southern Europe. The housewife, for all purposes, has become a rare species. And women are also postponing first births. The average age of first birth is close to 29 and, in Spain, almost 31. And the share of childless women (as shown in chapter 1) has been rising. Recent data show that 40% of highly educated German women end up childless. All these trends are, however, fully consonant with microeconomic theory. We would expect fertility to drop, and first births to be delayed as women acquire more education. But there are also aspects of the new fertility scenario that simply contradict the theory.

It is first of all evident that fertility choices are decreasingly related to males' earnings power and more to women's career priorities. This, in and of itself, does not contradict the theory. But when we also consider (as shown in chapter 2) that fertility is especially low among unemployed and precariously employed women, i.e., among those whose employment prospects are weakest, then the theory does in fact come up short.

This points immediately to a second major shortcoming of standard economic theory, namely its failure to consider variations in women's life preferences. As the work of Hakim (1996) and many others emphasises, contemporary women's preference sets are simply too diverse, qualitatively speaking, to allow for the kinds of unitary assumptions that underpin microeconomic models. Following Hakim, the traditional homemaker-cum-mother role is now very minoritarian. The career-centred preference, although growing, is likewise limited to a fairly modest proportion of women. The vast majority comprise the dual-role woman who insists on combining a lifetime attachment to paid work and economic autonomy with motherhood. This implies, on the one hand, a substantial heterogeneity of women's child-work preferences and, on the other, that reconciliation issues will stand centre-stage in the fertility drama.

A third major challenge to the theory comes from the Scandinavian countries where, now, the fertility-education correlation has been turned on its head: the highest levels of fertility are found among women with tertiary level education, and the lowest among women with only basic compulsory education.

One way to increase the realism of microeconomic theory is to abandon the unitary utility theorem and explicitly assume that (prospective) fathers and mothers have different and possibly conflicting utility functions. Following Lundberg and Pollack (1996), in a cooperative model with two individual utility functions,

$$[U_{\mathrm{f}}(z_f, n, q) \text{ and } U_m(z_m, n, q)]. \tag{5}$$

The outcome of partners' bargaining will depend primarily on power which, in turn, is related to their respective threat points Φ_{j}. There are two kinds of threat situations that can be invoked. One is the threat of exiting from the game via divorce; the other being a cooperative equilibrium within the partnership. In the latter—and surely more normal—case, repeated renegotiation can possibly produce a new cooperative equilibrium.[4]

$$\text{If } \Phi_m = f(Y_m, p) \text{ and if } U_m(n \mid q, z_m) > U_f(n \mid q, z_f),$$

then

$$n = f(Y_m + \Phi_m / Y_f).^{5} \tag{6}$$

This presupposes that each partner's income contribution to the household (Y_j / Y_{j+1}) determines his or her threat point. Since welfare state *gifts,* such as child benefits, maternity leave allowances, or child care subsidies are typically targeted on the mother, her relative bargaining position is defined as $Y_m + \Phi_m / Y_f$. In this framework, a woman's preference for a child—if greater than the husband's—is more likely to prevail the higher the $Y_m + \Phi_m / Y_f$ ratio.

Or, put differently, the stronger relative bargaining position, the more likely it is that the husband/father will contribute to reducing the opportunity cost of motherhood—via, for example, contributing more to household and child caring tasks.

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[4] A Nash-based maximum welfare function is, in this context, $N = (U_m - \Phi_m) \cdot (U_f - \Phi_f)$.

[5] p is here a price vector.

3. Re-examining fertility behaviour

If theory and empirics are at odds, we clearly need to search for alternative explanations. This indeed is the thrust behind recent fertility research. This is not the place for a comprehensive and exhaustive literature review. In any case, the individual chapters in this book provide systematic overviews of research findings relevant to the respective questions being addressed. To provide instead a synthetic panorama of what we have learned in recent years, I shall concentrate on three kinds of explanations that have dominated research.

The first has focused on what we might call welfare state effects (φ) or, as often conceptualized, *mother-friendly* or *family-friendly* policy.[6] A focus on welfare state support for families is directly relevant because, as we have seen, this may help relax the parental budget constraint by effectively lowering the cost of children—either in terms of the direct consumption costs or by reducing the opportunity costs of motherhood. And it may also raise the wife's relative bargaining status. The evidence in favour of positive welfare state effects is rather mixed. Direct income transfers, such as family allowances, have virtually no effect on fertility (Gauthier and Hatzius 1997). This is hardly surprising considering that benefit levels, even in the most generous countries, fall far short of compensating for the real monetary cost of children.

There is far stronger evidence that policies that help reconcile motherhood and employment influence, directly or indirectly, fertility. This is to be expected since such policies aim explicitly to reduce the opportunity cost of births. The standard reconciliation package is composed of maternity-parental leaves and child-care provision. Research shows very persuasively that overly brief maternity leaves have a negative effect, but of a bi-modal nature (Waldfogel et al. 1999; chapter 6 in this volume). If maternity entitlements are too short they may spur lower educated women to abandon employment altogether, and highly educated women to limit or even forgo births.

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[6] Chapter 6 provides a detailed examination of the relevant literature.

Most attention has been directed at childcare effects. The expansion of early childhood care in the Nordic countries from the 1970s onwards was to many demographers and sociologists the chief explanation for why these countries managed so successfully to reverse the fertility decline (for an overview, see Sleebos, 2003). Econometric estimations of the childcare effect may not appear especially strong. For Denmark, Knudsen (1999) suggests that the universalization of childcare resulted in a 0.3 point increase in the TFR (i.e., from 1.5 to 1.8) while Norwegian estimates are lower (Kravdal, 1996). There are, in any case, grounds for scepticism. Firstly, these kinds of estimations are by nature shaky since they cannot easily control for the numerous other concomitant changes taking place in the national environment, many of which—be they reforms of maternity or parental leaves or changing labour market conditions—may also influence fertility. Secondly, it is very difficult to believe that childcare *per se* is the magic formula. How, for example, would we explain the dramatic drop in Swedish fertility in the 1990s considering that, in fact, childcare provision continued to expand during that decade?

This leads us directly to the second set of explanations. In contrast to the post-war decades, we must now assume that the vast majority of women prioritize lifelong employment and motherhood co-jointly. But how do women manage the combination? We know that the majority of women *do* pursue the aim of having two children, and we also know that it is increasingly rare that they succeed—especially in Southern Europe. As a result, we need to focus on the constraints that women face in pursuing the double goal.

A demographic rule of thumb stipulates that delaying fertility will generally entail fewer children. Women postpone births because of longer education and in order to minimize lifetime income penalties. But it is also clear that postponement is the consequence of a far more complex series of circumstances that include difficulties in access to housing, precarious employment conditions, and widespread youth unemployment. It is part and parcel of a more general postponement syndrome according to which young people delay independent living and marriage, but also of a different syndrome, namely the prevalence of job

insecurity. Both the former and the latter help explain why fertility is exceptionally low in Southern and Eastern Europe (Baizán 2002; Billari et al. 2002; Kohler et al. 2002). And the latter helps explain the abrupt decline of Swedish fertility in the 1990s. As Hoem (2000) argues, the main effect of the deep economic crisis in the 1990s was to create widespread insecurity about what the future would hold.

The effect of general insecurity on fertility is hardly a novelty, since this has always been among the main explanations of why fertility dropped during the 1930s. But the impact of insecurity has changed in a fundamental way. In past generations, long-term security was largely a question of the male breadwinner's job and earnings prospects. For contemporary couples, women's assessments of their personal employment and career prospects are central. The joint bargaining process that underpins microeconomic theory has been qualitatively altered so that family formation decisions are the outcome of both partners' joint achievement of career stability.

The study of fertility must accordingly pay attention to the insecurity dimension, and this also entails embedding it in an understanding of the changing risk structure. One key issue in contemporary societies is that young adults tend to fare poorly, be it in terms of earnings and job security or in terms of widespread unemployment—in particular among young female workers. These are often contextual-type effects that are not always easy to model in empirical work. Several of the chapters in this book attempt to capture the impact of the new risk environment by examining how precarious employment or unemployment affect fertility behaviour.

Postponing first births does not by definition preclude higher order births. The issue is whether a late start can be overcome. It is mainly this that distinguishes Northern and Southern Europe. When we examine comparative data on age at first birth we find only modest differences. Indeed, the average age in Denmark and Italy is identical and, yet, the Danish TFR is 50% higher. This differential is primarily the result of catch-up. Scandinavian women—and, in particular, more educated women—are much more likely to have a second and even third child in rather rapid

succession following the first. Research suggests that the reason lies in job security and in *mother-friendly* employment (Bernhardt 1993; Jensen 2002). It is, for example, clear that high fertility rates are very concentrated among women employed in *soft economy* jobs, especially within the public sector. And to return to the Swedish story, it may not be surprising that fertility dropped so sharply when we consider that the Swedish government shed around 90,000 public sector jobs during the 1990s (Esping-Andersen 2002).

All this suggests that the nature of joint household bargaining is undergoing a major transformation—one that sits uneasily with standard microeconomic theory. And this leads us to the third set of explanations. The very latest additions to fertility research have extended this insight to the point where birth decisions may now also depend on the degree of gender symmetry in home production—in particular on the husband's (or male partner's) willingness to contribute to child caring and rearing. Theoretically speaking, McDonald (2002) has mounted a frontal attack on microeconomic theory by arguing that the key explanation behind low fertility lies in the combination of changed female roles and preferences, on one hand, and the resilience of traditional family and gender roles, on the other. This implies that fertility will be exceptionally low in societies that continue to adhere to conventional familialistic patterns—patterns that *de facto* mirror the kind of gender role specialization that Becker's model depicts. Or to put it differently, it may be that once again the world has been turned upside down, and that less specialization and more gender symmetry may now be a key precondition for births. If this is due to women's greater bargaining power, this is exactly what non-cooperative theories of family decision making would predict.

Evidence in favour of this departure from standard theory is still very scarce. Recent Swedish research shows that the choice of having a second child is significantly correlated with whether the father took extended parental leave after the birth of the first (Duvander and Andersson 2003). Two contributions to this volume address this question. Chapter 5 examines the reconciliation dilemma in terms of time stress, and chapter 3 follows up on the

thesis that fertility increasingly depends on prospective fathers' dedication to childcare. The latter concludes that, yes, for career minded Danish women the choice of a second child depends very much on whether the father contributed significantly to caring for the first. Considering that men's contribution to unpaid household work differs dramatically by level of education (but not by the wife's employment status), this evidence may also help explain why Danish fertility is lowest among the less educated: simply, these men cannot be expected to contribute much. If greater gender symmetry in home production must now enter into any plausible model of fertility, there is good news ahead since the trend is definitively towards a rise in men's unpaid hours (Bianchi et al. 2004).

The contrast in Danish and Spanish men's contribution to child care might, at first sight, appear counter-intuitive since the sheer lack of external childcare in Spain would imply that the pressure on Spanish men to pitch in should be greater—and yet they do not compensate, as do Danish men. Is this simply a question of traditionalist male culture? If we allow ourselves to move towards more speculative terrain, there is another explanation; namely that gender symmetry is much easier to achieve in a setting, like the Danish, that is not *zero-sum*: the marginal additional caring burden needed is quite limited considering that children are usually in full-day external care. In Spain, on the other hand, couples can easily face *zero-sum* conditions, and this means that gender symmetry will require a very large sacrifice on the part of the male—so large that it will almost inevitably cut into the working day. When we add to this the very long working hours in Spain, it is easy to see why the margin for raising the father's contribution to home production or childcare is narrow.

4. A brief presentation of the book

There are three important lessons to be learned from earlier fertility research. The first is primarily of a negative sort. As described above, formal microeconomic theory stipulates that fertility is the result of a *joint* household bargaining process within which the

partners decide on how best to proceed in order to attain the preferred combination of well-being and children. In practice, applied research has rarely modelled this joint aspect in any serious or systematic way. Most empirical studies have simply focused on variables related to the mother's human capital characteristics, perhaps controlling for the male partner's earnings.

It is understandable that the mutual—cooperative or not—decision-making element disappears in empirical research, since it is difficult to find data sources that permit us to identify how the two partners' preferences interact. In this book we have taken steps to incorporate a more interactive view of couples' behaviour. Both chapters 2 and 3 explicitly attempt to identify couple interactions. Chapter 2 examines how male and female employment characteristics interact, and chapter 3 tests the combined effect of males' commitment to childcare and women's degree of career dedication. In chapter 4, which examines the time-stress problem associated with work-family combinations, the analysis also focuses on both partners in tandem.

The second lesson is that contemporary fertility can only be understood in the context of the work-family reconciliation dilemma. On the one hand, we cannot understand women's decision to give birth without considering their commitment to gainful employment and, on the other, women's career decisions are a function of their motherhood status. In our research project, we decided to dedicate our analysis to both sides of the coin. Chapters 1, 2 and 3 attempt to explain fertility by homing in on the couple's work-life attributes. And in chapters 4 and 5 the explanatory focus is on the family-work welfare consequences of caring responsibilities. Chapter 5 focuses primarily on the effects of caring for adults, although for many women the care of older persons coincides with the care of children. The inclusion of this study is nevertheless primarily motivated by the idea that the new dilemmas that families face in terms of caring for children persist later into life when caring needs for elderly relatives arise. These dilemmas have essentially the same underlying roots, namely the changing position of women in both society and within the family. Summing up the cumulative findings in these chapters, there emerges a very clear story, namely that couples generally face

considerable—and sometimes indeed almost prohibitive—constraints in their pursuit of combining family and careers.

Since our research has largely been guided by the puzzle of Southern Europe's *lowest-low* fertility, we have deliberately opted for systematic cross-national comparisons. We generally chose to build the comparisons around Spain since it is a prototypical representative of the low-fertility syndrome. In part this helps us to identify what factors may be common to several countries, and which may be unique to the Southern European situation. And in part, comparison is the only realistic way to identify the potentially mediating effects of welfare state support for families and of differences in labour market characteristics. As far as possible, our nation selection attempts to highlight the major variations and orthogonalities among Europe's welfare regimes. Thus, chapter 2 compares the Scandinavian, the British and the Southern European models. Chapter 1 compares France and Germany with Italy and Spain. All four countries represent the Continental European welfare model, and yet display rather different fertility profiles, with France occupying the high-end of European fertility, Germany falling in the middle, and Italy with Spain at the bottom. Chapter 3 compares Spain and Denmark. The aim here is not so much to help identify welfare state effects, but rather to exploit the huge difference in the two countries' second-order birth probabilities, especially among higher educated women, in order to test the thesis that fathers' contribution may be decisive. The last two chapters, 4 and 5, are explicitly aimed at identifying the relative importance of familialism and welfare state support and are, accordingly, based on very ample cross-national comparisons that capture the main international variations.

From such comparisons it emerges with great clarity that, for very similar people, the constraints of parenthood *and* work-life differ dramatically from one country to another. There is very little doubt that reconciliation is relatively unproblematic in Scandinavia, while in Southern Europe—and in Spain *par excellence*—it is fraught with difficulties. One might be tempted to conclude that welfare state support makes the big difference, but our research shows that this offers a very incomplete picture of

reality. Of equal importance are the employment conditions that prospective parents face and, in particular, the degree to which citizens enjoy secure jobs and face a relatively secure future. In this respect our research adds up to a strong reconfirmation of recent research on fertility.

Our comparative analyses also permit us to draw broader conclusions with regard to the *gender-symmetry* effects. To the best of our knowledge, we present here the very first attempt to identify the fertility effect of *fathers'* time dedication to home production and child care across countries. The finding that their dedication may be decisive in Denmark—but evidently not in Spain—illustrates how the very logic of fertility behaviour differs across Europe. At this point one can do little more than speculate, but it is tempting to hypothesize that less *familialism* and more gender symmetry in family life might help countries like Spain to close the contemporary child gap. This raises interesting questions about the potential of public policy to nurture more equal gender roles.

Moving now to the third and final lesson, we follow previous scientific research in beginning with the explicit assumption that fertility choices are woven into a complex *endogenous* world of decision-making. This becomes eminently obvious when we think of childbearing as part of citizens' life course project. Women and men do not simply decide on having a child from one moment to the next. The propensity to have children is, we can assume, connected with an array of crucial life decisions, such as length and choice of education, choice of partner and marriage and, of course, career preferences. Important selection effects can operate throughout these life course decisions. To exemplify, a young woman with strong family preferences may pursue education and even a career, but she is most likely to select herself into the kinds of studies and jobs that are most easily compatible with motherhood. The same kind of woman would probably also select a partner who would facilitate her dedication to family formation. In contrast, another young woman who is hell bent on a brilliant career will select herself into an educational trajectory that will maximize career and promotion prospects and will probably also select a partner supportive of her ambitions.

The deeply endogenous nature of childbearing poses serious problems of causal explanation. To exemplify again, we may believe that women's employment status explains births. But we would be terribly wrong if we concluded that an observed positive correlation implies such a direct one-way causality. It may very well be the case that births *and* a woman's employment status are co-jointly determined by factors that antedate our observations by many years. Unfortunately, such hidden factors are often very difficult—if not impossible—to observe.

The analyses we present in this book are, for the most part, based on analytical techniques that help overcome some of these endogeneity problems, in particular event history analyses. We employ the European Community Household Panel data (for a description of the ECHP, see below) that span the period from 1993 to 2001, thus allowing us to trace at least some part of peoples' lives. The two great advantages of these data are, firstly, that they furnish information that is comparable across many countries and, secondly, that they permit us to capture the dynamics of life course behaviour. The great disadvantage of the ECHP is that it gives almost no information on the childhood and youth of the respondents—and it is often in the formative years that people form their preference sets and take the steps that, together, move the individual towards their life-course logic. But, as becomes clear in chapter 3, the ECHP data have only limited power to resolve some major endogeneity problems.

This book is mainly a presentation of analyses pertinent to the understanding of contemporary fertility. Considering the pervasive centrality of public policies and, in particular, of policies that address the reconciliation of family and work, we have included a final policy-oriented analysis (chapter 6) that examines precisely how differences in welfare state provision and intervention may influence family formation and, more broadly, the lives of children.

Our project may have started as an effort to come to grips with the contemporary European child gap. But almost inevitably a focus on fertility broadens into a more comprehensive preoccupation with the welfare of children and families. Even if fertility behaviour were to change dramatically in the coming years, there

is no way around the fact that the coming cohorts are doomed to be very small indeed. Therefore, the quality of our children matters greatly. This last chapter, to put it differently, addresses the basic problematic of Becker's microeconomic theory—but now asking the question whether and how social policy can help families, and society at large, to optimize both *n* and *q*. That is, how can we help citizens to achieve their desired number of children and, at the same time, invest optimally in their life chances? The quality of our neighbours' children is, after all, essential to our own future well-being.

5. A brief description of the data

The analyses presented in this book are primarily based on the European Community Household Panel (ECHP). This is a harmonized survey of income and living conditions, centrally co-ordinated by Eurostat but conducted in practice by the respective national statistical offices. The survey has a panel design, which means that the same persons are, in principle, interviewed each year over the life of the panel (1994–2001). The total sample of the ECHP consisted of approximately 170,000 persons living in 60,500 households. It administered an individual questionnaire to all persons aged 16 and over living in a household. All sampled persons and members of their current household are followed up. Because of its standardized design and its comparability across time and countries, the ECHP constitutes a unique source of data—in particular owing to the richness of information on income, employment status, family situation and longitudinal demographic data.

The ECHP provides data on both a monthly and/or yearly basis. Monthly data are available for the birth of a household member and for respondents' activity status (except in the case of Germany), while annual data were collected for the more detailed characteristics of peoples' employment status, income, and public transfer receipts. Some data, in particular income information, are retrospective and refer to the year prior to the survey.

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1. Is There a Minimum Set of Conditions for Having a Baby? The Experience of the 1955–1982 Female Cohort in West Germany, France, Italy and Spain

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1.1. Introduction

Fertility patterns have undergone major changes since the 1970s in Western European countries. At the turn of the century, young Western European women have on average fewer children than previous cohorts; many of them stay longer periods of their life without children because of the postponement of motherhood; and some of them end up voluntarily or involuntarily not having children at all. This research is mainly interested in the reasons for the increasing prevalence of childlessness. In order to explore this demographic trend, we study the factors that encouraged childless women born between 1955 and 1982 to experience motherhood in the period between 1994 and 2001 in a selected group of Western European countries.

The increasing prevalence of childlessness is interpreted here as the result of two parallel processes which take place both at the macro and micro level. At the macro level, the increasing propensity to remain childless comes about along with increasing uncertainty in the labour market during longer periods of the individual's life course and higher human capital investment by women, leading also to higher expectations concerning individual autonomy and self-realisation. Labour market uncertainty is mainly caused by the labour force flexibilisation that has taken

place in most Western societies in recent decades. We sustain that uncertainty is partly responsible for the progressive delay of motherhood and eventual increase in unintended childlessness. Economic uncertainty must be placed in context, because different institutional settings have different effects on individuals' perceptions of labour market insecurity. Thus, a similar degree of labour market deregulation may not cause the same reactions in individuals, as long as there are other institutions impacting on their transition into parenthood; for instance, through public intervention (i.e., labour market policies, housing policies, family policies). We shall consequently test the extent to which different forms of uncertainty produce different demographic outcomes across countries. At the micro level, we posit that most women need to meet a minimum set of conditions before engaging in motherhood. This set of conditions may include job stability, a minimum income level, adequate housing and time flexibility which again might be more or less feasible according to the institutional context.

The institutional research questions explored here require a comparative framework for which the following European countries have been selected: West Germany, Spain, Italy and France, representing different institutional contexts and different levels of childlessness. The research strategy followed consists of exploring the extent to which motherhood decisions are mainly shaped by the national institutional context (i.e., the fact of living in a particular country with a given welfare state), and the individual constraints related to the economic, labour market or family situation. Binary probit regressions models are used to estimate the relative risks of having a first child. The regression models control for the selection bias that is likely to arise in panel data, where information on the dependent variable is not available for part of the respondents (as discussed more fully in section 1.2). The analysis is based on the eight waves (1994–2001) of the European Community Household Panel (ECHP).

The chapter is organised into two main parts. The first part introduces main patterns and explanations of current fertility behaviour and, more particularly, the increasing incidence of

childlessness. The second part describes the empirical analysis (the rationale of the comparative research, data and methodology) and discusses main findings.

1.2. A scenario of low fertility in Western European countries

We are currently in a scenario of low fertility in most Western European countries and of very low fertility in southern countries such as Italy and Spain. The completed fertility of women born in 1963 (this birth cohort was approaching the end of their reproductive life by 2005), has been 2.06 children per woman in France, 1.58 in West Germany, 1.66 in Spain and 1.57 in Italy (see figure 1.1).[1] The decline in completed fertility will be interpreted in the light of a new family organisation; one in which the timing at childbearing has been delayed (see figure 1.2) and the prevalence of different birth orders has also varied. The increasing proportion of childless women, for instance, may affect future levels of completed fertility.

Permanent childlessness has, indeed, increased in most Western Countries especially among women born after the 1950s. The increasing trend of childlessness is illustrated in figure 2.3. One point that stands out is the relatively high level of childlessness among West German women born in 1963 (22%), who entered their forties in the year 2003, and also the relatively high level among women from the same birth cohort in Italy (19%). Current levels of childlessness are not that rare from a historical point of view. They are, for instance, below the levels recoded by women born at the beginning of the 20th century in western countries (Rowland 1998). The interesting aspect, though, is the divergent trend in the prevalence of childlessness in contemporary Europe, which makes comparative analysis far more attractive.

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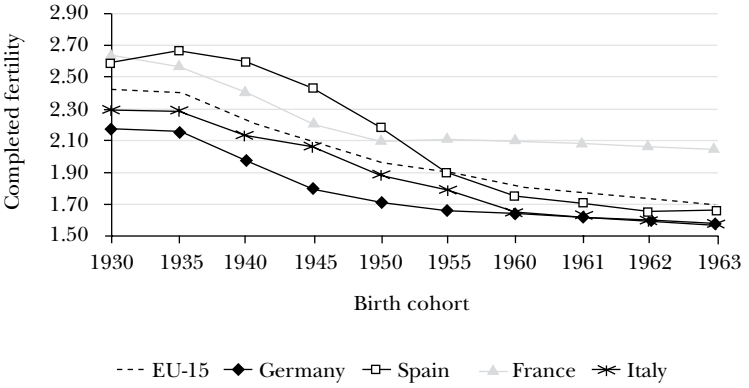
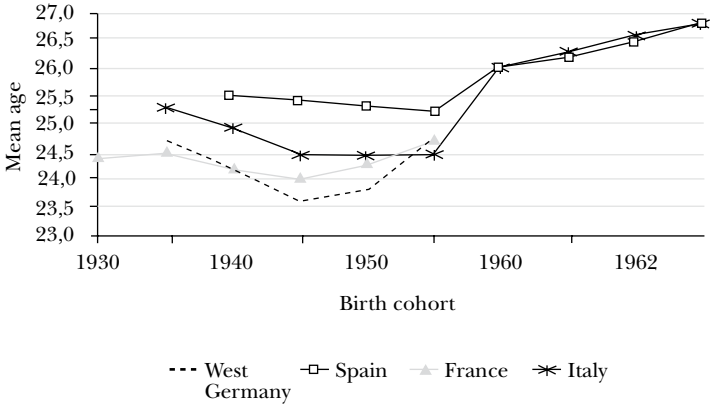
[1] Completed fertility rate (CFR) refers to the number of children born per woman to a cohort of women by the end of their childbearing years. CFR is a better indicator of fertility than the total fertility rate (TFR). TFR may fluctuate because of changes in the timing of births rather than changes in the average number of children women bear.

FIGURE 1.1: Completed fertility in Germany, Spain, France and Italy by cohort, 1930–1963



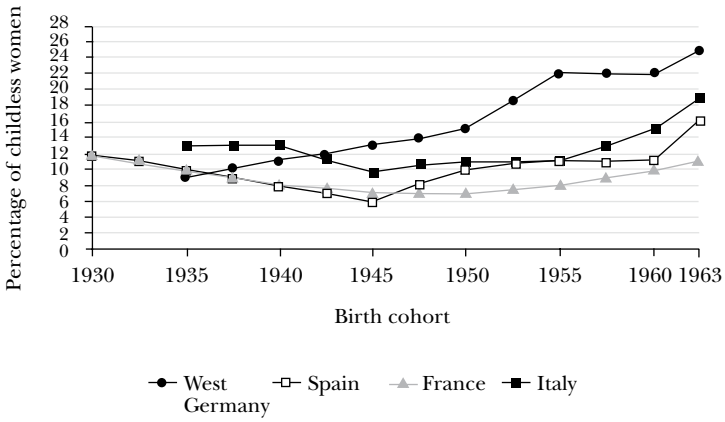
Source: Eurostat 2004.

FIGURE 1.2: Mean age of women at first birth in West Germany, Spain, France and Italy by cohort, 1930–1963



Source: Eurostat 2004; data for West German 1960 cohort from Dickmann 2003. Note: France and West Germany collect data for births within current marriages, while Italy and Spain include all births.

FIGURE 1.3: Proportion of childless women by cohort (1930–1963): West Germany, Spain, France and Italy

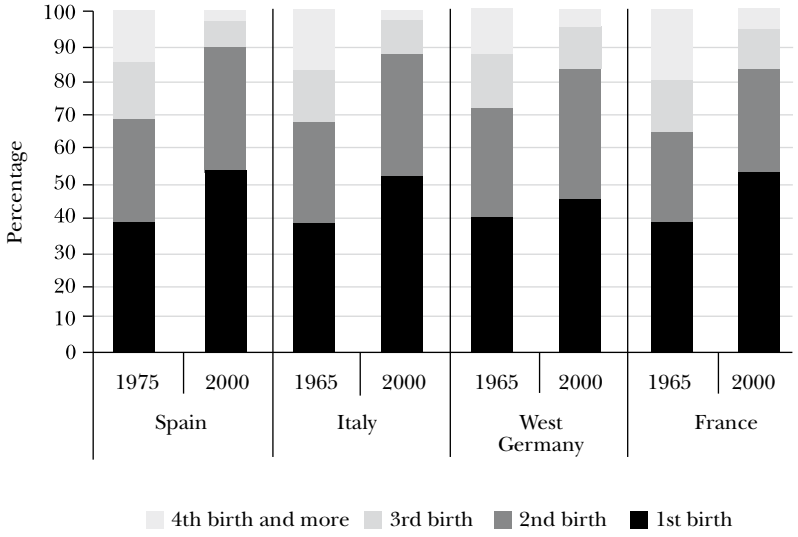


Source: Eurostat 2004; Dorbritz 2001 and Toulemon (2001) for German and French data from the 1960s.

As a result of the aforementioned changes in fertility behaviour, families today look very different as far as the prevalence of different birth orders is concerned. This is illustrated in figure 1.4, which compares the proportion of live births by birth order from a cross-sectional perspective at two points in time, which reflect different demographic behaviours: i) a contemporary high fertility regime (just before fertility decline began in the mid-1960s in France, West Germany and Italy and some years later in the mid-1970s in Spain); and ii) a contemporary low fertility regime. These figures point up the increasing weight of first births as opposed to fourth or higher order births. Interestingly enough, the country with the lowest increase in one-child families between these two points in time is West Germany, a country with the highest prevalence of childlessness in Western Europe. This suggests a polarisation trend in West Germany between women not having children at all and women engaging in family life (Roloff and Dorbritz 1999). The proportion of women having a second child changed from 32% in 1965 to 38% in 2000, whereas the proportion having a third child between these same years changed from 15% to 12% (see figure 1.4). All these figures pose many questions; in particular, why more women are not engaging in motherhood at all in these apparently affluent

western economies, especially in countries such as West Germany. Some explanations for such changes in fertility behaviour are discussed in the next section.

FIGURE 1.4: Proportion of live births by birth order in 1975 and 2000



Note: Italy: data for 1995. For West Germany and France, birth order of present marriage.
Source: Eurostat 2004.

1.2.1. The increasing prevalence of childlessness

Childlessness has been studied since the 1970s when fertility was already in a declining trend in most western countries. At that time most researchers were not interested in childlessness per se but in the incidence of different types of childlessness. Toulemon (1995), for instance, even distinguishes three categories of childlessness: individuals who have never lived in a couple, couples with fecundity problems and couples not wanting to have children. Prioux (1993) uses the term infertility, defining it as the proportion of women or the proportion of couples that arrive at the end of their fecund life without having given birth to a child. She does not distinguish between voluntary and involuntary

infertility. The distinction between voluntary and involuntary childlessness is rather difficult to establish, and depends to a great extent on motivations and expectations. Voluntary childless are often defined as individuals who do not have children, who do not want to have children in the future and whose childlessness is a result of intention and choice (Houseknecht 1987). The term involuntary childless is, instead, applied to individuals who have fecundity problems and end their fertile lives without children. This *primary sterility* is estimated to affect on average 3% of married couples in Europe (Coleman 1996). The reasons for sterility are manifold; they may have a physiological or a psychological origin or may be related to an unhealthy way of life (alcoholism, etc.) (Ruiz-Salguero 2001).

The distinction between involuntary and voluntary childlessness is problematic for several reasons. First, individuals who expect to have children do not (yet) know if they will be able to have them. This problem increases with the current postponement of the decision to conceive a child. What may be voluntary childlessness at the beginning may become involuntary infecundity when a couple starts trying to conceive a child without success (Poston and Trent 1982; Toulemon 1995; Morgan 1991; Beets 1996). According to Toulemon (1995), 20% of women who try to conceive their child at age 35 do not succeed against 12% at age 30, 8% at age 25 and 4% at age 20. This is one of the reasons why some researchers stress the difficulties of separating involuntary from voluntary childlessness (Mosher and Bachrach 1982). This postponed involuntary infertility has been interpreted as a cautious behaviour when confronted with financial or family uncertainties, which lead couples to wait before becoming parents (McDonald 2000).

Second, individuals do change their mind and expectations quite frequently, so voluntarily childless people can easily change into the category of mothers or women who want to have children (Houseknecht 1987; Abma and Peterson 1995). The problem of a possible change of intentions over time leads some researchers to distinguish permanent from temporary childlessness, and early articulators from postponers. Some people delay voluntarily childbearing for a long time, but finally end up hav-

ing children (postponers). Other people express the intention to remain childless relatively early in life (early articulators) and do not change it afterwards (Houseknecht 1987; Heaton et al. 1999). McAllister and Clarke (1998) show in a qualitative study that few couples make an irrevocable choice at the beginning of their lives. Weston and Qu (2001) did a study on individuals who participated in identical surveys in 1981 and 1996 (only 58% of those first interviewed could be traced the second time), and they arrived at a similar conclusion: of those who had said that they did not to want to have children, nearly half of them had already had children or said that they wanted children at the second interview.

In addition, it is even more difficult to know if the current childlessness of a couple is the result of an early decision which has not been changed or is due to the postponement of the decision. Also, their current situation may affect a couple's discourse, causing them to justify their conduct ex post by stating that they did not want to have children. For all these reasons, demographers normally use the concept of childlessness for women at the end of their fecund life, typically established at age 45 to 49, although this does not solve the problem of separating voluntary childlessness form all other categories. If researchers want to capture this group, they need to have longitudinal data for women who have finished their reproductive life, and information on the evolution of their intentions about having children since the beginning of their fecund life. Such data, however, are seldom available (Heaton et al. 1999).

Research on childlessness has followed different paths. The historical study of childlessness is closely related to the analysis of marriage and family formation patterns, since people who did not marry or married late were assumed not to have children (Hajnal 1965; Veever 1971). Many studies have concentrated on the progression of sterility with women's age (James 1979; Bongaarts 1982; Menken 1985; Beets 1996) and other associated factors (Zavos 1989; Gange 2000; Howe et al. 1985). The spread of contraceptive methods together with the growing literature on individualism and women's claims for equality have also generated further interest in voluntary fertility within couples, and the

reasons associated with the increase in childlessness (Campbell 1985; Veever 1980, Frinking 1988).

A study in the U.S. with data from 1988 showed that out of ever-married individuals 17.8% were childless. Of this group, 6.5% did not expect to have children (4.1% of them were voluntarily and 2.4% involuntarily), and 11.3% expected at least one child (temporarily childless) in the near future (Abma and Peterson 1995). According to a multivariate analysis with the same data (married women aged 15 to 44 excluding involuntarily childless), temporarily childless women significantly differed from voluntarily childless women in four main aspects: the frequency of attendance at religious service, the poverty level of the family, employment status and experience of marital disruption. Thus, lower family income levels were associated with lower likelihood of voluntary childlessness, whereas being employed, having experienced marital disruption and not frequently attending religious services were more likely associated with voluntarily childlessness. According to the authors, these findings support the idea that "an opportunity cost framework is appropriate for helping understand voluntary childlessness, as it is chosen by those who have the most sacrifice by having children (in terms of career and income)". This study shows that voluntarily childless women and temporarily childless differ in essential socio-economic aspects such as working and income status. The childlessness of the former may be interpreted as the result of relatively high opportunity costs, while the childlessness of the latter seems to be related to the high direct costs children represent for them. Thus, it is important to be aware of the two different types of reasons that may lead to childlessness. Since the institutional context of the United States is very different from most Western European institutional contexts, it is important to report some results of European studies on childlessness.

In a study on West German women born in 1960, Dorbritz (1999) found that childless women were especially concentrated among middle-income households, as compared to women with children who tend to be concentrated more at the lower end of the income distribution. With respect to level of education, women with third level education were more often childless than

women with lower levels of education. In addition, women who worked full-time were more often childless than women who did not work or who were in part-time employment. Dorbritz also analysed the reasons for not having a child among women aged 30–39. Frequent answers were the absence of an adequate partner, difficulties reconciling family and paid work, and material and non-family orientations. Finally, a survey conducted in five Italian towns with a sample of 859 childless women aged 40–44, revealed that 37% of childless women had never been married or cohabited, and that they were concentrated among religiously non-observant women. The study also revealed that those who had experienced marital disruption were more likely to be among the voluntarily childless than postponers, and women living in cohabitation plus those with a sibling, compared to others with two or more siblings, were also more likely to be voluntarily childless (Livi-Bacci et al. 2003).

The studies discussed above provide evidence that childlessness can result from very different processes, such as not finding the right partner and rejecting lone motherhood, postponing motherhood and then experiencing fecundity problems, or eventually disregarding motherhood as a free choice in a relatively constraint-free context or as a constrained choice in a context in which children appear to be an unattractive decision. Childless women may also be a heterogeneous group with a wide range of motivations from which the decision not to have children arises. The survey used in this research does not capture motivations around motherhood. We can only attempt to identify the effect of some socioeconomic disadvantages or country-specific constraints on the decision to have a child as opposed to remaining childless. What are the main problems or constraints a young-adult and childless woman may face in contemporary Europe? This is the topic for discussion in our next section.

1.2.2. Decisions around motherhood: do women face constraint-free choices?

The progressive postponement of motherhood, the reduction in higher birth orders and the increase in the proportion of

women and men who will never experience motherhood/parenthood partly reflect new values concerning the family. However, some of these patterns are also interpreted as the result of constrained or unintended choices. This, at least, is reflected in several studies which show that the desired number of children is far from the levels really attained by many Western European women (Bernardi 2005; Van Peer 2000; Jurado 2005). The key issue then is why individuals, and women in particular, are unable to achieve their fertility desires. Let us briefly summarise some of the explanations which appear to be particularly relevant for understanding this question.

A recurrent explanation is related to the fact that women have to adjust their family life in order to handle their employment obligations. These adjustments may produce the postponement of family formation especially among highly educated women (Oppenheimer 1988); such postponement being a new feature of the *second demographic transition* (Lesthaeghe 1995 and Van de Kaa 1987, 1988). The institutional national context is also held responsible for facilitating different strategies of family formation and family and paid work reconciliation and, consequently, influencing demographic behaviour (Garrido and Malo 2005; McDonald 2000; Pinelli et al. 2001). By national institutional context we mean the structures that support the combination of paid work and unpaid work. Parents can be supported in their childrearing labours by the provision of time (i.e., maternity leave, paternity leave, parental leave, care leave, career breaks and flexible working time patterns), money (i.e., family allowance, housing allowances, social security, social assistance, tax allowances) and services (i.e., nursery places for small children, schooling and after school services), which are to hand in different degrees across Western European countries (Bettio and Plantenga 2004).

Social scientists from the New Home Economics school would also argue that the explanation for low fertility behaviour can be found in the increase in both female labour force participation and wages, which push up the opportunity costs of having children (Becker 1993; Pollack 1985). However, most studies reveal that the reduction in fertility levels has taken place across all

educational categories. Empirical studies have shown that further educational enrolment has caused a delay in family formation among higher educated women in countries such as Germany, but also a delay and lower fertility rates in countries like Italy or Spain (Blossfeld et al. 1996).

Increasing uncertainty is also blamed for current demographic and childbearing behaviour. The idea is that individuals feel less confident about making long-term commitments such as marriage and motherhood/parenthood (Kohler, Billari and Ortega 2002; Nazio and Blossfeld 2003; Simó et al. 2000, 2001). This uncertainty, however, may be mediated by institutional contexts. As argued by Schmid (2000) and Blossfeld et al. (2005), institutions can favour *secure transitions* in a context of growing labour force deregulation.

In our view there is some truth in all of the aforementioned explanations. However, we still lack a more holistic explanation able to encompass current micro and macro level theories on fertility decisions. Furthermore, we also lack explanations that emphasise the longitudinal dimension of family formation and childbearing. We attempt to take on board some of these elements by proposing the notion of a *Minimum Set of Conditions for Motherhood.*

It is clear that as women's economic and social situation improves, the conditions and expectations around motherhood also change. Women in affluent western countries have many more options than ever before. However, women have also attained higher expectations for self-fulfilment in all spheres of life, and it is not easy to accommodate ideals of fertility within demanding educational and employment careers. In affluent societies, women may have sufficient economic resources in relative terms to have children, but encounter many other difficulties in finding a partner and establishing an independent household, or in attaining a standard of life which allows them to guarantee a minimum quality of life for themselves and their child/ren or to enjoy the time flexibility to combine motherhood and paid work. There is thus a minimum set of conditions which will favour or facilitate decisions about motherhood.

Figures 1.5 and 1.6 illustrate this notion of *Minimum Set of Conditions for Motherhood.* At the macro level, the national insti-

tutional context shapes the transition into parenthood through three different channels: labour market regulation, housing policies and support for combining care and paid work. These three macro-level factors are important, because we assume at the micro-level that there are three conditions that have to be fulfilled in order to make the transition to the first child. It has to be clarified that these conditions for motherhood are thought to explain childbearing within partnerships, since most children are born within marital or consensual unions. According to FFS results, the percentages of women not living in any partnership at first live birth were 3.6% in Spain, 5% in Italy, 9% in France and 9% in West Germany.[2]

At the micro level, individuals have first to find employment or to rely on private/public income transfer to leave the parental home and establish an independent dwelling.[3] Second, individuals have to find a partner and make the transition to marriage or cohabitation. Third, they also need to find a place to live together, which in some countries is a transition that goes hand in hand with union formation, as is often the case in Southern Europe, but in other countries frequently precedes it (Garrido and Requena 1996; González 2001; Jurado 2002). Fourth, at least one member of the couple has to achieve some job or income stability, a minimum income and some time and time flexibility to be able to care for a child. The latter may be substituted by buying external services. If these four conditions are met, individuals may perceive that they have attained the necessary conditions to make the transition to parenthood. Furthermore, in the family policy context, people's perceptions about state support towards combining family and paid work will influence how they see the opportunity costs of a first child. Also, direct child costs are influenced by the generosity of the welfare state's child allowances and tax deductions for children and childcare expenses.

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[2] Data obtained from the Population Activities Unit (PAU) of the United Nations Economic Commission for Europe (UNECE) (www.unece.org/ead/pau/ffs).

[3] The sequence of transitions into adulthood is not the same for all individuals, and there are also important national differences. This model, however, can be seen as an ideal type in the Weberian sense.

FIGURE 1.5: The macro-micro dimensions explaining childlessness

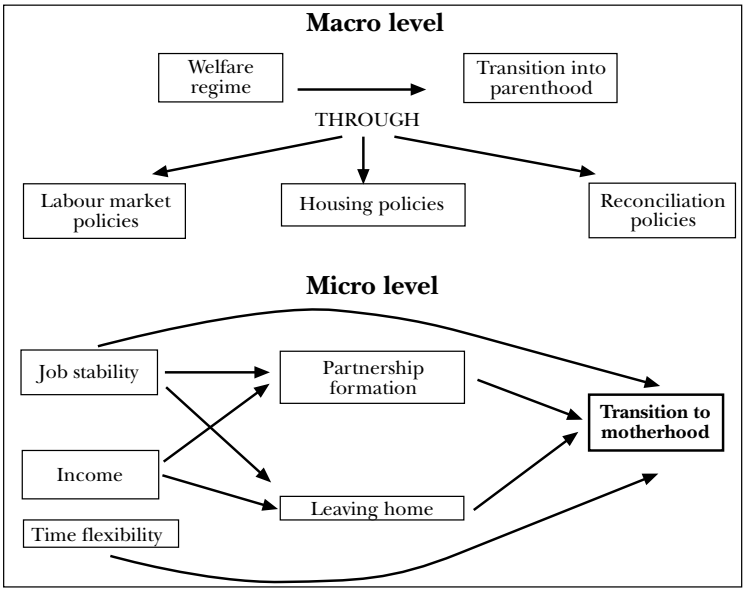
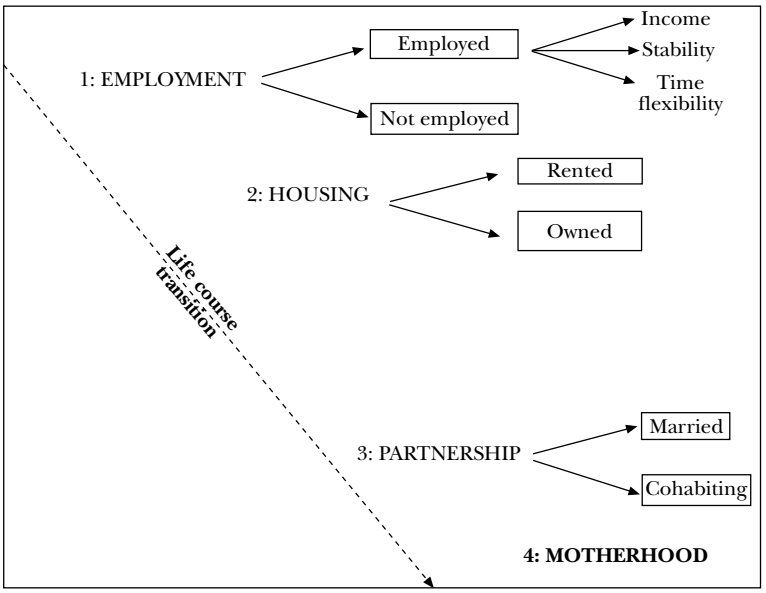


FIGURE 1.6: Determinants of the transitions towards motherhood



What are the consequences of this perspective for explaining decisions around motherhood? We pose three micro-level hypotheses for women:

1. Women with higher educational levels and women with relatively high income will be less likely to exit childlessness due to higher opportunity costs *(opportunity costs hypothesis)*.
2. Women with unstable employment relations will be more likely to postpone or forgo motherhood than women with better employment conditions *(uncertainty hypothesis)*.
3. Women in partnerships will be more likely to exit childlessness, if they are in a male-breadwinner couple, since this living arrangement prevents family-work reconciliation problems *(reconciliation problem hypothesis)*.

At the macro level we posit the following hypotheses:

1. In national institutional contexts characterised by comparatively high female unemployment rates, high rates of home-ownership, low services for working women and poor family subsidies, women in uncertain job positions and women with low to medium income levels will be less likely to exit childlessness due to the burden of high *direct costs* of a child and due to a lack of assured income stability. A way to escape these problems will frequently be the entry into a male-breadwinner partnership as a condition for having a child.
2. In national institutional contexts with relatively high female employment rates, relatively high rates of rented housing, generous family benefits and services for working women, it is more likely that women will become mothers, due to the relatively low direct and opportunity costs of children. The entrance into a male-breadwinner couple will not constitute an advantage for exiting childlessness compared to a *dual-earner couple*.
3. In national institutional contexts with relatively high female employment rates, relatively high rates of rented housing, generous parental leave benefits, but a relatively scarce

supply of public services for mothers, it is more likely that women will have to choose between a professional and a family career due to high opportunity costs. The entrance into a *male-breadwinner couple* will constitute an advantage for exiting childlessness compared to a dual-earner couple due to the difficulties of combining paid and unpaid work.

The influence of national institutional contexts on women's childbearing behaviour is far more complex than in the three above-posited ideas. The aim of the empirical research that follows in the next section is to test whether there are specific national institutional contexts or specific constraints (e.g., economic uncertainty) influencing motherhood decisions. To this end, we have chosen four countries which represent the three different institutional contexts listed above. The first context is represented by Spain and Italy, the second by France and the third by Germany, as argued in the following section. We then go on to describe the comparative research design, data and methodology.

1.3. Empirical analysis of the transition to the first child

This section has been divided into three parts. The aim of the first part is to describe the rationale of the comparative analysis and the countries selected. We provide some descriptive statistics on the sub-sample selected. The aim of the second part is to explain the main characteristics of the survey and the method chosen to overcome some of the problems posed by demographic analysis with panel data. Finally, the third part introduces the main findings.

1.3.1. The comparative analysis

The comparative analysis follows two steps. On the one hand, we explore the factors associated with the higher likelihood to leave childlessness within a hypothetical European context where dummy variables control for country differences. If we remove or reduce the country effects, we can argue for common

European trends in women's labour force or economic situation affecting decisions around motherhood. On the other hand, we explore the extent to which different variables have country-specific effects on the decision to have a first child or to abandon the situation of childlessness.

As for the sample of countries, we have selected four different national institutional contexts and demographic behaviour patterns. As shown above in figure 1.5, we assume that fertility is influenced by the national welfare regime institutions; that is, primarily by labour market, housing and family policies. We have chosen two countries, France and Germany, which belong to the Conservative Welfare Regime group and thus share a similar institutional context, but which belong to different groups with respect to family policies. France belongs to the group of French-speaking countries that were the pioneers of family policy in Europe and combine traditional and progressive policy elements. Germany belongs to the group of German-speaking countries with less developed and more conservative policy features (Bahle and Pfenning 2000; Fagnani 2002). French family policy strongly supports the dual-earner family through a wide array of policies that help to combine paid and family work, such as generous public childcare services, allowances to reduce the costs of childcare, parental leave and childrearing benefits (Fine-Davis et al. 2004). In contrast, the German welfare state supports the traditional division of work in the family through, e.g. generous parental leave measures, while childcare services for children under age three are very scarce (Naldini and Jurado 2006; Kurz 2005). Thus, France and Germany are similar in many welfare state features—for instance they have a large sector of social housing, housing allowances and a large proportion of rented dwellings—but they differ in their family policy orientations and in the incidence of childlessness.

Italy and Spain display strong cash-transfer and corporatist core-worker-oriented welfare states, where public transfers are directed mainly at the old, and where universal child and housing allowances do not exist. No explicit family policy exists, and public expenditure on families with children is very low. In addition, the offer of childcare services for children

under age three is relatively low, although parental leave in Italy is comparatively generous with respect to Spain (Naldini and Jurado 2006). Compared to France and Germany, in Italy and Spain social housing is scarce, housing allowances do not exist and the rate of rented accommodation is very low (Trilla 2001; Allen et al. 2004). Given that the costs of buying a home might be especially burdensome for young households, housing policies are relevant to understand differences in family formation processes, such as the timing and the form of first partnerships in an independent dwelling (Jurado 2002). These welfare state contexts are not supportive of early childbearing or of large final fertility.

Labour markets also vary, even if all four countries are known for their *closed employment relations,* whose consequences are high rates of insecure jobs (fixed-term and part-time contracts, etc.) for youth and women and many difficulties for young people entering the labour market (Mills and Blossfeld 2005). Within these generally increasing difficulties for young people's transition into a stable job with an adequate income in all four countries, some cross-national differences exist. For instance, Germany shows low rates of fixed-term contracts and, in general, comparatively low youth unemployment rates in the period of this analysis (only 6.3% of women aged 25 to 29 were unemployed in 2001 according to Eurostat 2005). The unemployment rates for women aged 25 to 29 were 16.9% in Spain, 18.6% in Italy and 13.1% in France (Eurostat 2005). In addition, fixed-term contracts have a major impact in Spain, where in 2001 as many as 42.9% of women aged 15 to 39 had a fixed-term contract as compared to 19.5% in Germany, 15% in Italy and 23.6% in France in the same age group (Eurostat 2005). Thus, with respect to labour market barriers to the transition into adulthood, Germany seems to display the lowest of the four countries.

Concerning demographic behaviour, the countries selected exhibit relevant differences in fertility behaviour (see section 1.2) and prevalence of childlessness. Table 1.1 reports the proportion of childlessness for women aged 40–41 which stems from the first wave of the ECHP. This birth cohort, born in the

mid-1950s, is not yet representative of the low fertility levels later reached by women born in the early 1960s, but this is the oldest cohort which had reached the end of their reproductive life by the mid-1990s, when the first wave of the ECHP was conducted. The levels of childlessness by country seem to go in the same direction as the patterns arising from register data (see figure 1.3). In addition, for this birth cohort childlessness is positively correlated with educational level, and is particularly high among women with a tertiary education level in West Germany.

TABLE 1.1: **Percentage of childless women aged 40–41 (birth cohort 1953–1954): Italy, Spain, France and West Germany, 1994**

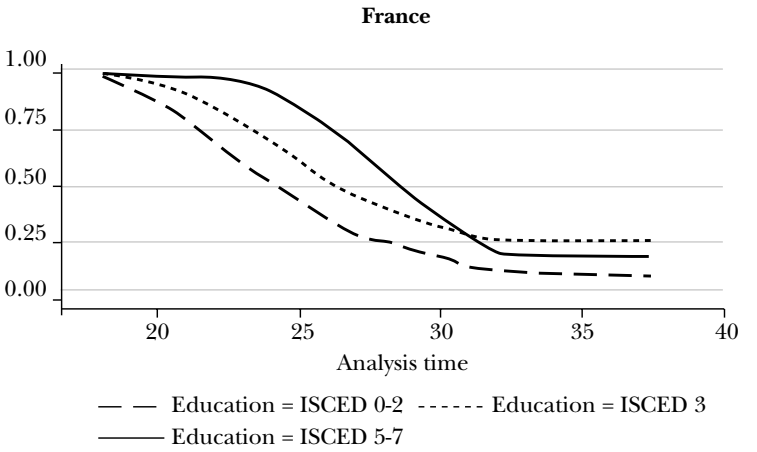
	Childless women by educational level			
	Childless	**Less than secondary**	**Secondary**	**Tertiary**
Italy	8.2	6.3	8.9	13.9
France	8.8	10.2	12.0	18.3
Spain	11.6	4.5	12.2	20.9
West Germany	18.9	9.0	14.6	43.6

Source: 1st wave ECHP; weighted data.

Not only does the intensity of fertility vary across these four countries, but also the timing of having a first child, as shown by figure 1.7. In France, half of the women born in 1963–68 exited childlessness before age 30 irrespective of their education level, while in West Germany, Spain and Italy only women with low and medium education levels did so. This is confirmed by studies based on the Family and Fertility Surveys of the 1990s, which show that among the early 1960s birth cohorts, French women recorded the lowest median ages at the transition to first birth. These French women also, on average, left their parental home

and entered a first union before their German, Italian and Spanish counterparts (Corijn and Klijzing 2001).

FIGURE 1.7: **Kaplan-Meyer estimates of not giving birth by educational attainment: cohort born in 1963–68 (aged 33–38 in 2001) in France, Italy, Spain and West Germany**



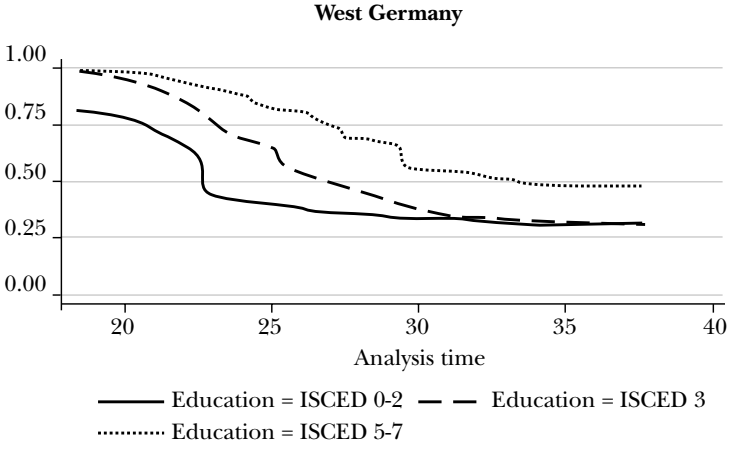
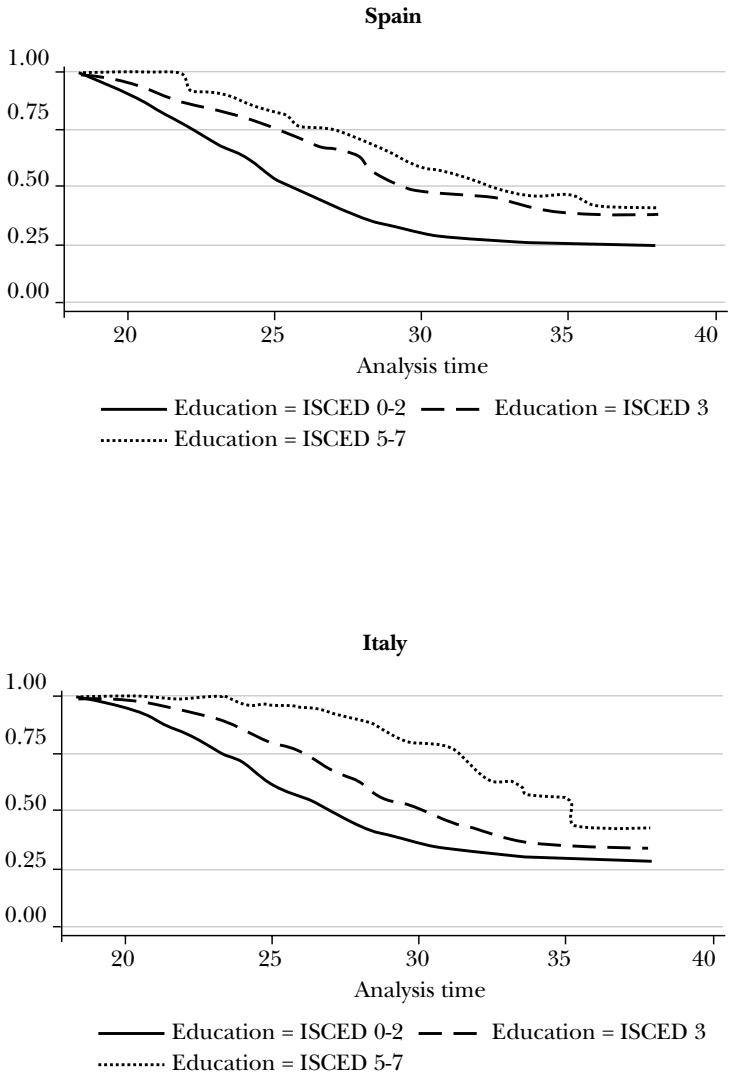


FIGURE 1.7 *(cont.):* **Kaplan-Meyer estimates of not giving birth by educational attainment: cohort born in 1963–68 (aged 33–38 in 2001) in France, Italy, Spain and West Germany**



Source: Own calculations based on ECHP (8 waves).

Figure 1.7 also illustrates the time from age 18 until first birth for a younger cohort, women born in 1963–68, according to educational level by the Kaplan-Meier estimator. The curves show the proportion of women, according to age, who are still childless. In West Germany the curve for highly educated women (ISCED 5-7; thinner dotted line) stands out: they are the least likely to have a child in comparison to highly educated women in the other countries. By contrast, the curve for highly educated women in France lies at the lowest level of all countries. Highly educated French women record even lower levels of childlessness than their medium-educated counterparts (ISCED 5-7; thinner dotted line). Apart from this French distinctiveness, among the younger cohort the proportion of childlessness seems to increase with education. It should be noted, however, that figure 1.7 relies on data from a relatively young birth cohort (women born in 1963–68 aged 33–38 in 2001) and does not control for other relevant socioeconomic variables which may eventually influence motherhood decisions. A multivariate methodology is needed to take the analysis further, as we will go on to discuss.

To sum up, with respect to demographic behaviour—timing of first birth and other family transitions—French women born in the 1960s clearly differ from their counterparts in Germany, Italy and Spain. In the light of the aforementioned institutional contexts, variations in demographic behaviour across these four countries correlate best with features of the different family policy packages and their related perceptions of public support for the reconciliation of family and paid work, but multivariate individual analysis will have to confirm this distinctiveness.

1.4. Data and methodology

This research is based on the European Community Household Panel (ECHP). ECHP data on fertility are available from two sources: cross-sectional data of the household structure from which children living in the household can be identified (newly born children are automatically included as a part of the survey population), and retrospective data consisting of one question

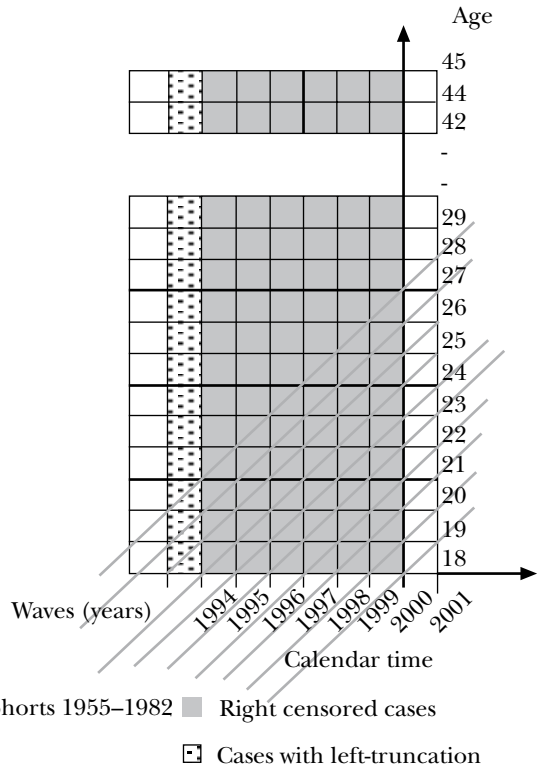
included in the 1st wave on whether women have *had or adopted any children, apart from children living in this household* in which case they were asked to give the dates of birth. We have combined these two sources of information. The sample selected consists of women born between 1955 and 1982. We have, on the one hand, childless women aged 18–39 identified in the first wave (1994) using retrospective information and, on the other hand, new cases of childless women in the same age group (18–39) entering subsequent waves and for which cross-sectional information on the household structure is available. For the new cases added (2nd and above), we assume that these women did not have a child before.[4] The event of interest is not fixed at the children's date of birth but the year before (pregnancy), in order to capture the socioeconomic and family conditions that may have determined the decision to have a baby. Therefore the last wave has been omitted. We have not considered cases of women with adopted children, if the child was either the only one or the first, given that the relationship between events (women's socioeconomic situation, child's birth date and adoption time) might be confusing. We use an unbalanced panel with the eight waves available (for a further description of the events, see appendix).

A lexis diagram has been represented to depict the *prospective* analysis conducted with our sample population: childless women observed from 1994 onwards (see figure 1.8). The diagram shows three dimensions of the sample analysed: time period (1994–2000), cohort (women born 1955 and 1982) and age (18

[4] In studying childlessness, one has to choose to analyse final or current childlessness. We have decided to study relatively young women and their *current* childlessness against women at the end of their reproductive life and their final childlessness for one main reason. Final childlessness can be observed for women aged 45 or more in 2000, that is aged 39 or more in 1994 at the beginning of the observation period. These are women of the 1955 birth cohort or earlier. This is interesting as a historic study, but our aim is to study the more recent increase in childlessness, since we are interested in the effects of the new opportunity costs of having childen relative to education expansion, changing female employment patterns and the effects of growing employment insecurity since the 1980s. Thus, the selected sample provides the possibility of studying the delay of motherhood and thus to understand the factors that increase the risk of finally remaining childless. The reader interested in an approximation of differential final fertility in these four countries (cohorts 1955–1964) and its relation with education expansion and education levels can refer to Jurado (2006).

the youngest age to be in the sample and 39 the oldest to remain in the sample).

FIGURE 1.8: A three-dimensional space of the sample selected from the ECHP data: time period (snapshots or cross-sectional observations), birth cohorts and age (longitudinal observations)



As shown in figure 1.8, survey data in the first year of observation (1st wave) are particularly problematic, because some observations are left-truncated. Left-truncation refers to ignorance about the event of interest and about the covariates over a portion of the distribution. Left-truncation arises because some women in the sample became at risk of motherhood some time ago (see the number of drop-out cases in table 1.2). Therefore, problems may arise with the sample due to the non randomly

observed population (childless women), which in turn may lead to biased inferences about the outcome variable. The selection problem mainly occurs when data on the dependent variable are missing non-randomly, conditional on the independent variables. In our case, left-truncation would lead to an estimate of the likelihood of entering motherhood that is biased downward from the true regression line.

TABLE 1.2: Sample of childless women aged 18–39 at first wave (1994)

	France	Italy	Spain	West Germany
Left-truncated cases (♀ had a child before 1994)	1,690	1,666	1,720	1,163
Childless women	1,384	2,191	2,077	1,009

Source: Own calculations based on the first wave of the ECHP.

Potential problems of sample selection are dealt with by using a probit regression with Heckman selection (this type of model is fully reviewed by authors such as Winship and Mare 1992). This regression model consists of two equations: the first predicts whether a woman is likely to enter motherhood, and the second one predicts whether a woman is likely to be in the sample of childless or, in other words, the selection bias. The first one is a discrete time event history model with a probit specification that records respondents' risk of entering motherhood during the consequent waves. Figure 1.7 showed, for instance, that education implied a different timing and intensity of first birth. Therefore, we could presume that lower educated women had their child at younger ages and would be more likely to be over-represented among left-truncated observations in 1994.

The Heckman probit model consists of the outcome equation

$$y = v\beta + u_1,$$

and the selection equation (in both cases, dependent variables are binary: 1,0)

$$z\gamma + u_2 > 0,$$

where the following holds:

$$\begin{aligned} u_1 &\sim N(0,\sigma) \\ u_2 &\sim N(0, 1) \\ corr(u_1, u_2) &= \rho. \end{aligned} \qquad (1.1)$$

When $\rho = 0$ OLS, regression provides unbiased estimates; when $\rho \simeq 0$, the OLS estimates are biased.

The Heckman selection model allows us to use information from women who had children prior to the survey (1994), to improve the estimates of the parameters in the regression model. The Heckman selection model also provides consistent, asymptotically efficient estimates for all parameters in the model. In addition to the two equations, Heckman estimates rho: the correlation of the residuals in the two equations. If they are not correlated, then regression estimates are unbiased.

The probit model is defined as: $Pr(y = 1|X) = \Phi(X'\beta)$, where P is the probability; y is a dummy variable for the relative risk of having a first child; Φ is the cumulative function of the standard normal distribution; X is a vector of variables affecting women's propensity to have a first child; and β is a vector of unknown parameters. The interpretation of a probit coefficient, *b,* is that a one-unit increase in the predictor leads to an increase in the probit score of *b* standard deviations.

The dependent variable for the outcome equation is coded 0 if a woman is childless, coded 1 the year a woman is pregnant (one year lag vs. the childbirth date), while the rest of the observations are left as missing. The dependent variable for the selection equation is coded 1 if a woman is childless or has had a first child in a given year (sample of interest in the first equation) and 0 otherwise; therefore all of the missing values in the first equation are set to zero.

The explanatory variables included in the analyses are *age* (dummy variable which is meant to approximate to the non-

monolithic pattern of age dependence of the transition to the first child); *educational attainment* (time-varying categorical variable consisting of three large categories: less than secondary, second stage of secondary and third level education); *stability in the labour market measured by the duration of employment* (time-varying categorical variable that captures the relationship with the labour market and the time spent in the current job); *stability in the labour market measured by the type of contract* (time-varying categorical variable that captures the relationship with the labour market: long-term contract, fixed-term or casual, self-employed and other employees); *housing tenancy* (a dummy variable which reflects whether the dwelling is owned or rented); total *net personal income*[5] (time-varying categorical variable that controls for the quartiles of total net income in the previous year; it includes income from work (wage and salary earnings and self-employment earnings), other non-work private income (capital income, property/rental income and private transfers received) and pensions and other social transfers; *type of partnership* (time-varying categorical variable that combines the situation of women and their partners in the labour market according to the following status: employed, unemployed, and economically inactive); and *marital status* (dummy variable which capture whether women are married or in a consensual union).

1.5. Results of the multivariate analysis

This section analyses the sample bias of the data, compares the difference between a probit model and a probit with selection model, analyses the relative risks of having a first child within a hypothetical European territory (pooled data where country dummies are included in the models) and, finally, conducts individual analyses to test specific country effects on the transition to motherhood.

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[5] In order to make income comparable across countries and over time, income is expressed in 1990 terms using national consumer price indices, and cross-national differences in currency and price levels are normalized using the OECD purchasing power parity standards for the year of reference.

Firstly, the analysis of the sample bias has been conducted through descriptive statistics and a logistic regression analysis which tests the likelihood of being childless, being in the sample, in the first year of the survey (1994). The selection of the variables studied is very much based on theory about fertility behaviour. Thus, the likelihood of being childless in a given year for a group of women would very much depend on their age (the older the woman the less likely to be childless up to a certain ceiling), on their educational attainment (the highly educated may be over-represented in the sample of childless women) and on the fact of having formed a partnership. There may be other variable influencing selectivity effects, but these are the shift elements stemming from substantive theory.

TABLE 1.3: Coefficient estimates of logistic regression of being in the sample (childless women aged 18–39) in the first wave (1994) of the ECHP

	β	s.e.
Women's age:		
18–25	–	
26–32	–1.61 ***	0.083
33–39	–3.22 ***	0.092
Women's education:		
Low	–	
Medium	0.88 ***	0.079
Higher	1.33 ***	0.095
Edu. missing[a]	1.14 ***	0.244
Living with a partner[b]	–2.85 ***	0.077
Constant	2.79 ***	
Log pseudo-likelihood	–4,351	
Wald chi-square	2,703	
Number of obs.	12,594	

Notes: * Statistically significant at the 0.10 level; ** at the 0.05 level; *** at the 0.01 level.
[a] Most missing cases are people still at school, who were not assigned any value about highest educational level attained. [b] Reference category: not living with a partner.
s.e.: standard error. – Reference category.

The coefficients for the risk of being in the sample in 1994 according to the aforementioned variables are shown in table 1.3. The coefficients follow the expected pattern described above and confirm the need to control for the selection problem. Women who are not in a partnership and young women (aged 18 to 25 years) are over-represented among the childless population. In addition, they are also more often medium to highly educated. Then during their observation in the panel, women will be more prone to leave childlessness depending on age, education and country of residence. Since we conclude that the sample of women aged 18–39 who were childless when they entered the panel is biased, the above-discussed variables will be included in the equation that predicts selection into the sample.

Secondly, we have also tested the advantage of the Heckman probit selection model over an independent probit model (see table 1.4). We acknowledge the fact that "Heckman's method is no panacea for selection problems and, when its assumptions are not met, may yield misleading results" (Winship and Mare 1992: 342). The models in table 1.4 include only variables central to our theoretical argument in the pooled data models; namely, the fact that no matter whether we control for women's education and age, country characteristics (national institutional contexts) will make a difference in the relative risk that a woman will have a baby as opposed to remaining childless. Country dummies are indeed highly significant in both models: the probit with selection model and the ordinary probit model. However, the first model with sample selection provides high negative effects for the oldest age group of women (the standardized probit index for women in the 33 to 39 age category is, on average and *ceteris paribus,* –0.56 of a standard deviation lower than for women aged 18–25), while the ordinary probit model without sample selection provides positive and significant effects for the same age group. In addition, the interaction effect between women's age and educational attainment provides higher significant effects in the model with sample selection. This interaction arises because the effect of age differs depending on the level of the education. Thus, having compared both probit models, we proceed with the

TABLE 1.4: Results of a probit model with sample selection and an ordinary probit model

Heckman Sample Selection			Probit Model		
	β	**s.e.**		**β**	**s.e.**
Outcome equation: leaving childlessness					
Age: 18–25	–		Age: 18–25	–	
26–32	0.21***	0.048	26–32	0.66***	0.055
33–39	–0.56***	0.065	33–39	0.31***	0.081
Edu: Low	–		Edu: Low	–	
Medium	–0.22***	0.051	Medium	–0.24***	0.053
High	–0.11	0.079	High	–0.15*	0.080
Missing education	–0.47***	0.128	Missing education	–0.56***	0.130
Age 26–32 * Medium	0.30***	0.072	Age 26–32 * Medium	0.08	0.079
Age 26–32 * High	0.28***	0.093	Age 26–32 * High	0.01	0.098
Age 26–32 * missing	0.47*	0.240	Age 26–32 * missing	0.25	0.259
Age 33–39 * Medium	0.49***	0.104	Age 33–39 * Medium	0.23*	0.125
Age 33–39 * High	0.62***	0.118	Age 33–39 * High	0.27**	0.134
Age 33–39 * missing	0.90***	0.311	Age 33–39 * missing	0.52	0.366
France	–		France	–	
Italy	–0.19***	0.035	Italy	–0.30***	0.040
Spain	–0.24***	0.035	Spain	–0.36***	0.040
West Germany	–0.15***	0.051	West Germany	–0.19***	0.057
Constant	–1.93***	0.038	Constant	–1.82***	0.040
Selection equation: entering the childless sample					
Age: 18–25	–				
26–32	–0.86***	0.035			
33–39	–1.62***	0.042			
Edu.: Low	–				
Medium	0.44***	0.037			
High	0.63***	0.049			
Missing education	0.44***	0.103			
Living with a partner[a]	–1.82***	0.036			
Constant	1.75***	0.038			
Correlation (RHO)	0.02	0.020			–4,337
Number of obs.	72,329		Log pseudo-likelihood		1,534
			Wald chi-square		

TABLE 1.4 *(cont.):* **Results of a probit model with sample selection and an ordinary probit model**

Heckman Sample Selection			Probit Model		
	β	s.e.		β	s.e.
Selection equation: entering the childless sample					
Uncensored obs.	3,8852		Number of obs.:		38,852
LR test of indep. eqns. (H0: rho = 0), [Prob>chi2]	138	0.0000			

Note: Cluster on pid (personal identification number) has been used to adjust standard errors for intragroup correlation given that there are repeated person-year observations across the panel.
*Statistically significant at the 0.10 level; ** at the 0.05 level; *** at the 0.01 level.
– Reference category. [a] Reference category: not living with a partner.
Source: Own elaborations on European Community Household Panel [coefficients with longitudinal base weights of interviewed persons (variable: pg003)].

third section of the results of the multivariate analysis: models with pooled data.

1.5.1. The influence of national institutional contexts

Table 1.5 shows the probit model with sample selection for the four countries analysed including new variables about women's labour market and income characteristics. The models included in table 1.5 will shed more light on the conditions that women have to fulfil in order to make the transition to a first child during 1994 to 2000. First of all, models 1, 2 and 3 provide highly significant country effects which suggest the importance of the national institutional context to explain the transition to motherhood. French women in particular are more likely to exit childlessness compared to their counterparts in Italy, Spain and West Germany. Secondly, there is an interaction effect between age and education. As can be seen from figure 1.9, this interaction effect shows the different propensity to have a first child according to the stage in the women's life cycle and her educational attainment. The estimated

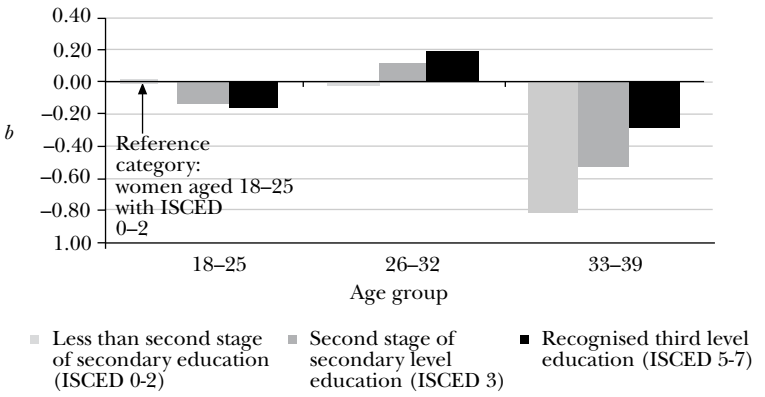
coefficient suggests that an increase in education raises the standardised probit index of having a first child at age 26 to 32 for medium- to high-educated women as compared to low-educated women aged 18–25 (reference category). At age 33 to 39, however, the standardised probit index for having a first child decreases, particularly, among low- to medium-educated women who have not had a child before. This means that a higher investment in education leads to a postponement in the transition to motherhood, and this increases the risk of ending up a childless woman. Can a given personal income level and job stability reduce this high risk of childlessness among highly educated women?

According to our first micro-level hypotheses, we would expect highly educated women to childless stay for a longer time, particularly if they experience employment instability and are on a low income. In fact, medium and highly educated women are more likely to postpone and to remain childless during the observation period, regardless of their age (model 1 and model 2). Yet the negative effect of a high education level disappears, if employment duration is taken into account (model 3). In addition, the postponement of motherhood among medium- to high-educated women, as indicated by the age-education interaction effect, diminishes somewhat once personal income level is controlled for (model 2). In the case of high-educated women, the postponement effect is even lower, if employment stability is the main independent variable. Both results show that the greater likelihood of postponement and childlessness of medium- to high-educated women is less marked among women in the higher income quartiles and with an employment duration of 3 to 6 years.

With respect to women's employment and income situation, it can be said that, regardless of age and educational level, women who are within the education system or with unstable employment relations (fixed-term contracts, a recent employment relation or unemployment) have a low propensity to have a first child (model 1 and model 3). Women in the two lowest income quartiles have more difficulties in exiting childlessness (model 2), which points to a cost effect of income instead of a

substitution effect of income from the New Home Economics perspective. However, this model also shows that economically inactive women (housewives) turn out to be more prone to have a first child than all other women, even those in a permanent job position. The latter is in line with Becker's idea of the importance of opportunity costs for having children (Becker 1993). To conclude, after controlling for differences in national institutional contexts represented by the four countries, some common *European* conditions to exit childlessness appear: being economically inactive (homemaking), having a permanent job, and having a longer-lasting job position together with a relatively high income all seem to favour motherhood. Thus medium-educated and medium-income women exhibit the greatest difficulties in making the transition to a first child in all countries.

FIGURE 1.9: Illustration of the interaction effect between educational attainment and age on the likelihood of having a first child



Note: All interactions are statistically significant (see table 1.5). Coefficients controlling for women's relation with the labour market in model 1.

This evidence entails the revision of the previously posed notion of a *minimum set of conditions* for motherhood. The results seem to indicate that there are two main strategies which facili-

tate the entry to motherhood. The first entails overcoming the reconciliation problem through the gender division of labour within the partnership: homemaking. This will also explain the higher propensity of low-educated women to enter motherhood even at an early stage, as shown in figure 1.9. The other stands more in line with the *minimum set of conditions,* since what mainly increases the chances of entering motherhood is a well paid and stable job.

Another important conclusion from table 1.5 is that the analysed individual level factors are not able to explain away country differences. French women have systematically higher chances of leaving childlessness than their Spanish, Italian or West German counterparts (all three country dummies have a negative significant effect as compared to France). This means that there is some evidence that the French institutional context is more favourable to motherhood. This may be related to variables not taken into account in our models, such as a greater and more women-friendly range of public services for mothers, more generous parental leave measures, shorter working hours or other features of the French national institutional context, such as more positive attitudes towards the employment of women with small children in France compared to West Germany and Italy (Fagnani 2004, Naldini and Jurado 2006). Another possible explanation might be that early partnership formation, a demographic event potentially affecting fertility behaviour, occurred more in France than in the other three countries at least for the cohorts born between 1956–1965 (Billari and Wilson 2001). The question then is whether these country singularities will remain in a sub-sample of women who are already living with a partner. Will French women still have similar higher risks of entering motherhood if we only take into account coupled women? And will all types of partnerships be equally encouraging of motherhood? These questions are explored in table 1.6 with a sub-sample of women living with a partner.

There are several reasons for restricting the sample to coupled women. One of the reasons is that most fertility still occurs within partnerships. Actually one of the factors that

drive childlessness is the fact of young-adult women not being in a partnership due to not having formed one or an earlier partnership breakdown. All the socioeconomic constraints that hinder having a first child, as seen before, may also hinder having a stable partnership, and once a women manages to form a couple, socioeconomic constraints may be less relevant, also because then she relies not only on her resources but also on her partner's.

In all three models reported in table 1.6 for coupled women, age and education are the most important factors behind motherhood. Women in a partnership and at the end of their fertile life have a high probability of exiting childlessness, if they have not had a child at younger ages. Interestingly enough, the negative education effects persist. This goes against the idea that a part of the problems that highly educated women face in becoming mothers are due to their greater difficulties in establishing and maintaining a stable partnership. One may argue that since education measures different things at once, education effects in these models may point to either opportunity or direct costs. However, this idea does not hold, since we control for personal income (model 2) and the effect does not completely disappear. What matters most for a women's transition to motherhood when she lives with a partner?

TABLE 1.5: Estimates of the probit model with sample selection: probability of having a first child for women aged 18–39 observed across 1994–2000

	Model 1		Model 2		Model 3	
	β	**s.e.**	**β**	**s.e.**	**β**	**s.e.**
Outcome equation: leaving childlessness						
Age: 18–25	–		–		–	
26–32	–0.02	0.050	–0.05	0.050	0.16***	0.050
33–39	–0.81***	0.069	–0.84***	0.069	–0.60***	0.068
Edu: Low	–		–		–	
Medium	–0.13**	0.054	–0.14**	0.054	–0.22***	0.052
High	–0.16*	0.080	–0.16**	0.081	–0.12	0.078
Edu. missing	–0.32**	0.135	–0.31**	0.135	–0.45***	0.128
Age 26–32 * Medium	0.27***	0.073	0.25***	0.074	0.29***	0.072
Age 26–32 * High	0.37***	0.094	0.34***	0.095	0.27***	0.093
Age 26–32 * missing	0.31	0.260	0.28	0.258	0.48**	0.238
Age 33–39 * Medium	0.42***	0.105	0.39***	0.102	0.48***	0.105
Age 33–39 * High	0.69***	0.121	0.65***	0.121	0.57***	0.119
Age 33–39 * missing	0.81***	0.310	0.70**	0.317	0.88***	0.326
France	–		–		–	
Italy	**–0.19*** **	**0.037**	**–0.22*** **	**0.039**	**–0.17*** **	**0.036**
Spain	**–0.21*** **	**0.037**	**–0.25*** **	**0.039**	**–0.21*** **	**0.036**
West Germany	**–0.16*** **	**0.053**	**–0.18*** **	**0.053**	**–0.18*** **	**0.052**
Permanent employment	–		–			
Contract unspecified	0.01	0.01	0.02	0.050		
Fixed-term / short-term / casual	–0.17***	–0.17	–0.11**	0.052		
self-employment	–0.03	–0.03	0.02	0.102		
In education	–0.84***	–0.84	–0.69***	0.080		
Unemployed	–0.19***	–0.19	–0.06	0.056		
Economically inactive	0.06	0.06	0.22***	0.056		
1st ♀'s income quartile			–			
2nd ♀'s income quartile			0.05	0.057		
3rd ♀'s income quartile			0.18***	0.051		
4th ♀'s income quartile			0.28***	0.062		

TABLE 1.5 *(cont.):* **Estimates of the probit model with sample selection: probability of having a first child for women aged 18–39 observed across 1994–2000**

	Model 1		Model 2		Model 3	
	β	s.e.	β	s.e.	β	s.e.
Outcome equation: leaving childlessness						
Economically inactive					–	
Unemployed					–0.04	–0.04
Employment duration: < 2 years					0.09**	0.09
Employment duration: 3–6 years					0.28***	0.28
Employment duration: > 7 years					0.12**	0.12
Self-employed					0.13	0.13
Constant	–1.67***	0.046	–1.83***	0.062	–1.99***	0.044
Selection equation: entering the childless sample						
Age: 18–25	–		–		–	
26–32	–0.86***	0.035	–0.86***	0.035	–0.86***	0.035
33–39	–1.63***	0.042	–1.63***	0.042	–1.62***	0.042
Edu: Low	–		–		–	
Medium	0.44***	0.037	0.44***	0.037	0.44***	0.037
High	0.63***	0.049	0.63***	0.049	0.63***	0.049
Edu. Missing	0.44***	0.101	0.44***	0.101	0.44***	0.102
Living with a partner	–1.82***	0.036	–1.82***	0.036	–1.82***	0.036
Constant	1.75***	0.037	1.75 ***	0.037	1.75***	0.038
Correlation (rho):	0.91	0.020	0.90	0.020	0.91	0.018
Number of obs.:	72,229		72,229		72,329	
Censored obs.:	33,477		33,477		33,477	
(H0: rho = 0), [Prob>chi2]	170	0.0000	182	0.0000	215	0.0000

Notes: * Statistically significant at the 0.10 level; ** at the 0.05 level; *** at the 0.01 level.
– Reference category.

TABLE 1.6: **Estimates of the probit model with sample selection: probability of having a first child for a sub-sample of women aged 18–39 living with a partner**

	Model 1		Model 2		Model 3	
	β	s.e.	β	s.e.	β	s.e.
Outcome equation: leaving childlessness						
Age: 18–25	–		–		–	
26–32	0.82***	0.82	0.80***	0.044	0.01	0.088
33–39	1.40***	1.40	1.36***	0.094	–0.60***	0.153
Edu: Low	–		–			
Medium	–0.42***	–0.42	–0.43***	0.047		
High	–0.57***	–0.57	–0.58***	0.057		
Edu. Missing	–0.47***	–0.47	–0.48***	0.140		
France	**–**		**–**		**–**	
Italy	**0.00**	**0.00**	**–0.03**	**0.021**	**–0.13***	**0.065**
Spain	**–0.01**	**–0.01**	**–0.03**	**0.025**	**–0.16****	**0.064**
West Germany	**–0.07*****	**–0.07**	**–0.09*****	**0.034**	**–0.36*****	**0.081**
Logarithm partners' net income			0.00	0.003		
1st ♀'s income quartile			–		–	
2nd ♀'s income quartile			–0.05*	0.030	–0.12	0.090
3rd ♀'s income quartile			0.01	0.019	0.11	0.079
4th ♀'s income quartile			0.03	0.023	0.21**	0.085
Dual-earner couple					–	
He employed & she inactive					0.18**	0.074
He employed & she unemployed					–0.05	0.078
She employed & he out of work					–0.18*	0.105
Other partnerships					–0.14	0.103
Tenant-subtenant, paying rent					–0.18***	0.054
Constant	0.27***	0.27	0.26***	0.052	–0.96***	0.117

TABLE 1.6 *(cont.):* **Estimates of the probit model with sample selection: probability of having a first child for a sub-sample of women aged 18–39 living with a partner**

	Model 1		Model 2		Model 3	
	β	**s.e.**	**β**	**s.e.**	**β**	**s.e.**
Selection equation: entering the childless sample						
Age: 18–25	–		–		–	
26–32	–0.88***	0.038	–0.88***	0.038	–0.88***	0.038
33–39	–1.60***	0.048	–1.60***	0.048	–1.60***	0.048
Edu: Low	–		–		–	
Medium	0.44***	0.043	0.44***	0.043	0.44***	0.044
High	0.63***	0.051	0.63***	0.051	0.63***	0.051
Edu. Missing	0.43***	0.130	0.43***	0.131	0.42***	0.133
Constant	–0.04	0.039	–0.04	0.039	–0.04	0.040
Correlation (rho)	–1.00	0.004	–0.99	0.011	0.17	0.129
Number of obs.:	37,659		37,659		37,654	
Censored obs.:	30,363		30,363		30,363	
(H0: rho = 0), [Prob>chi2]	20	0.0000	12	0.0006	1.63	0.2017

Notes: * Statistically significant at the 0.10 level; ** at the 0.05 level; *** at the 0.01 level.
– Reference category.

Model 3 shows that a woman is more likely to exit childlessness if she lives in a male-breadwinner couple (i.e., he employed, she full-time homemaker) as compared to a dual-earner couple, and regardless of her personal income. However, women with a high income are also more likely to become mothers. In addition, if the couple owns their home, women are also more likely to have a first child. The fact of a couple living in a rented dwelling decreases the standardised probit index (i.e., the propensity to have a first child) by –0.18 of a standard index. Thus, as before, the models in table 2.6 show that there are two main pathways to motherhood: to be in a male-breadwinner couple or to have a high personal income. The first confirms the reconciliation

problem hypothesis, while the second contradicts the opportunity costs hypothesis.

Another interesting result is the disappearance of most country effects in model 1 and model 2 in table 1.6, except for West Germany. This is in line with the aforementioned idea that national institutional contexts may differently affect the propensity to enter a stable partnership, although once a partnership is formed the relative risks of entering motherhood are not so different across countries. In Western European countries, the main policies influencing early home-leaving and partnership formation are the promotion of youth employment, scholarships and housing policies (Jurado 2001). The other idea is that women in partnerships will, sooner or later, become mothers despite differences in the national institutional contexts. Thus, some national institutional contexts influence transition to the first child, due to differences in policies affecting the timing of youth transitions into employment, housing and income. The significant West German effect may point to cultural differences, as shown by Fagnani (2000), which together with socioeconomic variables are responsible for a long tradition of high rates of childlessness, irrespective of partnership formation. The emergence of country differences in model 3 is due to the omission of education as an independent variable. In the following section, country models have been performed in order to better assess national differences between individual level patterns, since we have not been able to completely remove country effects.

1.5.2. Country specificities in incentives to motherhood

This is the fourth and last section of the empirical analysis. Here four different tables report the results of the countries analysed (tables 1.7–1.10). The first two models in each table include women both without partners and living in a partnership, whereas models 3 and 4 include only coupled women. Next, country-specific results are consecutively reported.

The results for Spain are illustrated in table 1.7. As expected, model 1 shows that fixed-term contracts and unemployment constitute important barriers to the transition to a first child in Spain compared to a permanent job and to a homemaker

position, and after controlling for personal income, while employment duration does not appear to have a significant effect. Contrary to the pooled model 3 in table 1.5, in model 2 in Spain, the negative effect of high education does not disappear if one controls for employment experience, while in France and West Germany high education also has no significant effect in model 2 (tables 1.8 and 1.10). In the Spanish case, education generally has a negative effect, even after controlling for socioeconomic variables. Only the inclusion of income within the analysis (model 1) decreases somewhat the effect of a medium level education compared to model 2.

As is well known, most fertility in Spain occurs within partnerships, thus all the aforementioned problems in becoming a mother may be mediated by partnership status. In Spain, the negative effect of education persists even for women in couples. Women's likelihood of becoming mothers when they have a partner increases if they are married, if they belong to the 4th income quartile or if they are housewives. This confirms our previous interpretation of the two routes to motherhood. The highest probability to exit childlessness is to be economically inactive or to belong to the highest income quartile; two different ways to cope with family-work reconciliation problems. Women who are not employed manage to have a child, probably because their partner earns a sufficiently high income, and women with a high income can externalise a great deal of unpaid work to the market in a welfare context of limited public policies for working mothers. It is worth noting that partners' income yields no significant effect on women's propensity to have a first child. To own one's dwelling and to be married instead of being in a consensual union seems to be another condition that facilitates exiting childlessness. Given the peculiarities of the Spanish housing market, and the delaying of marriages that ensues (Jurado 2003), both particularities explain the delay of first childbirth in this country.

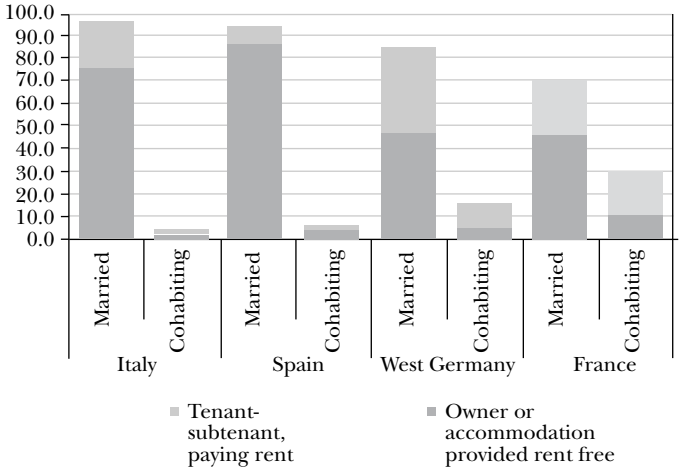
The results for France are illustrated in table 1.8. Contrary to the pooled model previously described (all countries included), and in particular contrast to the Spanish case, educational attainment has virtually no effect on the propensity to exit child-

lessness (see model 1 and model 2 in table 1.8). Instead, we find in model 1 a linear positive effect of income, which contradicts once more the opportunity costs of having children as one of the most important obstacles. As in all previous models, to be in education or to be unemployed makes it more difficult to exit childlessness, whereas fixed-term contracts do not show any effect compared to permanent employment. Employment duration has a significant effect, but there is only a slight difference between a short and a long duration, which indicates that in France it is more important to have a job versus being housewife, independently of job duration (model 2). The models of women in partnerships sustain this interpretation, since being a dual-earner couple or being in a couple where she is employed and he is unemployed is a more fruitful ground for motherhood than the breadwinner family model (model 4). The positive effect of income on the propensity to abandon childlessness which emerges in models 1 and 2 (all women), decreases and even disappears in models 3 and 4 (sample restricted to coupled women) while educational attainment becomes more significant. Thus, coupled women are more likely to become mothers if they have a low education, a high income or if they live in a dual-earner couple.

In France to be a housewife is not a condition that facilitates motherhood, as in Spain or Italy, where male-breadwinner couples represent a favourable background for exiting childlessness. Unlike in Spain, to be married or to be a homeowner is not so important for having a child. This is easy to understand given the larger diffusion of consensual unions, France's housing policies and the higher use of rented dwellings in France as compared to Italy or Spain. In addition, rentals and consensual unions are linked to one another, since French housing policy favours lets and thus, indirectly, consensual unions compared to Spanish housing policy (Jurado 2003). Figure 1.10 illustrates the proportion of women aged 18–39 in marriage and consensual unions who live in rented accommodation. Both France and West Germany show a higher prevalence of consensual unions and of rented dwellings than the southern countries (Italy and Spain). To sum up, the clue to the French particular-

ity seems to be that female employment favours motherhood more than being a housewife. The French family model is characterised by a high incidence of dual-earner couples in which women tend to work on a full-time basis (Franco and Winqvist 2002).

FIGURE 1.10: Women living with a partner (aged 18–39) by marital status and housing tenure: Italy, Spain, West Germany and France, 2000



Note: The two columns (married and cohabiting) make up the 100% of women living with a partner in each country for the age group 18-39. There were 4% cohabiting women in Italy, 6% in Spain, 15% in West Germany and 30% in France (cross-sectional weighted data for wave 7).
Source: ECHP.

The results for Italy are illustrated in table 1.9. Unlike in Spain and similarly to France, fixed-term contracts are not a barrier to the transition to a first child. Furthermore, unlike Spain and France, unemployment does not reduce the likelihood of becoming a mother. Instead, homemaking and unemployment seem to favours motherhood as compared to women with a permanent job position. In Italy we find a comparatively strong

income effect (model 1 and model 4 in table 1.9), as we also do in France. However, unlike in France and Spain, educational attainment does not seem to have any effect once women are living in partnership. With respect to the type of partnership, the male-breadwinner family model and one-earner couple consisting of a male employed and female unemployed, are the more likely sites to exit childlessness. Yet, similarly to Spain, there is a positive income effect which means that for employed women, to be above the first income quartile increases the likelihood of exiting childlessness. Just as in Spain, there are two different pathways to motherhood in Italy; either through the male breadwinner family or through economic and occupational stability. In both Italy and Spain, being in cohabitation inhibits motherhood and in Italy, unlike Spain, home ownership does not seem to influence motherhood. The non-significant effect on motherhood of living in a rented dwelling may be due to the endogenous effect of partnership formation and home acquisition in Italy, i.e., that very few women who are in partnership are living in a rented property.

Finally, the results for West Germany are illustrated in table 1.10. The results stand out for the small number of variables showing significant effects. The most striking fact is the non-significant effect of variables such as education and income. Despite the non-significant effect of education, the coefficients go in the same direction as in the other countries. We basically found in models 1 and 2 (see table 1.10) that unemployed women and women with 3 to 6 years of employment duration have a higher propensity to have a first child compared to women in a permanent job position and inactive women respectively, similar to the corresponding Italian models. To be in education shows a negative but non-significant effect. To be married and to be in a one-earner partnership (she unemployed and he employed) facilitate motherhood, as in Italy, while home ownership also has a positive effect, as in Spain.

The positive effect of unemployment must be interpreted in the German national institutional context. The relative generosity of the unemployment protection system may be an incentive to motherhood. As argued by Schmitt (2005), unemployment

and particularly long-term unemployment is positively correlated with the entry into motherhood because, on the one hand, unemployed women are eligible for maternity leave payments and childrearing leave transfers (means-tested flat rate) and, on the other hand, childcare services are limited and rather costly for families.

The lack of significance of many variables in West Germany has two possible explanations. The first explanation, the less interesting and perhaps more problematic, may be related to the small sample. Actually, many of the coefficients yielded non-significant coefficients despite the effects being in line with previous interpretations. This is the case, for instance, of educational attainment: the higher the educational level, the lower the chances of entering motherhood. The second explanation, far more interesting, is related to the polarisation of the West German women to which some references were made in the first part of the chapter. That is to say, there is a group of women, possibly concentrated among but not confined to the highly educated, who systematically reject motherhood, while another group of women engage in motherhood regardless of their occupational or family circumstances.[6]

[6] The German case has to be further investigated with other data. In any case, the selection equation of women who entered the sample of childless women in all models for Germany and the common *European* model shows that highly educated women in West Germany tend to postpone motherhood.

TABLE 1.7: Estimates of the probit model with sample selection: probability of having a first child for women aged 18–39: Spain

	All women aged 18–39				Women with a partner			
	Model 1		Model 2		Model 3		Model 4	
	β	s.e.	β	s.e.	β	s.e.	β	s.e.
Outcome equation: leaving childlessness								
Age: 18–25	–		–		–		–	
26–32	–0.02	0.093	0.19**	0.090	0.63***	0.204	0.09	0.122
33–39	–0.90***	0.133	–0.65***	0.118	0.87	0.542	–0.40*	0.213
Edu: Low	–		–		–			
Medium	–0.33**	0.132	–0.62***	0.128	–0.48***	0.152		
High	–0.52***	0.165	–0.53***	0.158	–0.62***	0.220		
Age 26–32 * Medium	0.42***	0.162	0.67***	0.163				
Age 26–32 * High	0.69***	0.186	0.68***	0.179				
Age 33–39 * Medium	0.91***	0.214	1.23***	0.209				
Age 33–39 * High	1.09***	0.230	1.07***	0.221				
Labour market situation:								
Permanent employment	–							
Contract unspecified	–0.13	0.113						
Fixed–term / short-term / casual	–0.25***	0.084						
Self-employed	0.09	0.117						
In education	–0.92***	0.143						
Unemployed	–0.19**	0.093						
Economically inactive	0.14	0.098						
Log. of partners' net income [a]					0.001	0.011		
1st ♀'s income quartile	–				–		–	
2nd ♀'s income quartile	–0.33**	0.142			–0.27	–0.27	–0.28	0.231
3rd ♀'s income quartile	0.00	0.077			–0.02	–0.02	0.06	0.137
4th ♀'s income quartile	0.22**	0.089			0.18*	0.18	0.34**	0.143
Duration in employment								
Economically inactive			–					
Unemployed			–0.16*	0.090				
Employment duration: < 2 years			–0.13	0.086				
Employment duration: 3–6 years			0.12	0.090				
Employment duration: > 7 years			0.08	0.085				
Self-employed			0.06	0.123				
Non-marital partnership					–0.58**	0.228		
Dual-earner couple							–	
He employed & she inactive							0.38***	0.143
He employed & she unemployed							–0.11	0.131
She employed & he out of work							–0.19	0.237
Other partnerships							0.06	0.192
Tenant-subtenant, paying rent							–0.21**	0.106
Constant	–1.91***	0.107	–2.07***	0.076	–0.20	0.470	–1.33***	0.171

TABLE 1.7 *(cont.):* **Estimates of the probit model with sample selection: probability of having a first child for women aged 18–39: Spain**

	All women aged 18–39				Women with a partner			
	Model 1		Model 2		Model 3		Model 4	
	β	s.e.	β	s.e.	β	s.e.	β	s.e.
Selection equation: entering the childless sample								
Age: 18–25	–		–		–		–	
26–32	–0.82***	0.074	–0.82***	0.075	–0.88***	0.086	–0.88***	0.086
33–39	–1.68***	0.086	–1.67***	0.086	–1.79***	0.106	–1.78***	0.106
Edu: Low	–		–		–		–	
Medium	0.59***	0.074	0.59***	0.074	0.58***	0.091	0.58***	0.092
High	0.83***	0.104	0.83***	0.105	0.89***	0.087	0.89***	0.087
Living with a partner	–2.02***	0.087	–2.02***	0.087				
Constant	1.86***	0.073	1.86***	0.073	–0.06	0.084	–0.06	0.084
Correlation (rho)	0.93	0.029	0.98	0.019	–0.69	0.311	0.23	0.144
Number of obs.:	19,930		19,932		9,286		9,282	
Censored obs.:	8,243		8,243		7,593		7,593	
(H0: rho = 0), [Prob>chi2]	57.37	0.0000	31.64	0.0000	2.03	0.1537	2.31	0.128

Notes: * Statistically significant at the 0.10 level; ** at the 0.05 level; *** at the 0.01 level. – Reference category. [a] Natural logarithm of annual net income.

TABLE 1.8: Estimates of the probit model with sample selection: probability of having a first child for women aged 18–39: France

	All women aged 18–39				Women with a partner			
	Model 1		Model 2		Model 3		Model 4	
	β	s.e.	β	s.e.	β	s.e.	β	s.e.
Outcome equation: leaving childlessness								
Age: 18–25	–		–		–		–	
26–32	–0.30***	0.086	–0.14*	0.086	0.75***	0.221	0.10	0.192
33–39	–1.33***	0.148	–1.11***	0.155	0.98**	0.498	–0.46	0.344
Edu: Low	–		–		–			
Medium	–0.10	0.090	–0.18**	0.085	–0.39***	0.109		
High	–0.04	0.107	0.00	0.103	–0.36***	0.132		
Edu. Missing	–0.38**	0.159	–0.50***	0.150	–0.54***	0.199		
Age 26–32 * Medium	0.19	0.135	0.27**	0.132				
Age 26–32 * High	0.30**	0.135	0.28**	0.130				
Age 26–32 * missing	0.08	0.432	0.47	0.344				
Age 33–39 * Medium	0.37*	0.215	0.45**	0.217				
Age 33–39 * High	0.86***	0.204	0.80***	0.206				
Age 33–39 * missing	0.84*	0.475	0.95**	0.460				

TABLE 1.8 *(cont.):* **Estimates of the probit model with sample selection: probability of having a first child for women aged 18–39: France**

	All women aged 18–39				Women with a partner			
	Model 1		Model 2		Model 3		Model 4	
	β	s.e.	β	s.e.	β	s.e.	β	s.e.
Outcome equation: leaving childlessness								
Labour market situation:								
Permanent employment	–							
Contract unspecified	0.05	0.071						
Fixed-term / short-term / casual	0.00	0.086						
Self-employed	–0.13	0.231						
In education	–0.88***	0.132						
Unemployed	–0.25***	0.083						
Economically inactive	0.00	0.101						
Log. of partners' net income [a]					0.01	0.015		
1st ♀'s income quartile	–				–		–	
2nd ♀'s income quartile	0.11	0.084			–0.04	0.087	–0.12	0.123
3rd ♀'s income quartile	0.18*	0.096			0.07	0.089	–0.02	0.128
4th ♀'s income quartile	0.28**	0.109			0.21*	0.110	0.14	0.145
Duration in employment:								
Economically inactive			–					
Unemployed			0.02	0.101				
Employment duration: < 2 years			0.44***	0.077				
Employment duration: 3–6 years			0.48***	0.092				
Employment duration: > 7 years			0.38***	0.097				
Self-employed			0.28	0.235				
Non-marital partnership					–0.35***	0.134		
Dual-earner couple							—	
He employed & she inactive							–0.23*	0.120
He employed & she unemployed							–0.38***	0.133
She employed & he out of work							–0.23	0.144
Other partnerships							–0.40***	0.151
Tenant-subtenant, paying rent							–0.04	0.080
Constant	–1.70***	0.096	–2.08***	0.068	–0.05	0.273	–0.94***	0.167
Selection equation: entering the childless sample								
Age: 18–25	–		–		–		–	
26–32	–1.13***	0.052	–1.13***	0.052	–1.17***	0.059	–1.17***	0.059
33–39	–1.95***	0.070	–1.94***	0.070	–1.96***	0.083	–1.95***	0.083
Edu: Low	–		–		–		–	
Medium	0.41***	0.070	0.41***	0.070	0.39***	0.083	0.39***	0.085
High	0.58***	0.069	0.59***	0.069	0.53***	0.080	0.53***	0.080
Edu. Missing	0.46***	0.121	0.47***	0.124	0.43***	0.165	0.43**	0.169
Living with a partner	–1.64***	0.056	–1.64***	0.056				
Constant	1.71***	0.060	1.71***	0.060	0.15**	0.062	0.15**	0.063

TABLE 1.8 *(cont.):* **Estimates of the probit model with sample selection: probability of having a first child for women aged 18–39: France**

	All women aged 18–39				Women with a partner			
	Model 1		Model 2		Model 3		Model 4	
	β	s.e.	β	s.e.	β	s.e.	β	s.e.
Correlation (rho)	0.95	0.041	0.95	0.042	–0.80	0.194	0.15	0.222
Number of obs.:	16,415		16,474		9,754		9,753	
Censored obs.:	8,839		8,839		7,835		7,835	
(H0: rho = 0), [Prob>chi2]	18.23	0.0003	19.17	0.0000	4.06	0.0439	0.44	0.506

Notes: * Statistically significant at the 0.10 level; ** at the 0.05 level; *** at the 0.01 level . – Reference category. [a] Natural logarithm of annual net income.

TABLE 1.9: Estimates of the probit model with sample selection: probability of having a first child for women aged 18–39: Italy

	All women aged 18–39				Women with a partner			
	Model 1		Model 2		Model 3		Model 4	
	β	s.e.	β	s.e.	β	s.e.	β	s.e.
Outcome equation: leaving childlessness								
Age: 18–25	–		–		–		–	
26–32	0.09	0.093	0.30***	0.094	–0.25*	0.142	–0.08	0.166
33–39	–0.52***	0.112	–0.29***	0.109	–0.92***	0.216	–0.65**	0.299
Edu: Low	–		–		–			
High	–0.09	0.103	–0.18*	0.100	0.08	0.103		
Edu. Missing	–0.87**	0.363	–0.83***	0.312				
Age 26–32 * High	0.25**	0.124	0.27**	0.122				
Age 26–32 * missing	1.06**	0.473	1.07**	0.443				
Age 33–39 * High	0.24	0.152	0.33**	0.152				
Age 33–39 * missing	–1.47***	0.387	–3.08***	0.363				
Labour market situation:								
Permanent employment	–							
Contract unspecified	0.01	0.094						
Fixed-term / short-term / casual	–0.17	0.118						
Self-employed	–0.05	0.106						
In education	–0.61***	0.148						
Unemployed	0.19*	0.100						
Economically inactive	0.51***	0.100						
Log. of partners' net income [a]					0.02*	0.011		

TABLE 1.9 *(cont.):* **Estimates of the probit model with sample selection: probability of having a first child for women aged 18–39: Italy**

	All women aged 18–39				Women with a partner			
	Model 1		Model 2		Model 3		Model 4	
	β	s.e.	β	s.e.	β	s.e.	β	s.e.
Outcome equation: leaving childlessness								
1st ♀'s income quartile	–		–		–		–	
2nd♀'s income quartile	0.16	0.176			0.32	0.292	0.54*	0.290
3rd ♀'s income quartile	0.42***	0.082			0.12	0.109	0.41***	0.135
4th ♀'s income quartile	0.55***	0.106			0.16	0.108	0.52***	0.153
Duration in employment								
Economically inactive			–					
Unemployed			–0.07	–0.07				
Employment duration: < 2 years			–0.05	–0.05				
Employment duration: 3–6 years			0.20**	0.20				
Employment duration: > 7 years			0.04	0.04				
Self-employed			–0.09	–0.09				
Non-marital partnership					–0.62**	0.243		
Dual-earner couple							–	
He employed & she inactive							0.52***	0.143
He employed & she unemployed							0.28*	0.147
She employed & he out of work							–0.35	0.290
Other partnerships							–0.08	0.268
Tenant-subtenant, paying rent							–0.14	0.102
Constant	–2.44***	0.108	–2.19***	0.076	–1.40***	0.299	–1.24***	0.316
Selection equation: entering the childless sample								
Age: 18–25	–		–		–		–	
26–32	–0.66***	0.065	–0.66***	0.065	–0.53***	0.088	–0.52***	0.088
33–39	–1.35***	0.077	–1.35***	0.077	–1.13***	0.100	–1.12***	0.099
Edu: Low	–		–		–		–	
High	0.36***	0.061	0.36***	0.062	0.35***	0.073	0.35***	0.073
Edu. Missing	0.25	0.158	0.24	0.159			–0.15	0.270
Partnership	–2.12***	0.065	–2.13***	0.065				
Constant	1.97***	0.062	1.97***	0.063	–0.27***	0.089	–0.28***	0.089
Correlation (rho)	0.91	0.028	0.94	0.019	0.34	0.302	0.06	0.323
Number of obs.:	22,891		22,896		10,228		10,302	
Censored obs.:	9,132		9,132		8,505		8,566	
(H0: rho = 0), [Prob>chi2]	91.82	0.0000	111.3	0.0000	1.08	0.2998	0.04	0.846

Notes: Educational attainment is collapsed into two main groups (low and high education) in models 3 and 4.

* Statistically significant at the 0.10 level; ** at the 0.05 level; *** at the 0.01 level. – Reference category. [a] Natural logarithm of annual net income.

TABLE 1.10: Estimates of the probit model with sample selection: probability of having a first child for women aged 18–39: West Germany

	All women aged 18–39				Women with a partner			
	Model 1		Model 2		Model 3		Model 4	
	β	s.e.	β	s.e.	β	s.e.	β	s.e.
Outcome equation: leaving childlessness								
Age: 18–25	–		–		–		–	
26–32	0.18	0.186	0.22**	0.111	0.02	0.264	–0.08	0.245
33–39	–0.84***	0.244	–0.30	0.191	–0.81*	0.415	–0.99***	0.372
Edu: Low	–		–		–			
Medium	–0.03	0.141	0.02	0.102	–0.10	0.180		
High	–0.25	0.322	–0.09	0.166	–0.19	0.283		
Edu. Missing	0.34	0.375	0.21	0.252	–0.30	0.422		
Age 26–32 * Medium	–0.06	0.217						
Age 26–32 * High	0.02	0.388						
Age 26–32 * missing	–0.75	0.599						
Age 33–39 * Medium	0.49*	0.278						
Age 33–39 * High	0.61	0.423						
Age 33–39 * missing	0.93*	0.519						
Labour market situation								
Permanent employment	–							
Contract unspecified	0.13	0.138						
Fixed-term / short-term / casual	0.05	0.154						
Self-employed	0.34	0.339						
In education	–0.31	0.198						
Unemployed	0.38*	0.198						
Economically inactive	–0.08	0.220						
Log. of partners' net income [a]					–0.01	0.020		
1st ♀'s income quartile	–				–		–	
2nd ♀'s income quartile	0.12	0.222			–0.40	0.315	–0.41	0.318
3rd ♀'s income quartile	0.28	0.262			0.05	0.292	–0.09	0.319
4th ♀'s income quartile	0.22	0.279			–0.07	0.294	–0.20	0.318
Duration in employment:								
Economically inactive			–					
Unemployed			0.44*	0.225				
Employment duration: < 2 years			0.06	0.165				
Employment duration: 3–6 years			0.39**	0.181				
Employment duration: > 7 years			0.10	0.178				
Self-employed			0.53	0.347				
Non-marital partnership					–0.46***	0.167		
Dual-earner couple							–	
He employed & she inactive							–0.23	0.278
He employed & she unemployed							0.58*	0.297
She employed & he out of work							0.04	0.228
Other partnerships							–0.05	0.197

TABLE 1.10 *(cont.):* **Estimates of the probit model with sample selection: probability of having a first child for women aged 18–39: West Germany**

	All women aged 18–39				Women with a partner			
	Model 1		Model 2		Model 3		Model 4	
	β	s.e.	β	s.e.	β	s.e.	β	s.e.
Tenant-subtenant, paying rent							–0.41***	0.149
Constant	–2.13***	0.234	–2.21***	0.152	–0.76	0.467	–0.89**	0.414
Selection equation: entering the childless sample								
Age: 18–25	–		–		–		–	
26–32	–0.84***	0.095	–0.84***	0.096	–0.82***	0.091	–0.82***	0.091
33–39	–1.56***	0.109	–1.56***	0.110	–1.54***	0.112	–1.54***	0.112
Edu: Low	–		–		–		–	
Medium	0.43***	0.093	0.43***	0.093	0.41***	0.104	0.41***	0.105
High	0.72***	0.159	0.73***	0.159	0.80***	0.172	0.80***	0.172
Edu. missing	0.70*	0.356	0.70**	0.350	0.69*	0.405	0.70*	0.415
Partnership	–1.37***	0.086	–1.38***	0.086				
Constant	1.33***	0.092	1.33***	0.092	–0.06	0.101	–0.06	0.101
Correlation (rho)	0.62	0.127	0.64	0.140	0.04	0.325	0.27	0.445
Number of obs.:	12,979		13,013		8,317		8,317	
Censored obs.:	7,261		7,261		6,369		6,369	
(H0: rho = 0), [Prob>chi2]	12.36	0.0004	10.29	0.0013	0.01	0.9117	0.33	0.567

Notes: * Statistically significant at the 0.10 level; ** at the 0.05 level; *** at the 0.01 level . – Reference category. [a] Natural logarithm of annual net income.

To conclude, we find two main pathways to abandoning childlessness in Italy and Spain (employment with high income or economic inactivity) and one main pathway in France (employment). In West Germany the likelihood of entering motherhood is relatively high among unemployed women and women who have been in their current job for 3 to 6 years, but results have to be confirmed with further research. Altogether, our results at the individual level contradict the opportunity costs hypothesis for France, Spain and Italy, while they confirm the uncertainty hypothesis, in varying forms, for all countries. Interestingly, a male-breadwinner partnership compared to a dual-earner couple is a positive factor for the transition to a first child only in Spain and Italy, while in France the opposite is true. With respect to education and income, in these three countries medium-educated and medium-income women are

the least likely to postpone and eventually to forgo motherhood, which points to the direct costs of children as the main barrier to motherhood. This result is in line with the macro-level hypothesis of high direct costs and uncertainty contexts in Southern Europe. However, the existence of similar effects in the French institutional context is surprising. Yet this is not in contradiction with the fact that, in all, the French context favours motherhood compared to the other three national contexts. The French models show that this positive context effect is related to a strongly implemented and socially accepted dual-earner family, which represents by far the best living arrangement to exit childlessness.

1.6. Summary and conclusions

Is there a minimum set of conditions for having a baby, as our chapter heading asks? The research shows that, in general, a number of socioeconomic conditions have to be fulfilled in order to have a first child in the four countries studied: to be out of school and to be in a partnership. Apart from this, there are different pathways to exit childlessness across the European countries analysed (France, West Germany, Italy and Spain). In national institutional contexts which pose more problems for reconciling family and employment—the case in West Germany and more particularly in Italy and Spain—women follow two paths. First, motherhood occurs more easily within male-breadwinner couples. Second, women tend to pursue motherhood after having reached a comparatively high personal income and/or job stability, as a way to overcome the relatively high direct and opportunity cost of children. In national institutional contexts which are more supportive of mothers' employment, as in the case of France, most women fall within the second category. That is to say, women wait to attain job security and experience and to be in dual-earner couples in order to have a first child.

Thus, national institutional contexts are related to motherhood decisions in particular ways, as evidenced by the sig-

nificance of country-specific effects in most of our analyses. In other words, childless women have different propensities to enter motherhood according to the country. This scenario changes, however, when we restrict the analysis to women living with a partner. In this case the only country where women behaved significantly differently was West Germany. This finding suggests that most of the institutional factors delaying or hampering motherhood occur during the transition from the parental home to an independent household and partnership formation. This means that the French institutional context, in particular welfare state policies, favours transitions to adulthood more than that of Italy and Spain; in line with research results on youth transitions (Jurado 2001; Aassve et al. 2002; Blossfeld et al. 2005). When women have already formed a partnership, after controlling for differences in age and education, they tend to have similar chances of entering motherhood regardless of the country of residence, except in West Germany. This result is in line with other research, which points to specific cultural factors in West Germany that force women to make hard choices: to pursue a work career without children or to interrupt employment (or be unemployed) when a first child arrives (Fagnani 2002). However, German findings need to be contrasted in further research.

The evidence presented here supports the idea that exiting childlessness is the final step of previous life transitions, which occur earlier in France than in the other countries, including the transition to the first child. The earlier timing in France of the transition to motherhood is another factor that may contribute to lower rates of childlessness, since postponement of motherhood increases the risk of childlessness, if fertility recuperation at older ages is low.

The policy implications of this research are twofold. Firstly, public policies which favour early independent living and early partnership formation may also facilitate younger motherhood. Secondly, policies aimed at ameliorating the personal job security and income conditions of working women may also favour the decision to exit childlessness, particularly among women with a medium level of education and income.

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Appendix

TABLE 1.A.1: Number of events (year of pregnancy) across the panel among women aged 18–39: France, Italy, Spain and West Germany

Persons-year		Waves							
		1994	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**Total**
France									
	At risk	1,319	1,273	1,294	1,208	1,112	1,017	949	8,172
	Events	65	78	79	90	63	79	53	**507**
Italy									
	At risk	2,118	2,188	2,223	2,066	1,986	1,933	1,843	14,357
	Events	65	80	76	71	98	84	50	**524**
Spain									
	At risk	2,026	1,932	1,965	1,883	1,770	1,697	1,588	12,861
	Events	51	71	64	63	76	82	55	**462**
West Germany									
	At risk	943	977	955	931	918	892	885	6,501
	Events	54	48	53	45	47	61	13	**321**

Source: Own calculations based on the first wave of the ECHP.

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2. The Impact of Labour Market Status on Second and Higher-order Births

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2.1. Introduction

Low fertility and its interrelationship with the labour force participation of women has been identified as one of the major challenges of post industrial societies (Esping-Andersen 1999; McDonald 2000). Yet the relationship between these two variables is complex, since it encompasses central dimensions in the lives of individuals and of societies. Although there generally exists a negative relationship between fertility and women's employment at the individual level, there are important variations across countries. For instance, in several Nordic countries this relationship has been found to be positive, while the Mediterranean countries seem to be at the other end of the spectrum (e.g., Andersson 2000; Symeonidou 2000). Furthermore, the impact of labour force participation on fertility is likely to have changed considerably in the last few decades as several macro level studies suggest.[1]

The approach adopted in this paper to analyse the impact of labour force status on fertility at the micro level highlights the importance of specific national contexts in shaping that relationship, and particularly tries to disentangle the role of labour market institutions. It is argued that the impact of such variables as unemployment, part-time jobs or temporary employment hinges on the specific configuration of institutions existing in each

[1] Several studies have analyzed the change in the relationship between labour force participation and fertility at the aggregate level that has taken place in the last two decades (Engelhardt et al. 2002; Ahn and Mira 2001).

country. Furthermore the paper not only focuses on the labour force participation of women and its likely determinants, such as their educational level and household income, but also, and in particular, on the interaction of the labour force status of both members of the couple, since it is precisely in the way men and women combine between them paid work and unpaid work, including care work, that the role of institutions is likely to manifest itself most concretely. In fact, most theoretical analyses emphasise that the fertility and labour force decisions of both members of a couple are closely related, but only a few empirical studies have tackled the issue (Corijn and Liefbroer 1996; Andersson et al. 2004).

In order to conduct meaningful analyses, it is important to distinguish between different stages of the family-building process. Many variables have been shown to act in a different way or with differing strength on second and higher order births with respect to first births (e.g., Kravdal 2001). If the intensity and, especially, the timing of first births are closely related to the advancement of the young adult in several life course trajectories, such as education, labour market integration, and partnership formation (Corijn and Klijzing 2001; Baizán 2003; González, this volume), the study of higher parity fertility needs to consider the combined labour force status of each partner in a couple and the associated income. When studying the interaction between the family domain and the labour force, the articulation of paid and unpaid work just after first birth, or around the time of first birth, offers a crucial point for analysis. This is so because the constraints associated to parenthood are likely to show up in a concrete way for the parents when the first child has already been born, often implying a rearrangement of paid and unpaid work between the partners. The key role of couples' behaviour prompted us to restrict the population studied here to women living in a couple (married or unmarried). This focus on couples is also counselled by the fact that the effect of most variables strongly differs between women living with a partner and women not living with a partner, and because the probabilities of giving birth outside a union is very low in most European countries, especially after first birth.

When studying the impact of labour force status on fertility, the more detailed the analysis of such status, the more it will be possible to link each effect with the existing organization of institutions. Here, several crucial dimensions of labour market status are studied, such as the effects of unemployment, temporary contracts, part-time, and public/private sector employment, which are seldom included in analyses. For instance, only a few studies distinguish students from unemployed or non-working mothers. Holding a temporary contract, or a part-time job, or employment in the public sector, may prove crucial in some particular labour markets. Furthermore, the individual-level and couple-level impact of these variables are likely to be specific to each welfare regime or even to each labour market setting. In this paper, an internationally comparative perspective has been adopted that allows for an examination of the link between, on the one hand, various labour market institutions and arrangements, and on the other, fertility outcomes. Each of the countries considered, Denmark, Italy, Spain and United Kingdom, is therefore a unit of study, where social institutions and process are assumed to vary systematically, and explanations are sought in the context of the respective society. The choice of the countries to study was guided by the desire to include countries where labour force participation and childcare are organized in different ways, and where the importance of the market, the state and the family differ as much as possible. The countries included have also been classified as belonging to different welfare state regimes (Esping-Andersen 1990): the social-democratic (Denmark), liberal (United Kingdom) and conservative (Italy and Spain). These last two countries, Italy and Spain, share many institutional and cultural characteristics; however, they differ in the form, and specially in the tempo (1980s in Spain versus 1990s in Italy) of their selective labour market flexibilisation, which makes them interesting cases to compare.

In demographic terms, the countries studied also show important differences. Denmark and the United Kingdom have in the last two decades experienced fertility levels substantially higher than Italy and Spain (tables 2.1 and 2.2). On the one hand, these differences in period fertility, as well as in cohort fertility, mostly

reflect the extent to which women have second and higher order births (Lesthaeghe 2001). And on the other, the four countries chosen share with most other West European countries the general increase in age at first birth, although the United Kingdom remains an exception in that a sizeable group of women show an early pattern of entry into parenthood. Here one should note that the age at birth of the first child and completed fertility are related, at individual level as well as at aggregate level. For instance, Kohler et al. (2002) indicate that for Italy and Spain this postponement effect implies a reduction in completed fertility of between 2.9 and 5.1 percent for each one-year delay in the onset of motherhood. However, this postponement effect seems to be much smaller for other European countries, that is, women *catch up* their fertility after the age of 30 to a greater extent in Northern European countries (Lesthaeghe 2001; Kohler et al. 2002). Furthermore, the proportion of women with only one child at the end of their reproductive period and the proportion of one-child births in the total number of children born are particularly high in Italy, and also increasing in Spain, pointing to the relevance of the transition to second births, and to lesser extent third births, in the explanation of differentials in the level of fertility in Europe.

Finally, the inclusion of these countries in a common data source, the European Community Household Panel, and some other practical issues, such as their participation throughout the duration of the panel (1994–2001), or the availability of a sufficient number of events to conduct statistical analyses with confidence, were also important in selecting the countries to analyse.

TABLE 2.1: **Total *period* fertility rate and average age at first birth**

Year	Denmark		Italy		Spain		U. Kingdom	
	1990	2000	1990	1995	1990	2000	1990	2000
Total fertility rate	1.67	1.76	1.36	1.23	1.36	1.29	1.83	1.71
Average age at first birth	26.4	27.8	26.5	28.7	26.5	29.2	25.5	26.9

Source: Council of Europe 1998 and 2004.

The remainder of the paper is structured as follows. It starts with a brief account of some theoretical tools that have been used in building the models (section 2.2). Section 2.3 provides some information about the database used, the European Community Household Panel, and the construction of the sample and variables. Section 2.4 presents the event-history technique employed and the models used to test for the impact of labour force participation on fertility. In the next section, the results obtained in the analyses are presented and discussed, and the chapter ends with some concluding remarks.

TABLE 2.2: **Total *birth-cohort* fertility rate and average age at childbearing**

Birth cohort	Denmark		Italy		Spain		U. Kingdom	
	1955	1965	1955	1965	1955	1965	1955	1965
Total fertility rate	1.84	1.92	1.80	1.49	1.90	1.59	2.02	1.87
Average age at childbearing	27.3	29.1	27.1	29.1	27.1	29.0	27.2	28.2

Source: Frejka and Sardon 2004.

2.2. Labour market regulations and fertility: theory and hypotheses

Life course research focuses on the mutual impact of parallel trajectories of individuals and on how social influences at the macro level shape those interrelationships (Giele and Elder 1998; Liefbroer 1999). Therefore, a first aspect to explore is the idea that institutional settings establish a set of opportunities and constraints to which individuals respond in their fertility behaviour (Esping-Andersen 1990, 1999; Mayer 2001). At the heart of the discussion on the impact of labour force status on fertility lies the degree of compatibility between the role of mother (and father) and the role of worker, and its international differences. Critical in this respect are the social organization of work and of childcare, which have been con-

sidered to lead to variations in the degree of conflict between the mother and the worker roles across advanced industrial economies (Rindfuss and Brewster 1996). In different countries (or welfare state regimes) the family, the state and the market have a different degree of responsibility in providing childcare, and the labour market is regulated according to different models of participation during the period around childbirth and when low-age children are present in the household. The gender relations prevailing in a society are intimately linked to the organization of these dimensions, which influence such variables as the acceptability of combining paid work for mothers with low-age children or the involvement of men in childcare and housework (Leira 1992; Hakim 1999). For instance, Pfau-Effinger (1994) has proposed five ideal-typical family models with respect to cultural values regarding women's employment and involvement in childcare work in Western Europe: the family economy model, the housewife model of the (male) breadwinner family, the (female) part-time carer model, the dual-breadwinner/state-care model, and the dual-breadwinner/dual-carer model. In the long run, these cultural dimensions have certainly contributed to shaping institutional frameworks at the societal level (Mayer 2001). However, although these dimensions can be considered interrelated, inconsistencies may arise between the cultural system and the institutions existing in a given period of time, leading to conflict (Archer 1995). Increasingly prevalent family models with more emphasis on gender equality and more similar roles for men and women, if not supported by existing institutions, may involve the lower labour market participation of women or lower fertility (or both) than otherwise. Here, I will locate the analysis in the medium term, and consider institutional arrangements mainly as exogenous. From that perspective, the prevalence in each country of such indicators as the women's labour-force participation rate and dual-earner couples, part-time employment, and even indicators of a precarious or weak situation in the labour market (since their prevalence differs between men an women), can be considered to reflect different models of the articulation of participation and care during

the period around childbirth and when low age children are present in the household. These indicators show ample differences in each of the countries studied (tables 2.3 and 2.4), as will be discussed below. Furthermore, the effect on fertility of each labour market situation is expected to differ in each of the countries, because social institutions organise work and childcare in different ways.

In order to analyse through which mechanisms particular labour market institutions affect fertility, it is useful to refer to (micro) economic theories dealing with decisions about labour force participation and fertility. In a nutshell, standard textbooks make these dependant on such factors as market prices and wages, the attitudes of individuals concerning fertility and participation, and maternal time costs over the life course. However, many empirical quantitative studies essentially focus on the interplay of two main mechanisms, the *income effect,* and the mother's *price of time* (reviews of the theoretical literature can be found in Hotz, Klerman and Willis 1997, and Ermisch 2003). Men's income and labour market prospects are assumed to have positive effect on the demand for children, since husbands are not usually involved in childcare activities.[2] Moreover, men's income and involvement in paid work may be even intensified with the presence of children in the household. The resulting sign of the effect for mothers is less clear since it depends on which of the mentioned effects dominates. According to Becker's (1981) ideas about optimal division of labour within the household, maternal time costs lead to a retreat of wives from the labour market. Household expected lifetime utility is maximized either by deferring the onset of motherhood or by limiting the period of childrearing out of the labour market.

[2] This assumption does not take into consideration the increase in fathers' involvement in childcare that has taken place in several countries in recent decades (Gauthier et al. 2004).

TABLE 2.3a: Employment/population ratios, activity and unemployment. Women. Age: 15–24 (16–24 in Spain and United Kingdom)

Year	Denmark[1]		Italy		Spain		U. Kingdom	
	1990	2000	1990	2000	1990	2000	1990	2000
Unemployment	11.6	7.0	37.8	35.4	39.7	32.9	9.0	10.1
Labour force participation rates	70.4	68.8	40.8	34.3	47.7	43.3	72.4	65.6
Employment/population ratios	62.2	64.4	25.4	22.1	28.7	29.0	65.9	58.9

[1] Break in series.

TABLE 2.3b: Employment/population ratios, activity and unemployment. Women. Age: 25–54

Year	Denmark[1]		Italy		Spain		U. Kingdom	
	1990	2000	1990	2000	1990	2000	1990	2000
Unemployment	8.4	4.7	12.8	12.1	21.0	18.9	6.0	4.0
Labour force participation rates	87.8	84.3	53.9	57.9	46.9	62.8	73.0	76.1
Employment/population ratios	80.3	80.4	47.1	50.9	37.1	51.0	68.6	73.1

[1] Break in series.
Source: OECD Employment Outlook 2004.

TABLE 2.4: Share of temporary employment in total dependent employment, 2000

	Sex		Age group		
	Women	Men	15–24	25–54	55+
Denmark	11.7	8.8	30.6	6.5	5.1
Italy	12.2	8.8	14.7	5.4	5.5
Spain	34.6	30.6	67.4	25.2	11.8
United Kingdom	7.7	5.9	12.0	4.9	5.8

Source: OECD 2002: 138.

In addition to women's own human capital considerations, several studies have emphasised that the cultural and institutional setting will influence couples' decisions about childbearing and participation (Gustafsson 2002; Del Boca 2002). The above mechanisms of maternal time costs and of couples' income are to a large extent dependent on the economic incentives for those choices existing in a given society. Social policies will influence the feasibility of the crucial issue of combining work and family after the first child is born, through arrangements concerning, e.g., maternity and parental leave, and provision of childcare. Policies also fundamentally shape labour market institutions and regulations, as well as the general levels of employment, leading to spatial and temporal variation in the returns to education and the degree of uncertainty. As a general hypothesis, it can be stated that in societies where the incompatibility between employment and childrearing is less important, the price-of-time effects will be smaller;[3] and where the differences between the wages of men and women are smaller, the income effect for women should be larger (Vikat 2004). In the following paragraphs, the influence of the labour market context is examined in more detail.

The most important determinants of maternal time costs are time spent outside the labour market and forgone human capital investments. The penalties of interrupting work are cumulative across the life cycle, and they include wage losses during interruptions, skills erosion, less experience, and loss of seniority. Several studies show that these effects can be huge (Joshi 1998; Datta Gupta and Smith[4] 2001). Furthermore, these effects may be compounded by active discrimination by employers against mothers and pregnant women (Azmat 2003). A first aspect to consider is the shape of the earnings pattern across the life cycle that induces a postponement of the onset

[3] However, price-of-time effects could become larger for men if childcare and housework were shared more equally between men and women (or if role allocation was not based on gender).

[4] These last authors find moderate costs, mainly comprising loss of human capital, for Denmark.

of childbearing.[5] A rational woman will estimate when in her career is optimal to have a child, i.e., when the opportunity costs are lowest. This will lead her to form a family when she gets established in her job, in order to avoid being hampered in progressing along her career track. Long term standard-of-living and income security considerations, clearly relevant in such a long-term decision as having a child, will also be important, especially in labour markets in which there is widespread precariousness among young people and women.[6] Differences will arise by educational level, since the earnings profile of lower educated women is flatter than the profile of highly educated women, leading to stronger incentives to postpone motherhood for the highly educated.[7] Furthermore, highly educated women will start their activity after a longer period of educational enrolment, delaying fertility. However, it bears noting that highly educated women and women with a strong attachment to the labour market may have several reasons to speed their transition to the second or higher order birth. These may include the desire to reduce the period outside the labour market and a higher incentive to conform to parental leave time limits, income effects from better jobs (resulting from past earnings or from higher pay during parental leave), and economies of scale in childcare costs.

A second aspect is the length of the period out of work for childrearing and the associated probability of re-entering the labour market. In this respect, difficulties re-entering the labour market after an interruption due to childbirth differ widely across countries, according to their levels of unemployment and labour market regulations. In addition, time costs are by no means limited to periods out of employment or (paid) child leave, but include periods of part-time work

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[5] In the extreme case of a woman that spends all her lifetime after her first childbirth in full-time home making, she will maximize her lifetime earnings by deferring motherhood to the biological limit.

[6] This concerns especially, but not exclusively, Southern European labour markets.

[7] Differences across countries in the earnings profiles according to educational level and the overall degree of wage dispersion are thus likely to influence this effect.

subsequent to childbirth. Part-time working often involves less pay per hour of work and limited opportunities for promotion. Furthermore, this type of job tends to contribute to the segregation of women in the labour market (they are often *female* jobs), and probably also to maintain the sexual division of labour inside households. Again, part-time job opportunities differ widely among countries. Where they are easily available, this can help ease the decision to temporarily leave the labour market and facilitate re-entry after childbirth; they also help women stay linked to the labour market during their childrearing years. In 2000, the proportion of female part-time jobs in the countries studied was highly variable, from a maximum of 40.8% in the United Kingdom, 24.0% in Denmark and 23.4% in Italy, to only 16.5% in Spain (OECD 2004). Part-time jobs are thus expected to have a positive effect on childbirth, as an intermediate situation between full involvement in the labour market and housewifery.[8]

The decision to leave the labour market to rear children is conditioned on the determinants just stated, in addition to other social policies such as parental leave regulations, income support for families or the unemployed, and especially the provision of childcare. Among the countries analysed, it is expected that the price-of-time effect will predominate in Italy, Spain and United Kingdom, given that the institutional framework imposes serious constraints on the simultaneous fulfilment of the roles of caregiver and worker. As a result of those circumstances, in these countries housewives will have higher probabilities of giving birth with respect to employed women (and possible also compared to the unemployed, as will be discussed below), and certainly with respect to students, who are investing in human capital and usually have few resources. Furthermore, if women act primarily as caregivers the economic situation of the household and its income prospects will crucially depend on employment situation of their male partners. If men's position in the labour market is precarious, due to unemployment or temporary contracts, this

[8] The *quality* of part-time jobs also differs between countries, being for instance much higher in Denmark than in the United Kingdom (OECD 2004).

will crate a high degree of economic uncertainty, leading to postponement of family formation (Oppenheimer 1988). It can also be expected that in Denmark the income effect will predominate over the price-of-time effect, since the incompatibility between participation and childrearing is the lowest among the countries investigated. Childbearing implies in this context relatively little disruption in the employment trajectory of women, as paid maternity leave is comparatively long and formal childcare is widely available at a low cost. In these circumstances, the economic situation of the household is much less dependent on the partner's labour market status and prospects than in countries where *male breadwinner* arrangements predominate. In terms of this empirical research, it is therefore expected that the interaction effects between the labour force status of couple members will be much less relevant in explaining fertility risks in Denmark than in the other three countries.

Relatively little empirical research has been conducted on the effect of unemployment. In principle, the above *price-of-time* effect should apply, insofar as the women wants to be available for work, leading to a reduction in fertility. However, unemployment reduces the opportunity costs of childbearing with respect to employed women, and thus may be an occasion to have children. This will be especially the case if the woman receives unemployment benefits, and if the duration of entitlement is relatively long. This possibility is also to a large extent dependent on the income and employment security of the husband or partner, especially in countries where the male breadwinner model is widely present. The opportunity costs of childbearing while unemployed may also vary according to a woman's educational level and associated employment prospects (Friedman et al. 1994). These can be substantial for a more educated women, especially if she is trying to establish herself in the labour market, since childbearing may lead to a longer unemployment period and/or to eventually leaving the labour market, while for lower educated women the costs associated to these situations would logically be lower. In addition, income effects should also be taken into account, as unemployment may restrict the resources available, especially in the longer run. Again, the

level of unemployment and the rate of exits and entries to work in each particular country, and the corresponding uncertainty about finding a job, will also be relevant, as will the alternative sources of income available, such as the duration and level of unemployment benefits and the partner's income and employment security. Finally, to complicate things further, the line between being unemployed and being outside the labour market may be very thin. Women who intend to have a child in the near future may declare themselves to be housewives, instead of unemployed, if childbearing means leaving the labour market or if their attachment to the labour market is weak.[9] Thus, for women with less attachment to the labour market, unemployment may be an occasion to leave it with lower opportunity costs. This may be related to educational level, since lower educated women also have lower opportunity costs of leaving the labour market. The precise meaning of unemployment and its expected effects on fertility are thus related to a fairly complex set of factors, of varying weight in each country. It is therefore not surprising to find different results in the literature concerning the role of unemployment on fertility.

Differences between employed individuals may also be important. As with unemployment, the prevalence and the groups of population targeted by temporary contracts differ widely in Europe (see table 2.4). In Spain, where the proportion of temporary contracts reached 32% in 2000, and to a lesser extent in Italy, where the proportion is much lower (10%), temporary contracts hit especially at women and young people, while in the United Kingdom and Denmark the respective percentages, 12 and 20, are less concentrated in these two groups (OECD 2004). In Spain and Italy, temporary contracts were introduced in a bid to selectively flexibilise the labour market, focusing on new entrants, while essentially leaving unaffected the protection enjoyed by other categories of workers (Saint Paul 2000; Polavieja 2002). Here it is expected that individuals with a temporary contract will reduce their fertility, given that,

[9] This may be especially the case when, as in the ECHP, the labour market situation is declared retrospectively.

in addition to time constraints (like other employed individuals), they suffer from uncertainty about their future income, and possibly other aspects such as their future everyday time organization. More crucially, having an additional child may interfere with their chances of obtaining more stable employment, and, more generally, with getting established on a career track. As a consequence, it is to be expected that employed individuals with temporary or fixed-term contracts will have a particularly low level of fertility. This may be so especially in Spain, and to a lesser extent Italy, where the segmentation of the labour market is based on the distinction between temporary/permanent contracts, and where obtaining a consolidated position in the labour market often involves a *toll* in terms of long periods of temporary contracts in a firm (or the public administration) before being eligible for a permanent contract. In those circumstances, leaving the labour market not only means losing income and experience, but also losing a hard-won position in the *queue* for employment. It may even happen that having a child is interpreted by the employer as a weakening commitment to work that merits a penalty (e.g., non renewal of a temporary contract). As with unemployment, a temporary contract may be associated with lower opportunity costs of leaving the labour market with respect to women with a permanent contract. Furthermore, highly educated women may also have lower incentives to leave the labour market while holding a temporary job, not only because this often implies giving up a higher income, but also because education is more often associated to career jobs, as opposed to disconnected jobs in which experience may be less important, and therefore to greater opportunities of eventually finding a stable position.

Differences among individuals in several other categories are also relevant, such as between self-employed workers as opposed to employees, and those working in the public or the private sector, since the argument concerning different levels of employment security should also apply, due partly to very specific regulations concerning those groups in each country.

The labour force decisions taken at the time of first birth, or surrounding first birth, may heavily condition subsequent birth decisions. It has been shown that in labour markets where it is difficult to re-enter and to get part-time jobs, a sharp and lasting dichotomy is established around the time of first birth between women who decide to stay in the labour market and those who withdraw from it (Adam 1996). In Italy and Spain, this situation is compounded by a short period of paid parental leave,[10] little economic support to families from the state and scarce and expensive childcare. Furthermore, inequality in the gender division of labour at home is among the highest in Western European countries (Gauthier 2004). Thus, several institutions seem to act in a *concerted* way to discourage the labour force participation of woman and favour a male breadwinner option at this stage of the life course. This may lead to important differences in childbearing risks between women outside the labour market, those already established in it (especially if they enjoy good employment conditions in terms of pay or time availability), and women still trying to access a stable position in the labour market, who should exhibit especially low fertility.

On the contrary, in less segmented and more flexible labour markets, especially if part-time work abounds, temporary retreats from the labour market around the time of a birth, followed by a re-entry after a more or less short period of time, will be much less penalised. This type of sequence, often including part-time employment and/or a temporary *male breadwinner* situation, is particularly prevalent in the United Kingdom, where again paid parental leave is very short[11] and formal childcare for children under five is relatively unavailable and expensive, although income support to parenthood from the state (be it in the form of child benefits, tax relief, housing benefits or social assistance) is considerably higher than in the Mediterranean countries studied.

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[10] In contrast, very long *unpaid* parental leave is granted, potentially favouring the depreciation of human capital and difficulties re-entering the labour market.

[11] In 2000, maternity leave was extended from 18 weeks to 26 weeks (unpaid parental leave was extended to 26 additional weeks). Benefits cover 90% of average weekly earnings for the first six weeks and a fixed amount afterwards. Before 1999 unpaid parental leave did not exist.

Finally, in Denmark, the decision to have a child involves much less of a trade-off, due to the existence of a flexible labour market and the possibility to take comparatively long paid parental leave, coupled with strong support to parenthood from the state in the form of income support and, especially, childcare. The effects of different labour market situations on the risk of childbearing should therefore be relatively minimal, or favour those women with better employment situations and income. In addition, the labour force status of men and women should also be more mutually independent with respect to childbirth risks, as hypothesised above.

2.3. Data source and variables

The data used for the analyses are from the European Community Household Panel survey (ECHP). This multi-purpose survey was centrally designed and coordinated by the Statistical Office of the European Communities (Eurostat 2003). The Danish, Italian and Spanish samples available cover the eight waves (one each year) of the panel's duration, from 1994 to 2001. In the case of the United Kingdom, Eurostat provides a highly comparable transformation of data for the same period of time, derived from the British Household Panel Survey, as the original ECHP was discontinued in that country in 1997.

The longitudinal design of the ECHP makes it possible to follow up and interview the same set of private households and persons over several consecutive years. It thus supplies data on all household members in a dynamic way, a crucial feature for this study. The ECHP offers detailed data on fertility and partnership careers, and particularly on the labour market trajectories of each member of the household. For instance, it contains monthly data on labour force status, and yearly income for each member of the household (referred to the year preceding each interview). It additionally contains a wealth of information on a number of individual characteristics, such as, *inter alia*, educational background and health. Although most of the data refers to the wave year or to the previous year, the survey also offers a limited

amount of retrospective information, including the date of birth of each individual in the household.[12] This information allows us to reconstruct the starting times of fertility processes for those individuals who entered the risk set before the date of entering the panel (that is, women who had a birth before entering the panel). It therefore avoids the problem, central in event history analysis, of missing information on the duration of the risk of experiencing the study event. However, the results refer to the period 1993–2000, when information is available on covariates of the main processes. Since the analyses focus on second and higher order births, all women with at least one child are kept in the sample during the period of observation (the dates of entering and leaving the sample are considered to be random with respect to the process studied), thus avoiding the problem of *left censoring* (i.e., the loss of part of the sample due to higher risks of experiencing the event). Furthermore, a control is made for the age of the women and the birth order.

The sample selected comprises women born between 1958 and 1979: 783 Danish, 1,963 Italian, 1,728 Spanish and 1,298 British. They respectively gave birth to 371, 640, 546 and 619 children of birth order two or higher.

The dependent variable is the transition to a second or higher order birth. However, we backdate the date of birth by nine months, to approximate as much as possible the conditions of the woman when she took the decision to have a child, and to avoid reverse causation, i.e., a change in the values of the variables (for instance, labour force status) as a consequence of a pregnancy. A key independent variable in this study is the woman's labour force status. To construct this variable, we use the monthly calendar of activities. These answers indicate the main activity performed by the woman the previous calendar year, i.e., student, working in the labour market, unemployed, not in the labour market. Other important information concerning labour market situations is only available once a year, at the time of the survey wave; basically the number of hours worked per week, and the sector of the econ-

[12] In the case of Denmark, the month of birth of most individuals is not known. This unavoidably introduces some small bias in the results.

omy (public/private). We apply the answers provided to the whole year. ECHP respondents were also asked to provide their individual earnings during the calendar year preceding the interview. In order to make the answers comparable over time, we deflated the amounts using the price index information provided by the International Labour Organisation (base year: 1992). In a second step, we classified gross income into four groups: very low (less than 33.3 of women's earnings distribution for each country), low income (from 33.3 to 66.6), medium income (from 66.6 to 90.0), and very high income (more than 90.0 of the distribution). The partner's labour force status and his income were constructed in a similar way to the corresponding variables for women. The ECHP provides very basic information concerning education, which is only classified into three levels: low, corresponding to less than the second stage of secondary education (ISCED levels 0–2); higher secondary (ISCED level 3); and tertiary education (ISCED levels 5–7). Moreover, this information is only asked the first wave the individual enters the panel, and is not updated until 1997. Finally, information concerning the date of birth of individuals allows creation of the variables *age* of the mother and *age of the youngest child,* which are updated every month.

2.4. Techniques

Event history techniques are naturally connected to life-course research, in that they take a longitudinal perspective and are suited to analysing the interdependencies between different life-course domains. Specifically, the most important advantages of these techniques include: first, they take into account the time order of events, allowing the impact of variables to be interpreted in *causal* terms; second, they focus on duration effects, i.e., the time of exposure until a particular event from an *event of origin* (previous birth, in our case); and third, event history techniques allow censoring problems in the data to be dealt with in a way that minimises biases, especially in the case of right-censored data (Yamaguchi 1991; Blossfeld and Rohwer 1995). Event history models, also known as hazard regression models, are used when

the outcome of interest is a duration until the occurrence of some event; in this case a birth of order two or higher. Among the many types of hazard models available, we apply one of the most common types, the proportional hazard model, where the effect of covariates on the hazard of occurrence is multiplicative. The specification consists of a hazard rate equation capturing time from first birth (or a previous birth, in the case of a higher order parity) to a subsequent birth (minus nine months, i.e. conception time). The formulation is as follows:

$$ln\ h(t) = y(t) + \sum_j a_j x_j + \sum_i \alpha_i w_i(t) \qquad (2.1)$$

where *ln h*(t) denotes the log-hazard of the process of 2nd or higher order birth. The subscript for an individual is suppressed for simplicity. Duration-dependence is modelled by using linear splines on the log-rate (piecewise Gompertz formulation). *y(t)* denotes a piecewise linear spline[13] that captures the effect of duration on intensity. The effect of age is also modelled as a piecewise linear spline. The vector $\{x_j\}$ denotes fixed time-invariant covariates; and $\{w_l(\cdot)\}$ is a set of time-varying covariates whose values change at discrete times in the spell, and is constant over the time span between those changes. Model estimation was performed using full-information maximum likelihood, as implemented in the software package aML (Lillard and Panis 2000).

2.5. Results

The theoretical section of the paper examined several dimensions of the relationship between labour force participation and fertility, and included a number of specific hypotheses. The models presented in the following pages are intended to empirically investigate these hypotheses. The results are organized as follows. In a first step, the focus is on the labour force status of women, with

[13] Piecewise linear splines are used to approximate continuous functions (such as a baseline hazard or a non-proportional relative risk), by using function that are linear within each (possibly open-ended) interval. Those linear functions are connected at knots given a priori: piecewise linear splines are then also continuous functions.

a control for partner's income as it may reflect different economic capacities for fertility (table 2.5). The next model shows the effects on women's income. In order to more clearly show these last effects, the variables concerning women's labour force situation are omitted (table 2.6). The next step is to investigate whether the effects of the labour force status of women differ according to educational level, through an interaction between these two variables (table 2.7 to 2.9). Lastly, the results show the effects of the combined labour force status of each member of a couple (table 2.10 to 2.13).

All the models presented include a number of demographic control variables (i.e., the age of the youngest child, women's age, and birth order) that are needed to correctly interpret the variables related to the labour market, which are the main focus of our research. The results for these control variables are in the expected direction. The baseline hazard of second or higher order birth shows the standard bell shape: in Spain and Italy, the hazard increases up to the 4th year after previous childbirth, while in Denmark and, more clearly, in the United Kingdom, this hazard is already declining from the second year after previous childbirth. The effect of the woman's age is essentially flat up to age 33 and declines afterwards. And the effect of increasingly higher order parities is to decrease the hazard.

2.5.1. Women's labour force status

The results of the variable women's *employment status* are generally significant and show clear differences between countries (table 2.5). This time varying variable comprises the categories *employed* (reference), *unemployed, student,* and *housewife.* The results of the category *housewife* show a pattern in which the strongest positive effect is found in the United Kingdom (0.66), somewhat less important effects in Italy (0.38) and Spain (0.29), and non significant effects in Denmark (0.30). These results are in line with standard theory and findings, in which (permanently) employed mothers face higher obstacles than housewives to increasing family size. These results are also consistent with the hypothesized dominance of the *income effect* in Denmark, and the *price-of-time* effect in other countries. This seems to be especially so in the United Kingdom, where leaving the labour market to have

children has a lower long term implication in terms of attachment to the labour market, since it is relatively easier to re-enter, and, more generally, it is a more institutionalised way of dealing with time constraints related to the presence of small children. It may also be the case that women who have left the labour market around first birth, or long before first birth, are a selected group of women in each country, with particularly low labour market attachment or labour market prospects. Parenthood and being a housewife, obviously implying a *male breadwinner* situation for an extended period of time, may for them be particularly attractive roles.

A correct interpretation of the effects of being employed on childbearing risks needs to consider several dimensions of this situation, relating to the quality of the job performed and the ability to reconcile employment with childcare. For instance, working in the public sector has positive effects for the advancement to higher parities in all countries, although they are significant only in Italy (0.32) and Denmark (0.25), which exhibit somewhat larger public sectors where job conditions probably differ the most with respect to the private sector. The specific role temporary contracts play in southern labour markets is reflected in the very strong and significant negative effect that holding a temporary contract has in Spain (–0.48). This result suggests a clear divide among Spanish women between those who already have a stable job situation, who have a relatively high risk of proceeding to higher parities, and women who are still trying to establish themselves in the labour market, who exhibit much lower childbearing risks. A little surprisingly, this effect is not significant in Italy, maybe because labour market flexibilisation is more recent in this country and is more concentrated among young adults during the period before first births. In Denmark and the United Kingdom, as expected, the effects are also not significant, as this dimension is much less relevant in these countries.

Unemployment has a negative non significant effect in Italy, Spain, and Denmark, but positive significant effects in the United Kingdom (0.58), suggesting that in this country it may serve as an opportunity for childbirth, as discussed above, rather than reflecting a precarious situation in the labour market or lack of

income, as seems to be the case in the other countries studied. Finally, working part time, against expectations, does not have a significant impact in any of the countries studied. However, consistent with the theory put forward above, in Denmark and the United Kingdom the effects are positive, as in these countries part-time jobs are more widely available, while in the southern countries studied they are much harder to find and often related to a precarious labour market situation.

In line with other studies, the effects found for educational level are positive and significant in the United Kingdom and in Italy for women with tertiary education with respect to women with low secondary education or less, while in Denmark and Spain the differences between levels of education are not significant. Most other studies referring to second births have also found positive effects for education, although here higher order births are also included, which may tend to lessen this positive effect. As explained in the theoretical section, this finding contradicts standard economic theory, since women with a higher educational level should also have higher opportunity costs. However, these costs could be compensated by factors such as higher incentives to space births closely or higher earnings.

TABLE 2.5: Hazard of transition to a second or higher order birth

	Denmark		Italy		Spain		United Kingdom	
	Hazard	**s.e.**	**Hazard**	**s.e.**	**Hazard**	**s.e.**	**Hazard**	**s.e.**
Age of youngest child (spline)								
0–1.5 years	**1.05** ***	*0.20*	**1.04****	*0.18*	**0.78** ***	*0.22*	**1.35** ***	*0.16*
1.5–4 years	**–0.04**	*0.08*	**0.14****	*0.05*	**0.20** ***	*0.06*	**–0.16** ***	*0.06*
4+ years	**–0.21** ***	*0.05*	**–0.15****	*0.02*	**–0.13** ***	*0.03*	**–0.20****	*0.03*
Age (spline)								
15–33	**–0.02**	*0.03*	**0.01**	*0.02*	**0.00**	*0.02*	**0.02**	*0.02*
33+	**–0.14** ***	*0.05*	**–0.16****	*0.04*	**–0.11****	*0.04*	**–0.12** ***	*0.04*
Birth order								
Second (ref.)								
Third	**–1.27** ***	*0.14*	**–1.56****	*0.12*	**–1.74** ***	*0.13*	**–1.24** ***	*0.10*
Fourth or higher	**–1.77** ***	*0.26*	**–1.92****	*0.23*	**–1.73****	*0.23*	**–1.94** ***	*0.16*

TABLE 2.5 *(cont.):* **Hazard of transition to a second or higher order birth**

	Denmark		Italy		Spain		United Kingdom	
	Hazard	**s.e.**	**Hazard**	**s.e.**	**Hazard**	**s.e.**	**Hazard**	**s.e.**
Educational level								
Low (ref.)								
Middle	**–0.10**	*0.16*	**0.09**	*0.10*	**–0.03**	*0.14*	**–0.19**	*0.13*
High	**–0.15**	*0.22*	**0.41****	*0.19*	**0.13**	*0.15*	**0.23** *	*0.12*
Activity status								
Employed (ref.)								
Unemployed	**–0.03**	*0.19*	**–0.12**	*0.21*	**–0.03**	*0.18*	**0.58** *	*0.30*
Housewife	**0.30**	*0.24*	**0.38** ***	*0.12*	**0.29****	*0.15*	**0.66** ***	*0.11*
Student	**–1.01*****	*0.34*	**–1.25**	*1.07*	**–0.91**	*0.71*	**–0.22**	*0.49*
Sector								
Private (ref.)								
Public	**0.25** *	*0.14*	**0.34****	*0.14*	**0.29**	*0.20*	**0.08**	*0.15*
Type of contract								
Stable (ref.)								
Temporary	**–0.33**	*0.23*	**0.01**	*0.23*	**–0.48** **	0.23	**–0.42**	*0.35*
Self employed	**–0.49**	*0.42*	**0.11**	*0.18*	**0.21**	0.23	**0.17**	*0.27*
Working hours								
Full-time (ref.)								
Part-time	**0.20**	*0.21*	**–0.18**	*0.18*	**0.03**	*0.24*	**0.17**	*0.18*
Partner's income								
Very low	**0.44****	*0.19*	**0.11**	*0.14*	**0.01**	*0.15*	**–0.33** **	*0.17*
Low (ref.)								
Middle	**0.17**	*0.13*	**–0.05**	*0.10*	**0.10**	*0.11*	**–0.02**	*0.10*
High	**0.18**	*0.19*	**0.11**	*0.13*	**0.49** ***	*0.15*	**0.00**	*0.14*
Health								
Good (ref.)								
Bad	**–0.02**	*0.17*	**0.17**	*0.27*	**–0.70** **	*0.28*	**–0.43** ***	*0.14*
Missing inf.	**0.05**	*0.13*	**0.07**	*0.09*	**0.12**	*0.10*	**0.17**	*0.10*
Intercept	**–2.07*****	*0.77*	**–4.12*****	*0.59*	**–3.47*****	*0.60*	**–3.92** ***	*0.47*

Note: *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

The variable *partner's income* could be expected to have a positive effect on fertility (at least up to a certain level of income), since a higher income helps couples to cope with the direct costs of rearing a two (or higher)-child family. This prediction of the economic literature is only partially confirmed in Spain and in the United Kingdom. In the first country the effect is clearly not linear, and is concentrated only in individuals pertaining to the highest income category, suggesting that this group's wealth allows them to overcome both income and reconciliation restrictions to childbearing. By contrast, in the United Kingdom only the category of husbands with very low income have significant negative effects, in line with the idea that a certain minimum level of income favours an increase in the number of children. In Denmark and in Italy, the coefficients have a U-shaped form, although the only significant results are for the *very low* income category in Denmark. These results suggest that the effects of men's income may not be straightforward to interpret, as they may interact with other characteristics of the partners. Educational, social, or labour-market attachment homogamy between partners may also influence fertility decisions.

2.5.2. Income

The analyses presented above concerning the effects of being employed can be complemented and clarified by scrutinising the results for the variable *women's income* (table 2.6). This variable mainly includes earned income (from employment or unemployment benefits), and the category *very low or none* refers mostly to housewives. Thus, the positive effects found for women with very low or no income, with respect to women with low income, are consistent with the earlier results showing that *price-of-time* effects predominated over *income effects* in Italy, Spain and the United Kingdom. However, the coefficients show a clear U-shape, indicating that *income effects* are present for employed women. In the case of the United Kingdom, the positive effects are very strong for women with high incomes, suggesting that these women can solve the time constraints created by employment and childcare, presumably by buying childcare on the market. In Italy and Spain,

the significant positive effects refer to women with *medium* incomes, but not to women with very high incomes, where results show non significant positive effects (Spain) or even a non significant negative coefficient (Italy). On the whole, the results for these three countries show that women's earnings matter for fertility decisions. Women with low earned income may face particularly difficult trade-offs, because their fertility decisions are constrained simultaneously by difficulties meeting the direct costs of rearing children and difficulties accessing the expensive childcare facilities existing in their countries. In contrast, women with middle or high incomes are in a better position to afford such costs. Women earning very low or no income, i.e. mostly housewives, seem also to be in a favourable situation for childbearing, in spite of their limited contribution to the household budget. This result should be put in the context of societies where the standard household is (increasingly) composed of two-earner couples, and thus where one-income couples may be in a relatively disadvantaged situation in terms of economic well-being. Finally, the results for Denmark are in line with previous analyses for the Nordic countries (Andersson 2001; Vikat 2004). A clear positive income gradient is found in the risks of second and higher order births, consistent with the predominance of *income effects* over *price-of-time* effects in this society.

TABLE 2.6: Hazard of second or higher order birth. Effect of woman's income

Income	Denmark	Italy	Spain	U. Kingdom
Very low/ none	–0.32*	0.20**	0.28**	0.41***
Low	Ref.	Ref.	Ref.	Ref.
Medium	0.21*	0.29**	0.40**	0.18
High	0.38	–0.46	0.46	0.48*

Note: *** $p<0.01$, ** $p<0.05$, * $p<0.1$.
Control variables: age of youngest child, age of mother, birth order, educational level, income of spouse.

2.5.3. Education and the labour market

In the analyses presented so far we have seen that a high level of education is associated with a higher risk of advancing to second or higher parities in Italy and in the United Kingdom, while in Spain and Denmark there were not significant differences among women according to their educational level. Yet these results could hide important differences between educational groups in the effects of labour market status. The level of education is closely related to differences in income prospects, job characteristics and the opportunity costs of childbearing, as well as in values concerning labour market attachment. An exploration of whether the effects of labour force status differ according to level of education could therefore complement the picture sketched so far, since it may reflect relatively stable characteristics of women and specific behaviours for each educational group.

This perspective is consistent with the results obtained, in that introducing an interaction between educational level and labour force status significantly improves the model for Italy, Spain and the United Kingdom. The interaction is not significant for Danish women, suggesting that women with different educational levels in each labour market status face similar conditions and display similar strategies as regards having an additional child.[14]

Turning to the results of women with permanent contracts, it can be seen that in Italy and in the United Kingdom a high level of education is associated to higher risks of childbearing. These results would be consistent with the idea that the highly educated attach more value to employment stability, and once they have attained it, proceed faster to higher parities. However, the results for Spain show no significant differences between educational levels, suggesting the overriding importance of job stability for women engaging in the labour market, irrespective of their educational level. A similar pattern seems to prevail for women outside the labour market: increasing risks of childbearing according to education in the

[14] As with other results presented here, the smaller size of the Danish sample may also play a role.

United Kingdom and Italy, while education makes no difference for Spanish housewives. In interpreting these results, it bears considering that while opportunity costs are less relevant for women outside the labour force, highly educated women may try to space children closer in time to avoid long periods out of employment.

The results for the category *unemployed* and *temporary* are also somewhat puzzling. Thus, unemployment is associated to higher risks of childbearing for the tertiary educated, with respect to lower educated women, in Italy, Spain and the United Kingdom. Moreover, holding a temporary contract also implies higher risks of childbearing for the highly educated in Italy and Spain, but not in the United Kingdom, where this dimension of the labour market is less crucial. If the above interpretation holds, that for the highly educated employment stability is the key to advancing to a higher parity, the results of these categories associated to labour market instability should yield a negative gradient by educational level, and not a positive gradient, as they do. Having an additional child may increase the chances of eventually leaving the labour market, because it increases time constraints, and thus more educated women should try to avoid to have a child while being in an unstable situation. Yet it is also possible to interpret these results taking into account that the highly educated should also be entitled, on average, to higher earnings from unemployment benefits or temporary jobs, providing more income to meet increased family needs, and leading again to higher opportunity costs of leaving the labour market. In the case of a temporary job, the highly educated should also be better able to combine childrearing with employment if the jobs are of higher quality. Moreover, selection effects may also play a role. The categories *unemployed* and *temporary* may select lower educated individuals with little propensity for childbearing, as those who plan to have a child select themselves into the category *not in the labour market*. This could occur if women with low education face more difficulties joining and/or exhibit less attachment to the labour market, while more educated women have a higher opportunity cost of leaving the labour market.

TABLE 2.7: Hazard of second or higher order birth. Interaction of labour force status and educational level of women. United Kingdom

Labour force status	Level of education		
	Low	Higher secondary	Tertiary
Permanent	Ref.	–0.32*	0.28**
Temporary	–0.52	0.22	–0.24
Unemployed	0.32	0.51	1.01**
Not in L. F.	0.52***	0.50***	0.73***

Note: *** $p<0$ .01, ** $p<0.05$, * $p<0.1$.
Control variables: age of youngest child, age of mother, birth order, partner's income.

TABLE 2.8: Hazard of second or higher order birth. Interaction of labour force status and educational level of women. Italy

Labour force status	Level of education		
	Low	Higher secondary	Tertiary
Permanent	Ref.	0.39**	0.78***
Temporary	0.06	0.25	1.12***
Unemployed	0.07	–0.13	0.73
Not in L. F.	0.43***	0.50***	0.69***

Note: *** $p<0.01$, ** $p<0.05$, * $p<0.1$.
Control variables: age of youngest child, age of mother, birth order, partner's income.

TABLE 2.9: Hazard of second or higher order birth. Interaction of labour force status and educational level of women. Spain

Labour force status	Level of education		
	Low	Higher secondary	Tertiary
Permanent	Ref.	–0.28	–0.10
Temporary	–1.23***	–0.74	0.19
Unemployed	–0.36*	–0.78**	0.31
Not in L. F.	–0.08	0.09	0.18

Note: *** $p<0.01$, ** $p<0.05$, * $p<0.1$.
Control variables: age of youngest child, age of mother, birth order, partner's income.

2.5.4. Couples' labour force status

The following pages present results concerning the impact of interactions between the labour force status of each of the partners in a couple on second or higher order births (tables 2.10 to 2.13). The reference category adopted is a combination of a permanent job for the women and the men, and the other categories are: temporary job, unemployed and inactive, and all resulting combinations. Results are not presented where cell sizes are too small.

The results of the United Kingdom, Italy, and to a lesser extent Spain, show a clear opposition between men's and women's labour market situations. When the woman is inactive, whatever the labour force situation of her husband, the coefficients are positive, though not always significant. The most significant results for the former two countries are obtained for the cell combining a permanent job for the men and an inactive situation for the women, just as one might expect for a traditional division of labour between partners that maximizes, on the one hand, men's income security and, on the other, women's availability of time at home. In the United Kingdom this positive effect also holds when the woman is unemployed in combination with the man's inactivity or unemployment, which seems a little surprising since in such cases men's income will tend to be low. At the opposite corner of the classical male breadwinner situation stands the combination

TABLE 2.10: **Second or higher order birth. Interaction of labour force status of spouses. United Kingdom**

Women \ Men	Permanent	Temporary	Unemployed	Not in L. F.
Permanent	Ref.	–0.07	–0.06	–0.31*
Temporary	–0.39	–	–	–
Unemployed	–0.26	–	0.78	0.81**
Not in L. F.	0.49***	0.04	0.56***	0.09

Note: *** $p<0.01$, ** $p<0.05$, * $p<0.1$.
Control variables: age of youngest child, age of mother, birth order, educational level, health status.

of an inactive man with a woman holding a permanent job, which leads to negative coefficients in all countries (significant in the United Kingdom, but also in Denmark). More generally, all cells that involve inactivity or, to a lesser extent, unemployment for men show negative coefficients in most instances. This result suggests that the labour force situations of men and women are not interchangeable, even in societies like Denmark, with relatively high gender equality.

TABLE 2.11: **Second or higher order birth. Interaction of labour force status of spouses. Italy**

Men / Women	Permanent	Temporary	Unemployed	Not in L. F.
Permanent	Ref.	–0.18	0.01	–0.42
Temporary	–0.01	0.22	0.68	–
Unemployed	–0.16	0.12	–0.28	–1.54
Not in L. F.	0.23**	0.43*	0.22	0.09

Note: *** $p<0.01$, ** $p<0.05$, * $p<0.1$.
Control variables: age of youngest child, age of mother, birth order, educational level, health status.

The Spanish results merit separate discussion since there what seems to matter for fertility is employment security for both members of the couple, rather than a traditional division of labour between the partners. In fact, the cell combining a permanent job situation for men with inactivity for women is not significant. By contrast, negative impacts are found for the combinations involving temporary jobs or unemployment for men and women. These attain significance for the cells: men with a temporary job and women unemployed or with a temporary job and, remarkably, for women with a temporary job and men with a permanent job.

In Denmark, the results are consistent with a dominance of income effects and a positive fertility impact of the labour force attachment of both members of the couple. Female inactivity has a significant negative effect as does men's inactivity (though this

last effect is stronger), and the combination of both partners' inactivity, not surprisingly, produces a very negative significant effect. In the case of Denmark, many inactivity situations involve students or individuals engaged in professional training.

TABLE 2.12: Second or higher order birth. Interaction of labour force status of spouses. Spain

Women \ Men	Permanent	Temporary	Unemployed	Not in L. F.
Permanent	Ref.	0.03	–0.21	–1.29
Temporary	–0.56**	–1.00**	–0.75	0.25
Unemployed	–0.13	–0.94**	–0.06	–0.63
Not in L. F.	0.16	–0.14	0.17	–0.65

Note: *** $p<0.01$, ** $p<0.05$, * $p<0.1$.
Control variables: age of youngest child, age of mother, birth order, educational level, health status.

TABLE 2.13: Second or higher order birth. Interaction of labour force status of spouses. Denmark

Women \ Men	Permanent	Temporary	Unemployed	Not in L. F.
Permanent	Ref.	0.48*	0.01	–0.91***
Temporary	–0.17	–0.98	1.05	–0.82
Unemployed	–0.24	1.17	–0.41	–0.28
Not in L. F.	–0.40*	0.30	–1.53	–0.90**

Note: *** $p<0.01$, ** $p<0.05$, * $p<0.1$.
Control variables: age of youngest child, age of mother, birth order, educational level, health status.

2.6. Conclusions

In this article it has been argued that the relationship between labour market participation and fertility is highly dependant on

each particular labour market context and the institutions that regulate the labour market. The results show on the whole a match between the relationships found at the individual level and the type of welfare state regime, or even the institutions specific to a particular country's labour market. Of course, empirical patterns may be related not only to labour market characteristics, but also to the functioning of other institutions that cannot be analysed in detail here. Relevant in this respect are parental leave regulations, the social service system (childcare), and more generally, the gender system (e.g., involvement of fathers in childcare). Therefore empirical analyses comparing countries with different systems of welfare should pay attention to those differences.

The theoretical framework sketched in the paper highlights the existence in each country of different models of combining labour force participation and childcare. The configuration of institutions, including labour market institutions, particular to each country creates different sets of incentives to childbearing for individuals and couples in each labour market situation (and different incentives to remain in them). In this respect, the results show a clear contrast between the negative effects of women's paid work on childbearing risks in the United Kingdom, Italy and Spain, and the positive effect of being employed in Denmark. Moreover, the impact of women's income was clearly positive in this last country, in a context where the economic penalty for motherhood is relatively reduced. In the United Kingdom, Italy and Spain the results showed a U-shaped effect, implying that women with very low or no income (i.e., housewives), had higher risks of childbearing. Results for the combined labour force status of a couple complement this picture, showing that housewives obviously rely on their male partner for economic security and the corresponding labour force status. Indeed, when men's situation in the labour market is insecure, as indicated by unemployment or by temporary employment (in the case of southern labour markets), childbearing is severely reduced.

Difficulties combining motherhood and childrearing may lead to a retreat from the labour market (or never joining it) for many women in the United Kingdom and in Italy and Spain. This pos-

sibility may be especially appealing to women holding traditional values. These situations have been represented in the models by the category *housewife* (and maybe also by the category *unemployed*, especially in the United Kingdom). Other causes could be poor long-term perspectives in the labour market or lasting situations of precariousness. If that is the case, it could be that some of these women enter motherhood as a kind of substitute, as the only meaningful social role accessible to them and allowing them to enhance their social status (Lindenberg 1991).

The still strong positive impact on higher order fertility of *male breadwinner* solutions and their considerable weight in the population of most of the countries studied, should not cause us to neglect the important differences among women engaging in the labour market. In this paper we have been able to explore some of these differences, although availability of data and quality limitations have prevented more extended analyses. For instance, the role of unemployment in different contexts has been documented, as has the crucial positive role of labour market stability and income, particularly in southern labour markets.

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3. When Mothers Work and Fathers Care. Household Fertility Decisions in Denmark and Spain

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3.1. Introduction

Research on fertility and female labour supply has, so far, paid very little attention to male partner attributes. The theoretical framework that has guided research—primarily Gary Becker's new home economics—has conventionally assumed a male breadwinner society wherein men concentrate almost exclusively on market work. For empirical reasons too, most studies inadvertently end up individualizing the decision process.

The assumption that men matter primarily in terms of their breadwinner status is probably realistic when women's attachment to employment and careers is weak. But as women increasingly value economic independence and embark on lifelong careers, the nature of partners' decision-making should change. A commitment to lifelong employment implies that the opportunity cost of motherhood will rise and this, in turn, implies that the household's reliance on the male's breadwinner status will weaken. And to the extent that motherhood is conditional on women's career pursuit, the household bargaining process is likely to centre on how to reconcile employment and childcare. Put differently, we should expect a shift towards greater male contribution to home production and childcare.

Sampling only couples, we exploit the European Community Household Panel's (ECHP) full eight waves and apply event-history techniques to estimate the probability of second births.

The focus on second births is motivated by two factors. One, it is widely recognized that the difficulty of reconciling motherhood and careers is far greater with two (small) children than with only one. The vast majority of women, regardless of education and career aspirations, do end up having one child. It is with respect to second and higher order births that we see large variations, both across countries and across types of women. Two, since our study is explicitly focused on the father's potential contribution to childcare, this can only be empirically established by examining his care participation where one small child is already present.

We adopt a discrete-time framework with logit estimations and include three main covariate vectors related to female, male, and joint household attributes, respectively: the standard menu of variables (like level of education, age, etc.), as well as variables that tap incompatibilities of motherhood and employment (such as job security, job status and sector of employment). Considering the greater opportunity costs of childbearing for women dedicated to careers, a central issue in this study is how couples manage the reconciliation problem. The penalty of motherhood can be reduced under two conditions. One, the couple has access to affordable childcare. Two, the father contributes to the care of children. Either, or both, will alleviate the mother's caring burden and help reduce the potential child penalty.

While this argumentation is perfectly consistent with theoretical models of household fertility decisions, empirical research along these lines is very scarce indeed. Granted, there is substantial evidence that access to day care is key to fertility (Del Boca et al. 2003; Neyer 2003). Among the few who focus on the paternal role, Del Boca (2002) and Duvander and Andersson (2003) show that fathers' contribution to domestic work influences fertility positively. In Sweden, women are more likely to have a second child if the male partner took parental leave following the birth of the first (Olah 1998).[1]

[1] Sundstrom and Duvander (2002) show that, in Sweden, high-educated and higher earning fathers are more likely to take extended paternity leave. They contribute, similarly, far more hours to domestic work. This directly contradicts the standard economic theory of the family.

Our study examines two countries, Denmark and Spain, that prototypically represent the European variation in fertility behaviour and women's employment. Spain combines internationally low levels of female labour force participation with a traditional fertility pattern, according to which fertility is negatively correlated with women's level of education. It is, furthermore, a country in which the reconciliation of motherhood and paid employment is unusually difficult, both because of widespread job precariousness and because of unusually underdeveloped mother-friendly policy: paid maternity leave is limited to four months, there is no parental leave, and access to day care for the under-3s is very scarce and, being predominantly private, also expensive. Spain epitomizes the emerging *low fertility equilibrium* with fertility rates hovering around 1.2. Denmark represents the new *Nordic* model that combines universal female employment with above-average fertility, and the latter is now *positively* correlated with women's educational level. Denmark stands out for its very comprehensive and generous family policies: 18 weeks' paid maternity leave plus another 10 weeks of parental leave (which can be extended another 26 weeks), and subsidized day care that is now virtually universal (Gornick and Meyers 2003).[2] As recent Danish research has shown, when controlling for other observed characteristics, Danish women do not suffer any significant income loss due to children (Datta Gupta and Smith 2002).

3.2. Explanations of fertility behaviour

Research on fertility in advanced countries emphasizes two sets of causal mechanisms. Some demographers, notably Van de Kaa (1998), see the long-run decline of births as part of the *second demographic transition,* a correlate of modernization and post-materialist value change. The argument is that people place greater priority on individual self-fulfilment and, therefore, seek to

[2] Danish legislation has changed and the description above refers to the years covered in this study (1994-2002). Formally, the parental leave system includes father leave, but in practice take-up is very low (Pylkkanen and Smith 2003).

limit fertility. This theory may help explain the overall trend, but seems less useful in accounting for historical variability and cross-national variance among nations presumably equally post-materialistic.

As to the former, the sudden leap in fertility during the baby-boom decades seems a bit inconsistent with a value-driven explanation, since fertility began to decline long before the war, experienced a resurgence for some decades, and then returned to a steadily declining trend. Did the postwar decades mark a pause in post-materialist values? Regarding the latter, we can observe substantial cross-national variance, with total fertility rates in North America around 2.0, in Northern Europe around 1.8, and in Southern Europe a low 1.2-1.3.[3] Regional differences are even greater, as evidenced by sub-1.0 rates in Asturias, Galicia, Veneto and Liguria.

Survey data suggest that citizens have not lost their taste for children. With minimal variation, adults in all EU countries express a preference for 2.2–2.4 children on average (Sleebos 2003). Failure to attain anything even close to the desired number seems to require different explanations.

A second set of explanations derive from microeconomic theory, emphasising the opportunity cost associated with women's rising level of education (Becker 1991; Willis 1973; Mincer 1985; Hotz et al. 1997). Cross-nationally, this would imply that rates of female employment and fertility should be negatively correlated. At the micro level, fertility should be inversely related to a woman's educational attainment and labour supply. Theory would predict that fertility would decline especially when female earnings rise relative to males'—as has occurred in the U.S. during the past few decades.

Also in this case, empirical reality and theoretical prediction appear to be at odds. Cross-national studies show that the traditional negative correlation has now turned positive: fertility rates are higher where female employment levels are high (Ahn and Mira 2002). Equally puzzling, U.S. fertility has not declined during the recent decades of rising relative female earnings. The new

[3] For an overview, see Coleman (2002) and Brewster and Rindfuss (2000).

link between fertility and employment is frequently explained in terms of welfare state support to working mothers, in particular via policies that enhance employment flexibility (such as part-time jobs) and that diminish the potential opportunity cost of children (such as child allowances, job guarantees, subsidized day care, and parental leave). There is substantial empirical evidence that mother-friendly policy is key (Gauthier and Hatzius 1997; Billari et al. 2002; Esping-Andersen 2002; Meyers and Gornick 2003; Del Boca 2003). Analyses of national microdata also reveal discrepancies between reality and theory. As mentioned, Scandinavian fertility is now highest among women with tertiary education.[4] Nordic fertility is positively related also to women's earnings levels (Andersson 2000; Vikat 2004).

It is a basic principle in demography that postponing first births limits subsequent fertility (Kohler et al. 2002; Gustafsson 2001). Age at first birth has been rising everywhere, from about 25 years to 28-29 now—with minor variations across the advanced countries. Postponement is undoubtedly related to the rising returns to women's human capital investment (as standard theory would predict). Yet it seems like a poor candidate for explaining the cross-national anomalies discussed above. The Danish average age of first birth is pretty similar to the Italian and, yet, Denmark boasts 50% higher fertility.[5] And, as noted, fertility in the Nordic countries is highest among women with more years of education.

Since childlessness varies only little, postponement mainly affects the probability of having two-plus children (Martin 2002). In a recent Danish study, Jensen (2002) shows that postponement need not result in fewer births if circumstances allow for catch-up. Jensen emphasizes the cushioning effect of welfare state support and, in particular, of secure mother-friendly jobs. A particular variant of the postponement argument is now being applied to the Mediterranean countries, not so much related to longer

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[4] In the Nordic countries, fertility is curvilinear with respect to education: lower among the least and most educated women, and highest among those with a semi-professional, tertiary education (Bernhardt 1993; Esping-Andersen 2002).

[5] Denmark stands close to the international average, but the mean age of first births in Spain is now 31 (Jurado et al. 2003).

schooling as to the increasingly difficult and prolonged transition to adult independence (Kohler, Billari and Ortega 2002; Billari et al. 2002; Baizán 2004; De la Rica and Iza 2004).[6]

The starting point for most research is Becker and Lewis' (1973) and Willis' (1973) economic theory of family formation. The theory is built on a basic utility maximizing framework where the couple decides on the allocation of work and investments. This means specializing in paid and unpaid work and deciding upon the number of children in conjunction with decisions regarding their desired quality. In the *unitary utility* approach, the male's labour supply is treated exogenously. Women's specialization in unpaid work (and having children) should be negatively related to her expected wage penalty, and to the relative importance of her forgone earnings for total family welfare.

Considering the rapid convergence in male and female employment rates, one might relax the assumption that couples indeed do act and decide in perfect concert. If we were to assume that women decide primarily on the basis of their own individual utility preferences (such as maximizing life-long economic independence), we would nonetheless still predict that fertility would be inversely related to her perceived wage penalty. Since the wage penalty is smaller the later in her career a woman has children, we would predict that women with potentially high opportunity costs would be especially prone to delaying first births. But as noted above this does not of necessity imply *fewer* children in the end.

No doubt it would be just as hazardous to assume perfect decisional harmony as it would be to assume pure individualism across the board. Hakim (1996) provides a useful reminder of the heterogeneity of women's preferences, arguing that the share of women who put their own career first and then subject family decisions to this preference is everywhere minoritarian—as is increasingly also the traditional family-oriented woman. The large majority, according to Hakim's data, fall in between; that is to say, they insist on combining a family with a stable, life-long attachment to employment.

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[6] De la Rica and Iza (2004) and Baizán (2004) show that employment insecurity is a main explanation of postponed marriage and family formation in Spain.

It is standard to assume endogeneity in fertility decisions, and this is of particular relevance for any estimation of household-level decision-making. Women will choose their education, their employment status, and surely also their partner in accordance with their preference set (Blossfeld and Drobnic 2001; Hakim 1996). All else being equal, we should therefore expect women with strong family preferences to select partners that facilitate the realization of this desire, i.e., in this case the decisive covariates would bundle around the male's career and earnings characteristics, and far less around the woman's. To exemplify, a birth is more likely to occur when the male partner has stabilized his earnings prospects *irrespective* of the woman's status. Vice versa, births to career-oriented women depend primarily on events and transitions relevant for her employment prospects.

This said, one clearly needs to adopt a dynamic, life-course view. Life-cycle fertility models emphasize the timing of births in accordance with couples' sequential assessment of utility from a life-time perspective. Most economic models make the simple assumption that husbands devote all their working time to market activities; that their contribution to unpaid domestic tasks is *de facto* zero.[7] This implies that dynamic fertility models should combine the wife's production function, and the earnings potential of the husband.[8] The timing of births will depend on her pre-birth wage and her future earnings depreciation. The higher her wage and the expected depreciation, the greater the probability of postponing (first) births. Day care will help reduce depreciation and, in any case, births should coincide with the moment that husbands' earnings have stabilized (Cigno 1991: chapter 6; Hotz et al. 1997: 318).[9]

In our study we focus on second births, which requires that we make some adjustments to the standard approach. First of all, it

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[7] See, however, Cigno (1991) and, for a rare empirical application, Del Boca (2002). Tolke and Diewald (2003) have examined birth probabilities for Germany focusing primarily on fathers' employment characteristics.

[8] The production function derives from $w_t = HC(w_{t-1}, h_t) - \delta_1 w_{t-1} - \delta_2 w_{t-1}\, 1[h_t = 0]$, where δ_1 and δ_2 denote rates of depreciation ($0<\delta<1$), and $HC(w_{t-1}, h_1)$ represents the human capital production function. $1[.]$ is the indicator function.

[9] We assume (realistically) that the couple cannot borrow against future income.

is clearly less relevant to specify husbands' earnings stability and, secondly, we are not so much interested in the timing or postponement of the (second) birth as in the probability that it will occur at all—at least within the timespan that normally obtains.

The majority of empirical studies assign a uniform decision logic to households, and then deal with unobserved heterogeneity and endogeneity through fixed-effect or instrumental variable estimations. There is usually little attention given to the nature of the joint household; hence fertility decisions end up individualized. The joint element of couples trying to calculate utilities and opportunity costs in respect of their collectively shared attributes is partially lost. Most micro-level empirical studies concentrate on female co-variates and include (if at all) only summary information on husbands (typically education and earnings).[10]

The Hakim typology suggests that the nature of household bargaining will differ according to the kind of life project the woman envisages. In any case, the vast majority of couples decide on the basis of the configuration of their joint resources, constraints and preferences. Common sense tells us the same thing: why form a stable partnership in the first place if not for the purpose of doing things together? And within the menu of potential things to do together, having children must surely figure as one of the most epochal.[11]

We are, accordingly, left with an odd anomaly in the literature; namely that most research individualizes fertility behaviour while theory and common sense both insist that it must be examined interactively. This paper makes an attempt to bring back the joint element by including covariates that tap joint household characteristics. The task is to show that a model which gives more attention to the male's attributes and, especially, to his time allocation yields superior explanatory power than one that simply focuses primarily on the woman's attributes.

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[10] The need for more attention to the family's members in empirical research has been stressed by Kooreman and Kapteyn (1990) and by Del Boca (1997). There are of course exceptions, particularly within the literature on joint labour supply decisions.

[11] Of course, children may come as an accident although methods of birth control have drastically reduced this possibility. In this paper we assume that births to a couple are wanted and planned.

3.3. Fertility and joint opportunity costs

As mentioned, the standard economic approach to fertility assumes that the husband's relevance is reduced to his overall earnings power. The opportunity costs of children are, in other words, assumed to be purely female.[12]

The straightforward prediction is that the higher the child penalty, the lower the likelihood of births. The wage penalty will be higher the earlier in her career a woman decides to interrupt employment (Taniguchi 1999). The wage penalty is minor among the low educated and climbs sharply in relation to women's career chances (Anderson et al. 2002; Martin 2002). This is all perfectly consistent with the classical fertility-education correlation that human capital theory predicts (Calhoun and Espenshade 1988). Yet a couple's fertility decisions will take into consideration both internal and external compensatory factors. Recent research has highlighted the importance of *mother-friendly* welfare state programmes as one such external factor. Day care should reduce mothers' earnings depreciation; and paid maternity and parental leave will compensate for lost wages and potentially also diminish interruptions (Gustafsson and Stafford 1992; Gauthier and Hatzius 1997; Waldfogel 1998; Del Boca et al. 2003; Stier et al. 2001; Esping-Andersen 2002). Both may, however, yield ambiguous effects. If day care is predominantly private, low income households can easily be priced out of the market, and mothers' ability to remain employed will then hinge on the availability of a grandmother or other unpaid help. Where day care is mainly supplied through markets, the cost of day care becomes a regressive tax on mothers' labour supply and, in this case, the classical fertility-education correlation should change, since high-income (usually highly educated) households may substitute via purchased care.[13] The marginal cost of day care changes dramatically

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[12] There is substantial variation among empirical wage penalty estimates, although it is clear that it increases with women's level of education. U.S. estimates range from a cumulative value between $20,000–$50,000 (Cigno 1991: 93). Waldfogel (1998), comparing the United Kingdom and the U.S. suggests that the family gap for women is pretty similar: 20 percentage points. More than a third of this gap is attributable to interruptions during motherhood.

[13] This obviously depends on the cost structure of day care. In the U.S., costs (and quality) are far more differentiated than in Europe due to a greater wage spread. For several European countries, Esping-Andersen (1999) estimates that private day care is *de facto* priced out of the market for the majority of working mothers.

where it is predominantly publicly provided and subsidized, as in the Nordic countries.[14] Paid leave schemes may also yield non-linear effects depending, on one hand, on how they interact with day care provision and, on the other hand, on the duration of paid entitlements. Very long durations may have adverse effects on returning to work so may actually increase future depreciation.

Recent studies question whether *mother-friendly* policy is a sufficient explanation of the variance we observe across and within nations. Several authors now argue that job security (temporary versus permanent contracts) and job flexibility (public versus private sector) are also key (Bernardi 2001; Bernhardt 1993; Esping-Andersen 2002; Jensen 2002; Baizán 2004). Women may deliberately swap higher income for cushioned *soft economy* employment in order to better reconcile motherhood with work, and, most likely, protected jobs offer better guarantees against long-term wage depreciation.[15] Considering the spread of precarious employment in many European labour markets, especially affecting younger (and female) workers, the conventional *Beckerian* emphasis on income-price effects may now find its rival in job security effects. Employment precariousness should have adverse effects on fertility to the extent that women insist on a stable connection to employment prior to giving birth.

There has been far less attention to internal compensatory factors—although they are inherent to Becker's theory of investment and time allocation. One compensatory factor lies in the minimization of risk. If the partnership is of uncertain longevity, the risks associated with births rise. Hence, we would expect the duration of the partnership to be positively associated with births.[16] And we must, most importantly, relax the assumption that men's contri-

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[14] As a rule of thumb, about two-thirds of the total cost is subsidized in the Nordic countries, although there are important exceptions. Lone mothers receive a 100% subsidy and, especially in Denmark, the parental co-payment is income graduated so that their share rises with their income.

[15] Danish research shows that (would-be) mothers frequently move from private to public sector jobs (Jensen 2002).

[16] As Ellwood and Jencks (2001) argue, births have more significance for women's life chances than does marriage. However, the fertility decision is increasingly related to the perception of a stable and workable partnership and to the assurance of a stable income.

bution to unpaid housework is nil. According to Del Boca (2002), husbands' contribution to household work can be an important correlate of wives' fertility-work decisions. Again, one would expect non-linear effects. For women with a *traditional* family preference, husbands' contribution to housework is probably of little significance; not so for women with stronger career commitments. We would expect that women with a combined preference for employment *and* motherhood will select partners predisposed to chip in.

The standard quantity-quality fertility model put forward by Willis (1973) and Becker and Lewis (1973) proposes a production function of children as

$$N = f(\frac{X_c}{Q}, \frac{t_m}{Q}, \frac{t_f}{Q}), \tag{3.1}$$

where N is the number of children, Q is the quality of children, X_c is the total amount of goods and services purchased and t_m and t_f are the amount of the mother's and father's time dedicated to childcare. Since our focus is on decisions to have a second child, we assume that Q is fixed and that $N > 1$.

Parents' utility is given by $U(Z, N, Q)$ where Z is parental consumption.[17] The parents' lifetime budget constraint is given by $x_c = (T - t_m - t_{mz})w_m + (T - t_f - t_{fz})w_f$, where T is the total time each parent has, and w_j is the wage of parent j. Solving this model (see Ermisch 2003, for a full derivation) leads to the prediction that family size (and child quality) will be inversely related to the mother's expected opportunity cost of having a child. In principle, the above model allows for the father to dedicate time to childcare but, in practice, t_f is assumed to be zero. More importantly, it is assumed that t_f will not affect the mother's opportunity cost. The opportunity cost of children for the mother can be expressed as

$$Y_j^* = w_j + \beta\omega L_j, \tag{3.2}$$

[17] Quality and quantity are seen as interactive and this produces a non-linear budget constraint, so that the couple's lifetime income $I = \pi_c nq + \pi_z z$, where π_c is the cost of children's consumption and π_z denotes the same for adults (for a further elabouration, see Hotz et al. 1997: 294–297, and Francesconi 2002).

where w_j is the forgone wage and $\beta\omega L_j$ is the depreciation due to human capital erosion. A more general model of the mother's opportunity cost of having children is to incorporate the father's time for childcare. In particular,

$$L_j = f(t_m, t_f, HC), \tag{3.3}$$

where HC is the human capital level,

$$\frac{\partial L}{\partial HC} > 0, \quad \frac{\partial L}{\partial t_m} > 0, \quad \frac{\partial L}{\partial t_f} < 0.$$

The standard model presented above predicts that the higher the level of the mother's human capital (and thus higher potential wages in the labour market) the higher the opportunity cost of children, resulting in lower fertility. Now, to the extent that t_f>0, this should have a marginally beneficial effect on the mother's opportunity cost of children and would accordingly contribute positively to fertility. This implies that the higher the mother's level of human capital, the greater must be the father's contribution to childcare in order to generate a second birth in the family.

For the purpose of empirical estimation, we can frame the problem in terms of a very simple model:

$$\text{Probability (second child)} = aX_m + bX_f + cX_{mf}, \tag{3.4}$$

where X_m are the mother's characteristics, X_f are the father's characteristics and X_{mf} is the interaction of some characteristics of the father and of the mother. Given the above, if Xi $(i = m,f)$ is the mother's and father's level of human capital, respectively, we would expect the coefficient a to be negative and the coefficient b to be positive, as the standard model of opportunity costs would predict. To the extent that the father's childcare matters, we would expect the associated coefficient to be positive. Similarly, if X_{mf} is the interaction between the mother's human capital and father's childcare, we would expect the coefficient c to be positive.

3.4. Data and estimation

Using all eight waves of the ECHP 1994–2001, we estimate the likelihood of a second birth. We include only couples in our sample since our focus is on fathers and joint parental characteristics. As explained above, we compare two diametrically opposite countries, Denmark and Spain, in terms of features pertinent to fertility and female employment behaviour: while female labour force participation in Denmark is close to universal (ca. 82% in the relevant age group), Spain is an international laggard with 56%). The two countries also represent the two extremes of European fertility, with Denmark close to 1.8 and Spain around 1.1-1.2. And Denmark is a world leader, and Spain a laggard, in terms of public provision of day care, generous leave schemes, and in terms of flexible hours and job guarantees for returning mothers (Gornick and Meyers 2003). The two countries also occupy opposite ends of the job-security spectrum. Spain is the EU leader in terms of the incidence of precarious fixed-term contracts as well as suffering very high levels of youth unemployment.[18] It is well established that the incompatibilities between careers and motherhood are unusually severe in Spain and unusually modest in Denmark (Esping-Andersen 2002).

The ECHP provides panel data for eigth years and is, with some reservations, well suited for national comparison using micro data. There are important left-censoring problems, in particular due to lack of information on the duration of partnerships and individuals' careers prior to the first wave. We do, however, know the date of birth of the first child and this will be used to estimate duration. We restrict the sample to couples whose first child is younger than six years old.[19] The

[18] Denmark lies close to the EU average in terms of temporary work contracts, but these are not comparable to the kind that prevail in Spain. Most temporary jobs in Denmark are either youthful first-entry jobs or substitutions for personnel on (maternity) leave.

[19] This is motivated by two concerns. One, the vast majority of second births fall within 5 years of the first. Two, since fathers' dedication to childcare is a key variable in our study this needs to be measured while the first child is still of preschool age.

relatively few years at our disposal also imply right-censoring which, however, is a lesser problem since most second births arrive within very few years of the first (Baizán 2004). In our sample, the mean age of the first child at the time of birth of the second child is 1.9 in Denmark and 2.2 in Spain. Conditional on first births, the ECHP provides 768 *risk events* (corresponding to 278 individuals) for Denmark and 1510 (514 individuals) for Spain. Within the *6-year risk span*, there were 120 second births in Denmark and 115 in Spain. This implies that a little less than half of the sampled Danish women had a second child, compared to only 22% for Spain. Table 3.1 presents survival estimates, i.e., the likelihood that a mother with one child will *not* have a second within the defined risk span of the panels.

TABLE 3.1: A discrete time life survival table for mothers with one child

Interval		Denmark		Spain	
		Survival	***Std. Error***	**Survival**	***Std. Error***
0	1	0.9978	*(0.0022)*	1.0000	*(0.0000)*
1	2	0.9597	*(0.0096)*	0.9753	*(0.0051)*
2	3	0.7706	*(0.0219)*	0.9090	*(0.0100)*
3	4	0.5715	*(0.0272)*	0.8199	*(0.0142)*
4	5	0.4402	*(0.0288)*	0.7106	*(0.0178)*
5	6	0.3660	*(0.0296)*	0.5655	*(0.0212)*

Note: Only the last record of each subject was considered when computing the life table (option: tvid). We define a discrete time hazard rate, i.e., the event and right-censoring can only occur at the end of each interval. Hence we specified the option noadjust. The full Stata command line used is the following: ltable time censored, tvid(nid) survival noadjust.
Source: ECHP.

The ECHP provides information on the key covariates of interest, albeit not always as detailed as we would wish.[20] To assess the potential opportunity costs to women of motherhood, we

[20] See appendix, table 3.A.1, for descriptive statistics of the variables included.

use two variables. One, education which is a simple trichotomy of low (less than secondary), medium (secondary) and tertiary. We use medium as our reference category. Two, investment in adult, post-formal educational training. This latter variable is key since it addresses potential selection bias by differentiating women dedicated to careers from more family-oriented women. This variable is a time invariant dummy with no training constituting the reference category.[21] To identify the factors that potentially facilitate the reconciliation of motherhood and careers, we include information on her employment status (whether employed full time, unemployed, or inactive), contractual status (temporary or permanent), and sector of employment (private or public sector).[22]

As discussed earlier, economic theories of fertility assume that the husband's chief role is that of breadwinner. We therefore include information on the father's level of education (as above), employment status (a dummy for unemployed and inactive) and, most importantly, his income. Theory argues that the father income effect is non linear, i.e., that fertility depends on him attaining stable, permanent and sufficient income. Accordingly we prefer to measure father's income via a simple *low-wage* dummy and adopt standard practice by defining low wage as less than two-thirds of mean wage.

For both parents we also include standard variables of age and civil status (married, with non-married as reference). The latter requires some remarks when applied to Danish and Spanish data. For Spain the marriage variable is unlikely to play any significant role considering that first, not to mention second, births are extremely rare outside matrimony. For Denmark, in contrast, first births in the context of cohabitation are very common but it is also common to marry once a couple has children.

A key concern of our study are the joint household characteristics associated with fertility. The ECHP data, of course, do

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[21] In other words, we wish to highlight training that is initiated (and probably financed) by the mother herself.

[22] For Denmark we omit the permanent/temporary work contract variable, since fixed-term contracts in Denmark are not comparable with those in Spain.

not furnish information on couples' actual preferences and decision making, but we utilize three variables that help identify the allocation of time to caring for children. The ECHP does not provide precise data on access to day care. We use a *second-best* dummy variable which measures whether someone outside the household looks after the child on a paid basis (which can include babysitting). This variable is treated as time invariant and pertains to the year when the first child is one year old. This is motivated by the fact that most mothers are on maternity leave during the first year after birth. *No access* is used as reference category. A second key variable measures fathers' (self-declared) weekly hours of caring for the children. We use a trichotomous measure of fathers' dedication only for the first child (age 0-5). Zero hours (i.e., no care) is our reference category. This variable is time constant.[23] Thirdly, and most importantly, we introduce an interaction term (mother's investment in training multiplied by father's dedication to childcare). This variable is key in order to identify the extent to which fathers may help reduce the potential opportunity cost of births among career oriented mothers.

All time-varying right-hand side variables are lagged by one period in order to capture parents' situation at the time of conception, i.e., one year before childbirth, since this is presumably the moment that couples decide on the second child. Since our observations are annual, we adopt a discrete time analytical framework with logit estimations and introduce a log-time covariate (time elapsed since first birth) to capture duration.[24] The data is organized in person-years and most of the covariates are time-varying. The only time-constant covariates are parents' education including mother's post-formal education

[23] The variable distinguishes between zero hours, less than 14 hours, and 14 hours+.

[24] We have experimented with continuous time Weibull regressions that, in theory, should constitute the best fit for duration effects. But the few years available for estimation make this impractical. One possible alternative would be piecewise constant (or piecewise linear) estimations, but the Danish data set prohibits this since there is no information on the month of birth.

and the information on access to day care. In order to study the likelihood of having a second child we fit a logit model, accounting for the repeated observations on individuals via the cluster option.

Our modelling approach is imperfect since it does not allow us to capture potential endogeneity. One should assume, *a priori*, that partner selection and women's career preferences are also reflected in their fertility behaviour. Due to severe left censoring and the lack of retrospective information, the identification of an instrument to control for endogeneity is made virtually impossible. The single (and really only) candidate would have been the career training variable, but this can obviously not be used since it is key to our estimation of the father effects. Note, however, that the risks of biased estimation are reduced in that the (non-interactive) inclusion of the career-training variable helps minimize selection bias. That said, it is evident that our results should be interpreted with some caution.

A first examination of the ECHP data suggests that fathers' participation in childcare varies greatly across nations and, equally greatly, by their educational level (see table 3.2).

TABLE 3.2: Fathers' childcare by level of education

	None	<14 hours	>14 hours
EU			
< Secondary	58.6	11.8	29.6
Secondary	42.1	19.1	38.9
Tertiary	38.2	20.6	41.3
Denmark			
< Secondary	18.8	18.8	62.3
Secondary	10.9	20.6	68.6
Tertiary	6.5	15.9	77.6
Spain			
< Secondary	50.4	10.7	38.9
Secondary	30.5	23.2	46.4
Tertiary	31.6	17.5	51.0

3.5. Analyses

We fit the event history data to a discrete-time logit model for Denmark and Spain respectively. The eight ECHP waves yield 768 observations for Denmark and 1510 for Spain. With such relatively few observations, the estimates tend to suffer from high standard errors (see table 4.3).

TABLE 3.3: **Likelihood of a second birth in Denmark and Spain. Discrete-time logit estimations with standard errors adjusted for clustering on nid**

	Denmark	Spain
Logtime	2.703***	2.283***
	(0.382)	(0.277)
Mother covariates		
Age	–0.112***	–0.050
	(0.041)	(0.035)
Married	0.287	0.256
	(0.267)	(0.440)
< Secondary education	0.186	–0.380
	(0.461)	(0.287)
Tertiary education	0.603*	0.312
	(0.315)	(0.315)
Adult training	0.196	0.194
	(0.648)	(0.368)
Inactive	–0.543	–0.075
	(0.503)	(0.616)
Unemployed	–1.086	–0.229
	(0.659)	(0.666)
Full-time job	0.068	–1.131**
	(0.394)	(0.470)
Public sector job	–0.271	0.297
	(0.282)	(0.406)
Permanent contract		0.393
		(0.513)

TABLE 3.3. *(cont.):* **Likelihood of a second birth in Denmark and Spain. Discrete-time logit estimations with standard errors adjusted for clustering on nid**

	Denmark	Spain
Father covariates		
Age	–0.017	0.009
	(0.029)	(0.031)
< Secondary education	–0.324	0.057
	(0.367)	(0.270)
Tertiary education	0.077	0.505
	(0.308)	(0.296)
Unemployed	0.400	0.975
	(0.658)	(0.544)
Inactive	–0.430	0.363
	(0.578)	(0.930)
Low wage	0.175	–0.893 *
	(0.393)	(0.401)
Household covariates		
Use outside care	–0.025	0.065
	(0.253)	(0.329)
Father cares	0.857*	–0.090
	(0.418)	(0.246)
[Mother adult training investment multiplied by Father cares]	–1.213	–0.613
	(0.788)	(0.532)
N	768	1510
Wald Chi^2	113.56	101.59

Weak estimations notwithstanding, the models bring out the orthogonal nature of fertility decisions in the two societies.[25] In Denmark, clearly, the decisional logic departs substantially from the conventional model inherent in standard economic theory. Firstly, the male partner's role as breadwinner has *de facto* disappeared.

[25] The key effects that we highlight in our analyses remain robust whether we add or delete other variables.

Neither his earnings, employment status, nor his education have any influence whatsoever on second births. [26] The results for Denmark suggest, in fact, that fathers' principal relevance lies in their dedication to childcare. The coefficient for father's care is statistically significant, and the calculated log-odds ratio suggests that the likelihood of a second birth *doubles* when he actively participates in care.

Secondly, the results suggest that by and large Danish women face few genuine problems of reconciling children and careers. Indeed, contrary to conventional theory (but consistent with our earlier discussion), highly educated Danish women are more likely to have second births. With medium education as reference, the odds for women with tertiary education are 1.8. Similarly, fertility is not affected by whether the mother is full-time, inactive or part-time employed (although the sign is negative and approaches significance for unemployed women). There is only one case in which Danish women do appear to face potential opportunity costs that deter fertility; namely among women who invest in career training. When we exclude the interaction term (mother's investment in training multiplied by father's dedication to childcare), there is a strong negative effect of training on second births. In this case, the odds-ratio of 0.432 (z-statistic = –2.75) suggests that career oriented women are half as likely to have a second child. But when, as in table 4.3, the interaction term is included, the *career-training* variable actually turns positive (but is statistically insignificant).

The interaction term (mother's investment in training multiplied by father's care) is our key variable of relevance for the decision-making process within the couple. For Denmark, the coefficient is negative (and does not reach statistical significance). Taking this together with the previous findings, this suggests that Danish men do help compensate for the opportunity costs of births among career-oriented female partners but *only insufficiently*. Put another way, they pitch in to partly offset the child penalty of motherhood. This certainly adds a new twist to the traditional specialization thesis, in particular because we know that the compensatory behaviour of Danish males is far stronger among the highly educated.

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[26] We experimented with an alternative log-income specification, but the result is the same.

Two additional comments on the Danish results: one, we note that the effect of access to outside childcare has absolutely no effect on fertility. This is to be expected in the Danish context since practically all children from age 1 onwards are in public day care (Esping-Andersen 2002). Two, we note that the effect of the mother's age is more negative (and significant) in Denmark than in Spain. This, we believe, mirrors national differences in fertility timing and postponement. As we already noted, the age of first births is earlier, and the mean duration between first and second child in Denmark is far shorter than in Spain.

Comparing the Danish results to the Spanish, one is struck by the orthogonalities. While Denmark exhibits a *new world* of fertility behaviour, Spain presents a fairly good fit with conventional theory. We see from table 4.3 that Spanish fathers' human capital and earnings capacity influence fertility just as standard theory would predict. The likelihood of a second birth increases with the father's education (approaching statistical significance) and is sharply reduced (an odds-ratio of 0.409) if he earns low wages.[27] And, again unlike Denmark, the father's role as caregiver is completely irrelevant. The mother's human capital has, overall, little effect on second births in Spain. The interaction term of mother's investment in training and father's care does not have any effect on the mother investment variable and is, in any case, insignificant. Hence it would appear that Spanish couples' fertility decisions depend far more on the male's breadwinner capacity than on the woman's potential income penalty.

As discussed, research has emphasized the harsh reconciliation problems that Spanish women face due to the high incidence of precarious jobs, unemployment and the lack of access to flexible part-time options. The strong negative impact of full-time employment on second births suggests that this is indeed the case—although controls for permanent contracts and public sectors job do not have

[27] The Spanish model yields one result that is difficult to reconcile with either theory or common sense, namely that fertility is positively correlated (albeit not significantly) with the male partner being unemployed. This effect persists under different model specifications. One explanation may have to do with the geographical concentration of unemployment in the south—where fertility rates are also somewhat higher than average. Unfortunately the ECHP does not allow us to include region dummies.

any significant effect. In our model for Spain—in sharp contrast to Denmark—being full-time employed reduces the odds of a second birth dramatically (odds-ratio = 0.323). We note, finally, that access to outside (paid) care for children has no effect on births. Of course, the meaning of this variable is ambiguous (it is likely to be interpreted as, simply, babysitting) but in any case the availability of day care places in Spain is so marginal that it is unlikely to yield statistically significant results in a sample as small as the one we analyze.

Put differently, what our results suggest is that Spanish mothers cannot count on day care to help soften the incompatibilities of motherhood and careers. In the light of the far harsher reconciliation problems that Spanish women face one would, in fact, have expected that husbands' dedication to childcare would have become very salient. Our estimations show that it is not. The data available are unfortunately insufficient to unravel this puzzle. One might offer three different—but not necessarily mutually exclusive—interpretations. One, that Spain continues to adhere to the conventional male breadwinner culture. The figures presented in table 3.3 suggest this to be the case, but here we should also remember that the typical Spanish working day is exceedingly long and will normally not even permit the most dedicated father many hours available for care. Two, the inability or unwillingness of fathers to contribute to childcare may have something to do with the sheer size of the caring gap that needs to be filled. Most Danish children attend all-day, all-week child centres, and the margin of required parental attention is fairly small. In Spain, the vast majority of under-3s are not in any external care, and this implies essentially a full-time, all-day time investment that will seriously jeopardize careers. And three, Spain's low fertility comes primarily from the scarcity of 2+ births. So, many Spanish couples apparently forgo children rather than re-adjust the allocation of market and home production time. It is evident that we need more research to unravel this enigma.

3.6. Conclusions

Taking into consideration the limitations of our data, it would be folly to draw strong conclusions. With only eight panel waves and

fairly few observations, our analyses are inevitably constrained and suffer from large standard errors. Since we only have data on an annual basis, we are restricted to discrete-time estimations. And key variables are either missing (in particular the duration of the couple) or are measured in ways that are not optimal for this kind of research (especially, the day care variable is ambiguous, and the information we have on parents' time spent on home production is, at best, very rough). Worst of all, the data simply do not permit us to model fertility decisions as an endogenous process.

This paper should, in other words, be seen as explorative rather than confirmative; as an attempt to re-examine the ways that couples make fertility decisions in the light of the changing role of women and the difficulties they face in reconciling career and family preferences. It is precisely in this spirit that we selected two essentially orthogonal worlds of fertility and female employment, namely Denmark and Spain. The former country is no doubt in the international vanguard, and the latter a laggard, with regard to mother-friendly policy. In Denmark practically all mothers are employed within a context in which the potential career penalty of motherhood is substantially reduced. Hence, women have achieved *de facto* economic independence on a lifetime basis and this, of course, implies far less reliance on the male as income provider.

Of course, even with universal childcare, job security and flexibility, the potential income penalty of motherhood will not disappear entirely, and this we register in terms of the reduced proclivity of strongly career oriented Danish women to have a second child. The key result from our Danish model is that men's alternative role as care givers can help diminish this penalty, if not fully then at least partially. In brief, our results suggest that a decision-making logic very different from that depicted in standard fertility models is evolving in Denmark, while Spanish couples (for some reason) continue to adhere to the conventional mode. Our results therefore question the unitary utility approach that is prevalent in fertility theory. And they provide additional support for those who insist that fertility research must pay far more attention to the male's actual behaviour within the context of household task specialization and time allocation.

Appendix

TABLE 3.A.1: Descriptive statistics of variables included

	Denmark				Spain			
	Mean	**Std. dev.**	**Min**	**Max**	**Mean**	**Std. dev.**	**Min**	**Max**
Mother								
Age	28.79	4.71	17	46	29.17	4.60	17	48
Education								
Tertiary	0.41	0.49	0	1	0.30	0.46	0	1
Secondary (ref.)	0.44	0.50	0	1	0.24	0.43	0	1
< Secondary	0.15	0.36	0	1	0.46	0.50	0	1
Employment								
Employed (ref.)	0.72	0.45	0	1	0.44	0.50	0	1
Unemployed	0.12	0.33	0	1	0.13	0.34	0	1
Inactive	0.16	0.36	0	1	0.43	0.50	0	1
Permanent contract					0.22	0.41	0	1
Public sector	0.31	0.46	0	1	0.12	0.32	0	1
Full-time employment	0.60	0.49	0	1	0.31	0.46	0	1
Married	0.40	0.49	0	1	0.86	0.35	0	1
Post-formal education	0.20	0.40	0	1	0.13	0.34	0	1
Father								
Age	31.61	6.10	18	60	31.50	4.93	18	55
Education								
Tertiary	0.36	0.48	0	1	0.26	0.44	0	1
Secondary	0.48	0.50	0	1	0.23	0.42	0	1
< Secondary	0.16	0.37	0	1	0.51	0.50	0	1
Employment								
Employed (ref.)	0.89	0.31	0	1	0.89	0.31	0	1
Unemployed	0.05	0.21	0	1	0.09	0.29	0	1
Inactive	0.06	0.24	0	1	0.02	0.13	0	1
Low wage	0.20	0.40	0	1	0.29	0.45	0	1
Childcare	0.59	0.49	0	1	0.39	0.47	0	1
Joint								
Age of first child	1.89	1.53	0	5	2.19	1.65	0	5
Daycare	0.52	0.50	0	1	0.32	0.47	0	1
Investment in training multiplied by care	0.12	0.33	0	1	0.06	0.24	0	1

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4. Time Stress, Well-being and the Double Burden

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4.1. Introduction: recent changes in employment and fertility in Europe

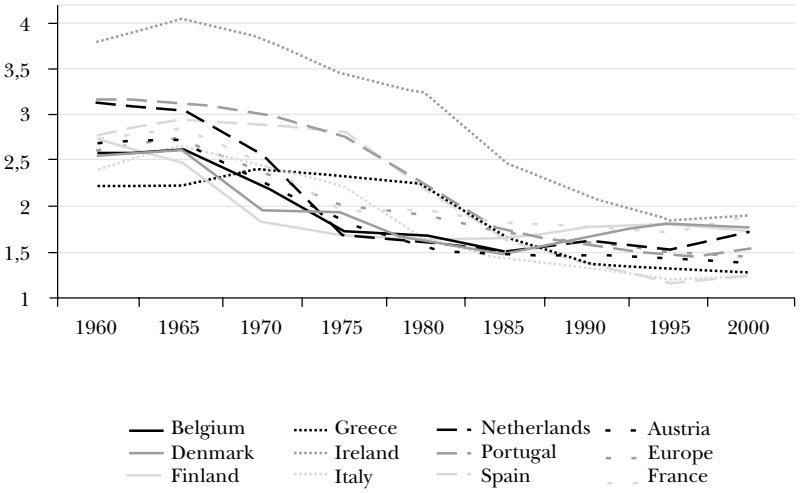
> *What is to be guarded is not so much the* married woman's right to work *as the* working woman's right to marry and have children.
> (Myrdal 1939 [1968]: 121)

In Europe over the last quarter century, fertility has fallen below the *replacement* level required to maintain population size over time (Coleman 1996).[1] Figure 4.1 illustrates this by plotting selected European countries' total period fertility rates (TFR). During roughly the same period women's employment in Europe expanded dramatically as table 4.1 shows, leading to the kind of relationship over time between women's employment and fertility in Europe illustrated in figure 4.2. These changes have led many observers either to simply assert a link between these two phenomena (Ahn and Mira 2002), given the plausible argument that employment might substitute for mothering, or proceed to investigate it empirically (Del Boca, Pasqua and Pronzato 2004). This link has important policy implications too. Both individual governments and supra-state agencies have become more interested in the relationship between the labour market, fertility and changes in the family (including changes in

[1] Replacement level is conventionally assumed to be a TFR of 2.1; however, as Pérez Díaz (2004) has shown, the actual figure also depends on developments in mortality.

the rates of family formation, diversification of family forms and changes in intra family relationships). Although the increase in women's employment has been vital to the expansion of the labour supply in European economies, concern has grown that incompatibility between employment and parenting may contribute to falling fertility rates and thus not only prejudice the long-term future of the labour supply, but also compound *population ageing*.

FIGURE 4.1: Total period fertility rates in selected EU countries 1960–2000



The social circumstances and constraints within which men and women balance paid work and domestic and childcare obligations across the life course have been changing rapidly for four reasons. First, the onward march of normative gender egalitarianism, together with increasingly formally equal opportunities in education and employment and the crumbling of the male breadwinner system, have strengthened norms of gender equality in the distribution of both paid and unpaid work, the distribution of rewards from it, and the sex-typing of tasks. In Europe, even in the short period where children under three are present in the household, most mothers as well as fathers are

TABLE 4.1: Employment by sex and parenthood, Europe 1983–2004

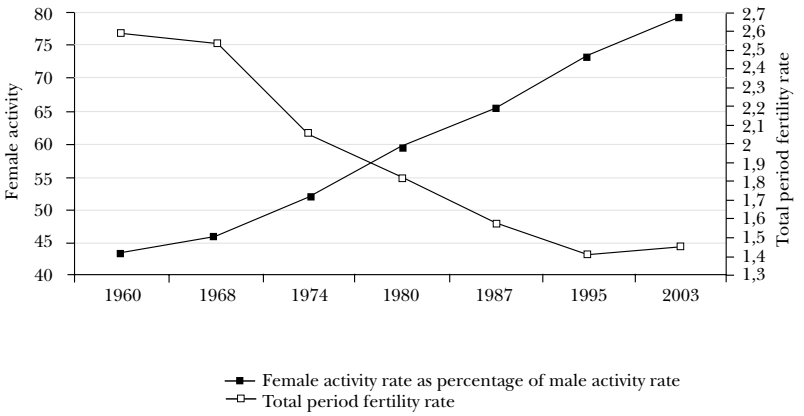
(000's)

	All non-parents 16–64		All in employment		Parents in employment		Percentage of workers who are parents	
	1983	**2004**	**1983**	**2004**	**1983**	**2004**	**1983**	**2004**
Males								
Belgium	1,942	2,348	2,228	2,322	1,055	873	47.4	37.6
France	9,767	12,104	12,535	12,963	6,099	5,258	48.7	40.6
Germany	17,449	19,819	19,984	19,527	7,403	6,233	37.0	31.9
Greece	1,683	2,468	2,265	2,586	1,126	918	49.7	35.5
Italy	10,391	13,088	13,694	13,133	6,897	4,822	50.4	36.7
Netherlands	2,842	5,541	3,283	4,433	1,510	1,576	46.0	35.6
Portugal	1,678	2,331	2,424	2,598	1,235	984	50.9	37.9
Spain	5,913	9,650	7,548	10,308	4,161	3,616	55.1	35.1
UK	11,151	12,833	13,503	14,667	5,506	4,998	40.8	34.1
All men	62,816	80,182	77,464	82,537	34,992	29,278	45.2	35.5
Females								
Belgium	1,938	2,211	1,164	1,761	563	706	48.4	40.1
France	10,110	11,851	8,619	10,947	3,743	4,409	43.4	40.3
Germany	17,622	18,779	13,737	15,993	4,585	4,912	33.4	30.7
Greece	1,883	2,498	1,100	1,592	444	539	40.4	33.9
Italy	11,019	13,105	6,498	8,590	2,951	2,988	45.4	34.8
Netherlands	2,736	5,415	1,630	3,535	509	1,326	31.2	37.5
Portugal	1,909	2,378	1,614	2,210	794	836	49.2	37.8
Spain	6,213	9,393	3,111	6,633	1,462	2,208	47.0	33.3
UK	10,899	12,185	9,353	12,754	3,156	4,441	33.7	34.8
All women	64,329	77,815	46,826	64,015	18,207	22,365	38.9	34.9
All men & women	12,7145	157,997	124,290	146,552	53,199	51,643	42.8	35.2

Notes: Data for Germany are for 1984 (former FRG), 1990 (former GDR), and 2003; data for Spain and Portugal are for 1986.
Source: Authors' calculations from Eurostat "New Cronos" database.
(http://europa.eu.int/comm/eurostat/newcronos/reference/).

employed (see table 4.2). Second, most states have assumed a rising share of the costs of parenting by increasing both services

FIGURE 4.2: EU15 female activity and total period fertility rate 1960–2003



and fiscal transfers to parents. Third, paid working hours for men have been in decline, while the number of children being born and cared for has everywhere declined substantially since the *boom* years of the late 1950s and early 1960s. Within this decline, the variety of work schedules, weekly hours of work and types of contract have all increased, alongside a general uncertainty about career progression and job security. Fourth, the life course distribution of paid work and childcare has changed. Men and women spend longer in education and training, enter employment at higher ages than before, become parents at later ages than before, or may even *postpone* this indefinitely. Men in their fifties are more likely to either reduce their hours of work or leave the labour market altogether than in previous generations.

Recently, considerable efforts have been made to boost the employment of mothers, given the high employment rates for women without dependent children. This has given rise to a prominent *Work-Life Balance* debate in the European Union (EU), the Organisation for Economic Cooperation and Development (OECD) and individual governments in Europe (MacInnes 2006). The academic contribution to this policy debate has been less than robust. It has adopted the terminol-

TABLE 4.2: Households where woman is employed by age of youngest child: Europe 2002

(percentage)

	Germany	Austria	Greece	Finland	Italy	Switzerland	Spain	United Kingdom
0 to 3	**27.6**	**35.2**	**41.2**	**44.8**	**45.8**	**46.4**	**47.7**	**55.7**
4 to 6	47.5	69.1	44.1	87.0	57.8	62.1	50.0	57.1
7 to 17	74.8	76.8	45.0	86.5	54.1	76.0	47.1	78.5
18+	77.9	74.4	49.5	73.4	64.9	75.7	61.0	86.2
None	64.8	69.6	45.8	72.8	56.5	68.3	52.0	73.0
0 to 3 only man works	64.1	58.4	54.4	49.0	50.0	51.7	45.9	35.4
N	1,731	1,618	1,568	1,245	768	1,430	1,034	1,148

	Ireland	Netherlands	Portugal	Norway	Sweden	Belgium	Denmark
0 to 3	57.4	64.7	65.5	67.8	70.3	73.7	75.0
4 to 6	57.4	64.5	75.5	84.7	76.9	80.8	84.5
7 to 17	56.4	70.8	72.1	87.3	86.5	67.9	89.5
18+	70.8	79.5	73.8	77.3	73.9	71.4	81.1
None	60.3	71.4	71.7	78.8	77.6	71.8	82.3
0 to 3 only man works	34.8	32.9	33.6	27.0	24.8	22.8	18.4
N	1326	1852	1006	1670	1420	1376	1118

Source: European Social Survey 2002; Authors' analysis.

ogy of *work-life balance* with little methodological reflection about its analytical limitations. It has, along with the policy makers, confounded fertility with reproduction, thus frequently overlooking the part played by changing patterns of mortality and life expectancy (Pérez Díaz and MacInnes 2005). Finally it has often used comparative transversal data to draw unfounded longitudinal conclusions (Blossfeld and Rohwer 1997). Our aim here is thus to provide some evidence, mostly longitudinal and country specific, that suggests that the social and economic trends relevant to fertility and work-life balance are more complex than the debate has sometimes recognized. There is both momentum towards greater equality in gender relations, and also inertia from the legacy of a more patriarchal past.

4.2. Time, work and *life*

In contemporary society, whose demographic novelty should not be underestimated (see, e.g., Pérez Díaz 2004), parenthood and its obligations can be understood as a freely chosen activity that competes with others for scarce resources such as time or money. This is well illustrated by a recent Eurobarometer survey on social exclusion that asked adults about what they considered was *absolutely necessary to live properly* (European Opinion Research Group 2005). As table 4.3 shows, neither men nor women of childbearing age were very likely to mention having children. We ought to be able to understand changing fertility patterns by comparing

TABLE 4.3: **Prerequisites for *living properly nowadays* Europe (EU15), 2001**

For each of the following, please tell me if you think it absolutely necessary to live properly nowadays or not?	**Men 25–44**	**Women 25–44**
Having a good job	89	86
Having sufficient accommodation for everyone to have their own space	88	87
Having sufficient leisure time and the means to enjoy it	88	82
Having a good education	80	83
Being able to go out with friends or family	82	82
Living with a partner with whom one has a good relationship	76	76
Being able to be useful to others	74	80
Seeing friends regularly	76	75
Having at least one holiday a year	69	68
Being on friendly terms with the neighbours	59	65
Feeling recognized by society	63	64
Having a successful career	54	48
Having children	48	57
Participating in associations, unions or parties	23	19
N (unweighted)	2,721	2,998

Source: Eurobarometer 56.1 2001. Authors' analysis. Results are weighted by the adult population of the EU15.

the resource constraints and opportunities of potential parents. We might imagine that, other things equal, those (potential) couples with more (actual and potential) resources might be both more likely to consider parenthood, yet also have a greater range of alternatives to having children that might compete for these same resources. Their opportunities and status concerns may lead them either to embrace or to postpone parenthood. We might expect potential parents to compare their constraints and opportunities transversally (with peers they know of) or longitudinally (both across their own life course, and what they know of their parents). Thus although the decision to have children may be a choice analogous to many others in contemporary society, its social determinants are not at all clear.

Such reasoning, or something similar to it, lies behind the recent proliferation of the *work-life balance* debate which tends to assume that paid work consumes time but provides other resources (including various social, psychological or physiological benefits), while *life*, and in particular parenting, consumes both time and other resources but might ultimately be seen as an end in itself to which paid work is the means. Becker (1981), for example, treats children as a consumption good; by contrast Sayers (1988) suggests how problematic it may be to treat work simply as a *means* to ends that may lie beyond it.

Within the *work-life balance debate* more attention has tended to be paid to the *work* side of the equation (Bielenski et al. 2002; Burchell et al. 1999; Kodz et al. 1998; OECD 2001; Taylor 2003), rather than the substantial falls in fertility levels and trends in the amount of time dedicated by families to childcare over recent decades (Budig and Folbre 2002; Craig 2003; Craig and Bittman 2004; Fisher et al. 1999; Gauthier et al. 2001; Hallberg and Klevmarken 2001). One reason for this is methodological. Standard cross-sectional surveys of attitudes and behaviour have sample sizes large enough to capture life events that either occur frequently or last a long time, such as participation in the labour market. However they are too small to capture information on less frequent or enduring events such as childbirth or the presence of young children in a family. Conversely surveys aimed a specific groups (such as parents of young children) may not yield

data comparable with that available for the general population, or information on transitions into and out of the group of interest. If we add to this the need for resource intensive *time diaries* to capture respondents' non-market activities, the potential survey costs become very high.

A second reason is analytical. Comparing *work* and *life* requires not only a common standard of measurement, but also some sense of which of a person's activities might be allocated to each sphere. Time is an obvious measurement unit. However allocating activities between work and life (let alone the yet more ambiguous category *reproduction*) is fraught with difficulty. If I enjoy my work does it thus become part of *life?* Ought not the hard graft of parenting be allocated to *work* rather than life? Time diaries (Bianchi 2000; Fisher and Layte 2002; Folbre et al. 2005; Sandberg and Hofferth 2005), no matter how detailed or accurate, do not and can not address this issue since it cannot be resolved by the nature of the activity or how it is performed, but also concerns the conscious and not so conscious purposes and experiences of the person undertaking it (see also Bryson [2003] on the shortcomings of time-use diaries for gender-related activities). However, we can circumvent this thorny problem of defining, allocating and accounting for different empirical activities recorded by *objective* clock time by focusing instead on their results for respondents' *subjective* perceptions of time.

While its meaning is far from unambiguous, *balance* implies some sense of equilibrium in the distribution of time, resources and satisfactions across both paid work and other aspects of people's lives, such that they do not suffer an absolute shortage of time either to undertake their obligations or realise their desires: a shortage that we could describe as *time stress*. Time stress is a subjective phenomenon but, paradoxically, that makes it a useful sociological indicator to work with. Rather than measuring the distribution of time across different activities and allocating these to *work* or *life*, it gives us a sense of how each individual imagines their existing array of conflicting obligations and opportunities stack up against others they might experience or aspire to. Time stress is thus always both about an individual's empirical distribution of time across various activities, and also about how they

choose to compare this distribution with other real or imagined ones. It is not about how *objectively* busy a person might be, but about what they understand *business* to comprise as well as the rights or obligations of different social groups to more or less time pressure. Linder (1970), following Becker (1965), argues that the absence of time constraints, and thus of time stress for individuals, is the dubious privilege of societies caught in absolute poverty of resource and opportunity. From a quite distinct theoretical perspective, Thompson (1967) reaches a similar conclusion: the politics of time is about how much autonomy people have to determine how they spend it.

There are specific periods in individuals' lives, especially those linked to family and labour market transitions, which often heighten conflicting demands on time. Gershuny (2003) recently noted the importance of family stages on men's and women's patterns of time use and its potential long-run consequences. Sixty years ago, Alva Myrdal (1939 [1968]) commented on the relatively greater *cumbersomeness* of children in modern, market-based societies. This cumbersomeness might usefully be thought of as comprising three dimensions. First, children cost money, both directly and indirectly in terms of earnings forgone (England 2000). These costs are of long duration. Under growing labour market uncertainty, especially for younger people, it may become more difficult to plan for such a long-term *investment* (Blossfeld et al. 2005). Second, children cost time, and in modern societies it may become increasingly difficult to combine time devoted to childcare with other activities. As economic progress raises wages it is likely that both the money and time costs of children will increase. These two costs, time and money, are multiplied by a third dimension, which is frequently unnoticed or underestimated: the *status specific* character of parenting. Children, especially infants, benefit from stability in *who* cares for them. A succession of different, anonymous carers, no matter how well qualified or disposed, is insufficient. To varying degrees, all parents thus face a double burden of paid work and caring work. Under the male breadwinner system this burden was addressed by a sex-specific division of labour, which the progressive feminisation of employment has clearly broken down. However the nature of the division

of labour that has replaced it, and the characteristics and determinants of the work and care burden of couples in contemporary Europe are far from clear (Breen and Cooke 2005).

4.3. The research question, data source and model specification

The above discussion leads us to the formulation of the research question considered here: what are the determinants of time stress for members of couples? Is the risk of experiencing it evenly distributed, or are those in particular employment and family situations more exposed? Are the same factors important for men and women? Does a *traditional* allocation of responsibilities for either the reproductive work within the family or paid employment outside it *protect* respondents from time stress? What is the relative contribution of the demands of *life* and *work* to time stress?

Data on family circumstances, employment situation and perception of time stress was taken from the European Community Household Panel Study (ECHP) because of four key considerations. It contains a range of relevant information available not only about individuals but about all members of their household, allowing us to investigate the characteristics of partners and children. It provides comparability across several countries. It is longitudinal, facilitating a dynamic analysis of the impact of family or labour market change. It has a large sample size (and records for eight successive waves) that allows us to capture enough *rare* life events such as childbirth as well as more long lasting statuses such as employment, residence or income. Limitations of the data unfortunately meant that the United Kingdom and Germany were excluded from the analysis, as was Sweden, where the ECHP does not take the form of a panel. Our analysis was therefore based on Denmark, Finland, the Netherlands, Belgium, France, Austria, Ireland, Italy, Greece, Spain and Portugal. We expected country effects to reflect different social policy environments, regarding the likes of parental leave, coverage of public or private childcare, school hours and fiscal transfers to parents. However,

differences between countries will clearly also represent other unmeasured factors. We estimated different models for men and women given that, despite advances in sexual equality, there still exists a substantial sexual division of labour in unpaid and paid work, as well as significant differences in ideological and normative expectations about the abilities and obligations of men compared to women, particularly in parenting.

To address more clearly the *double burden* for couples in childbearing ages we restricted our analysis to women and men aged 25 to 45 who at some stage in the course of the survey were in a couple partnership (defined as a married or cohabiting co-residential partnership). Our dependent variable was a dynamic measure of time stress. ECHP respondents were asked to rate their satisfaction with their amount of leisure time in terms of a six-point scale where six represented complete satisfaction and one represented absolute dissatisfaction (variable pk004). We wished to examine *decreases* in reported levels of satisfaction across successive survey waves, rather than look at absolute levels, since we could take such changes to indicate an increase in respondents' time stress. We therefore took as our dependent variable the *risk* or chance of *a decrease of two or more points in respondents' reported level of satisfaction with their leisure time across consecutive annual waves of the panel survey.* From now on, we refer to such a drop as *time stress.* By taking a drop of two or more points we intended to avoid counting random small changes. Floor or ceiling effects were controlled for in the model.

If we had simply taken the absolute level of satisfaction with amount of leisure time, we would have faced a number of problems which a dynamic approach helps us avoid. First, the original variable from which our indicator was built measures *satisfaction with* the amount of leisure time, and not the amount of leisure time itself. Different respondents with widely varying amounts of leisure time may nevertheless report similar degrees of satisfaction, depending on the comparator groups they use to make this judgement and norms about how such time ought to be distributed (Lerner 1987; Major 1989 and 1993; Major et al. 1984; Sen 1990). However we also know that respondents' estimates

of actual amounts of leisure time are not only likely to be prone to error but based on widely differing ideas of what constitutes *leisure*, and what activities it might comprise. Defined broadly, leisure time might be seen as embracing almost everything beyond paid work. Defined strictly, it might comprise only such time as is devoted to pleasurable or entertaining consumption. However, by measuring *changes* in respondents' satisfaction with their amount of leisure time we can be fairly confident that we are measuring changes in either the amount of such time, the comparator groups used or norms about rights to leisure time. A substantial drop in satisfaction implies an actual drop in amount of leisure time, or a shift, for some reason, in the norms and comparator groups used, or both.

In order to study the likelihood of reporting a relevant increase in *time stress*, we made use of a discrete time hazard rate model (the complementary log log model). We were interested in analyzing and comparing the consequences of certain circumstances such as childbirth and childrearing on conflicting demands on time for couple members in differing circumstances (income, activity, educational level, etc.) and coping through differing household strategies (e.g., division of care and paid work between partners). As indicators of conflicting demands on time we considered the combination of both respondents' and their partners' employment statuses. This double focus on both partners' activity status allowed us to explore the dependence of the allocation of responsibilities for care with respect to a respondent's contribution to household income, which *inter alia* might be taken as a rough proxy for *bargaining power* in a relationship (Sen 1990; Thompson 1991, 1993).

We thus inserted in the model controls for the total household monthly wage and salary earnings coupled with an indicator of the respondent's relative contribution to it (ranging from 0, meaning no contribution, to 1, single breadwinner). This indicator expressed each couple member's paid work hours as a proportion of the couple's total weekly work hours. All income measures were adjusted according to the corresponding Purchasing Power Parity Ratios (PPPs) and Consumer Price Indexes (CPIs) by year and country.

We defined *dependent worker* as our reference category activity status and divided others into (i) self-employed; (ii) in the educational system; (iii) unemployed; (iv) inactive (including homemaking, long-term sick and retired). Among the dependent workers we measured employment insecurity by taking those with a permanent contract as our reference category and comparing those (i) with a fixed-term contract and (ii) without a contract. We hypothesized that workers with greater security could more readily resist pressure to work intensively or extensively to improve the chances of contract renewal or extension. Since people employed on a full-time basis earn higher incomes and have less time left over from work than those employed part-time, they can be more exposed to conflicts regarding the balance between work and life. Since the distribution of paid work hours for men and women is different, we grouped them differently. For men we took those working 31 to 45 hours weekly as the reference category, and distinguished among those working (i) 1-30 hours; (ii) 46 to 60 hours; and (iii) more than 60 hours per week. For women we took those working 31 to 40 hours as our reference category and distinguished those working more and fewer hours respectively. We also included a variable that expressed each couple member's unpaid carework hours as a proportion of the couple's total weekly caring work hours. We also included a variable for level of satisfaction with *main activity,* which, for example, corresponds to *job satisfaction* for those doing paid work.

We created several sets of dummy variables for the number and ages of children in the household; for the number of hours of unpaid care work performed by the respondent, either for children or dependent adults (coded as 1–30; 31–50; > 50 for women and 1–30; > 30 for men) and whether they provided care for anyone other than children in need of assistance, either within or beyond their own household (coded as yes/no).

In addition to the indicators of activity status and *care load* in the family, other variables were included in the analyses, some only for control purposes. Respondents' educational level and previous level of satisfaction with leisure time belong to this latter group. The previous level of satisfaction was included

through a linear and a quadratic term in order to account for the *ceiling effect* implied in the scale nature of the variable. Finally separate models were estimated for men and women.

The process of interest was studied using an event history approach, with the event of a *decreasing* satisfaction framed in a competing risk setting with the event of experiencing an *increase*. However, given our theoretical interest about conflicts in time allocation, we focus here on the transition to *decreasing* levels of satisfaction with leisure time. Our main hypothesis was that the dependent variable chosen might serve as a good general indicator of respondents' perception of time pressure, which in turn is central to debates about work life balance.

4.4. The results

Table 4.4 shows a selection of the main results of our empirical analyses, as estimated coefficients and their associated significance levels. Because of space limitations we have omitted the control variables from the table. The reported results also proved robust to a variety of alternative specifications.[2] Robust standard errors (clustered by individuals) are estimated and the previous level of satisfaction with leisure time is controlled for with a linear and a quadratic term. Additional specification with individual fixed-effects models yielded very similar results, with the sole addition of a negative age effect for both men and women across all countries. We explained this result with reference to a lower expectation of leisure time associated with growing age, or possibly an increased tolerance for conflicting demands on time. However, we could not find relevant differences in the results attributable to any specific personal *trait* or unmeasured constant characteristic of the individuals reporting time-stress.

[2] All analyses available on request from the authors.

TABLE 4.4: Risk of time stress: men and women age 25–45 currently or formerly in a couple, by country, Europe 1994–2001

Hazard rate women	Denmark	Finland	Netherlands	Ireland	Italy	Greece	Spain	Portugal	Belgium	France	Austria
No children	–0.526**	0.249	0.098	–0.324	–0.010	0.067	–0.093	–0.162	–0.002	0.205	–0.299
Birth of child	0.049	1.293***	0.882***	0.576**	0.878***	0.930***	0.909***	0.452	0.586**	1.031***	0.802***
Youngest child 1–2 yrs	0.343	0.908***	0.681***	0.298	0.632***	0.434***	0.521***	0.441*	0.749***	0.493***	0.399*
Youngest child 3–5 yrs	–0.007	0.223	0.118	0.249	0.389***	0.076	0.326***	0.304	0.127	0.395**	0.186
Youngest child 6–12 yrs	–0.452*	0.170	–0.199	–0.146	0.251**	–0.062	0.034	0.082	0.120	0.197	0.077
Youngest child 13–18 yrs	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Self employed	0.397	0.534**	0.246	0.142	0.130	0.091	0.111	0.474**	0.026	0.231	–0.228
Student	0.971***	0.659**	0.724***	0.683	0.558*	0.783*	–0.262	0.314	0.280	0.440*	0.268
Unemployed	–0.323	–0.644**	–0.628***	–0.092	–0.674***	–1.178***	–0.643***	–0.430	–0.486**	–0.815***	–1.042**
"Housewife"/inactive	0.439	0.553**	–0.524***	–0.452**	–0.304*	–0.651***	–0.400***	–0.416	–0.379*	–0.317**	–0.790***
Dependent worker	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Temporary contract	0.435**	0.201	0.631***	0.243	0.004	–0.022	0.144	0.071	0.084	0.322***	0.106
No contract	0.241	0.368	0.108	0.043	–0.175	–0.318	–0.019	–0.178	0.153		–1.510***
Permanent contract	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Working hours 1–30	–0.659***	–0.127	–0.423***	–0.234*	–0.278***	–0.281**	–0.265***	–0.444*	–0.458***	–0.573***	–0.233*
Working hours 31–40	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Working hours > 40	0.642***	0.656***	0.563***	0.478*	0.543***	0.260*	0.701***	0.345**	0.399**	0.534***	0.454**
Her work hours/couple work hours	1.255***	0.374	0.710***	0.236	0.521**	0.244	0.306	0.245	0.255	0.266	0.384
Work satisfaction	–0.301***	–0.323***	–0.596***	–0.439***	–0.272***	–0.256***	–0.224***	–0.471***	–0.277***	–0.238***	–0.389***
Care for others	0.091	–0.026	0.419**	0.375**	0.338***	0.403**	0.295**	0.502*	0.559***	0.317*	0.389*
_cons	–8.055***	–8.753***	–6.799***	–6.008***	–9.306***	–10.55***	–9.678***	–9.729***	–8.793***	–6.792***	–6.713***
–2LL	(–2,157.0) –1,725.0	(–2,026.9) –1,634.8	(–3,721.1) –3,026.6	(–2,058.9) –1,674.5	(–5,992.1) –4,486.7	(–4,269.7) –2,782.9	(–6,073.2) –4,374.7	(–2,201.3) –1,767.5	(–2,402.8) –1,965.0	(–4,729.2) –4,073.1	(–2,022.9) –1,699.3

TABLE 4.4. *(cont.):* **Risk of time stress: men and women age 25–45 currently or formerly in a couple, by country, Europe 1994–2001**

Hazard rate men	Denmark	Finland	Netherlands	Ireland	Italy	Greece	Spain	Portugal	Belgium	France	Austria
No children	–0.050	–0.094	–0.457*	0.218	–0.127	–0.450**	–0.057	–0.263	–0.352	0.252	–0.252
Birth of child	0.402	0.588*	–0.064	0.461	0.089	–0.059	0.102	0.024	0.053	0.557***	–0.145
Youngest child 1–2 yrs	0.276	0.565*	–0.068	0.334	0.295*	–0.091	0.264*	0.201	0.131	0.463**	–0.190
Youngest child 3–5 yrs	0.229	0.027	–0.122	0.422	0.139	–0.257	0.106	–0.080	–0.066	0.403**	–0.152
Youngest child 6–12 yrs	0.242	0.160	–0.420**	0.438	0.151	–0.142	0.094	–0.275	–0.265	0.200	–0.195
Youngest child 13–18 yrs	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Self employed	0.302	0.129	–0.056	–0.009	0.384***	0.325**	0.315**	0.250	–0.084	0.189	0.061
Student	0.149	0.759*	0.529	–0.955	0.286	1.238**	2.611***	–0.236	–0.634	0.343	0.065
Unemployed	–0.392	–1.001*	–0.350	–0.816	–0.752***	–1.527***	–0.596***	–0.462	–0.574	–0.590**	–0.629
Inactive	–0.688	0.488	–0.263	–0.534	–0.912*	–1.228*	–0.841**	0.193	–0.251	0.176	–0.844
Dependent worker	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Temporary contract	0.295	0.332*	0.057	–0.025	0.265	0.253	0.303***	0.381	0.205	0.226*	–0.477
No contract	0.075	0.375	0.303*	0.001	0.016	–0.018	0.069	0.018	0.246		–0.197
Permanent contract	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Working hours 1–30	–0.292	0.306	–0.174		–0.199	–0.730***	–0.369*	0.389	–0.726*	–0.319	–0.054
Working hours 31–45	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Working hours 46–60	0.742***	1.064***	0.427***	0.802***	0.634***	0.527***	0.619***	0.949***	0.753***	0.677****	1.002***
Working hours > 60	1.114***	1.184***	1.322***	1.069***	1.150***	1.118***	1.060***	1.562**	0.794***	1.216***	1.426***
His work hours/couple work hours	0.210	0.023	–0.062	–0.327	0.058	0.256	0.030	–0.076	0.239	–0.335*	0.187
Work satisfaction	–0.334***	–0.268***	–0.444***	–0.348***	–0.305***	–0.225***	–0.233***	–0.459***	–0.318***	–0.167***	–0.295***
Care for others	0.224	–0.659	0.602**	0.347	0.421**	0.018	0.220	0.456	0.236	0.219	0.157
Constant	–7.543***	–7.677***	–7.395***	–7.524***	–9.193***	–10.811***	–8.834***	–9.574***	–7.944***	–6.672***	–5.650***
–2LL MEN	(–1,748.5) –1,448.4	(–1,494.9) –1,194.9	(–2,964.4) –2,444.4	(–1,362.2) –1,113.9	(–4,453.0) –3,309.6	(–2,731.8) –1,794.7	(–4,954.1) –3,516.8	(–1,739.0) –1,405.1	(–1,969.8) –1,581.4	(–3,992.6) –3,472.6	(–1,588.6) –1,346.2

Notes: Not shown: Control variables; Age; Household size; Number of children; Care hours; Household income from work.
Source: ECHP (8 waves); authors' analysis.

At first sight the results are surprising. The total paid work and care burdens for men and women were broadly similar (table 4.5). Men and women also reported similar degrees of satisfaction with their amount of leisure time (figure 4.3) and there was no significant difference in the likelihood of experiencing *time stress* by sex (figure 4.4). However, table 4.4 shows several persistent *male breadwinner* patterns. First, the results suggest that new births (irrespective of parity) are still more likely to produce time

TABLE 4.5: Gender balance of care and work burdens

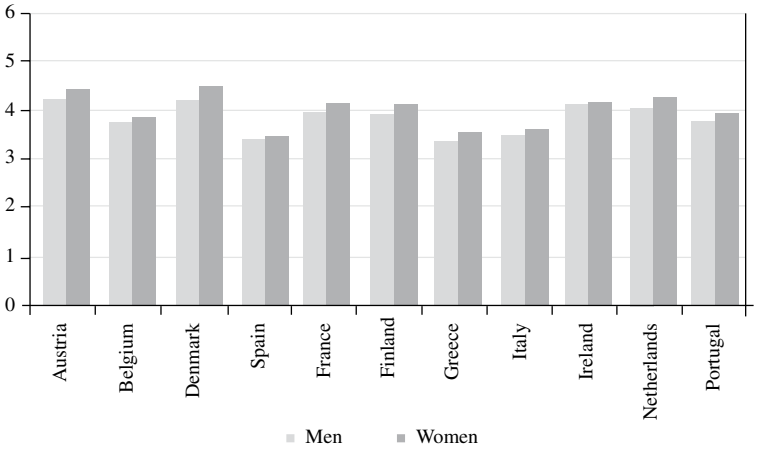
	Ratio-balance		Ratio-care		Ratio-work		Ratio-paid	
	Men	**Women**	**Men**	**Women**	**Men**	**Women**	**Men**	**Women**
Denmark	54.3	52.6	23.7	43.2	60.9	43.0	71.6	53.6
Finland	52.7	51.8	20.8	43.8	60.6	40.8	74.6	54.0
The Netherlands	52.8	55.9	17.9	55.6	72.5	34.0	78.7	41.7
Belgium	51.7	54.1	15.6	54.7	64.4	37.4	82.8	50.1
France	53.6	47.4	11.0	41.4	65.6	32.9	82.9	49.4
Ireland	**46.1**	**56.8**	**15.1**	**68.1**	**67.7**	**26.2**	**76.1**	**29.0**
Italy	**52.5**	**48.7**	**14.1**	**64.8**	**73.1**	**24.8**	**81.6**	**31.8**
Greece	**52.5**	**47.3**	**8.7**	**70.7**	**75.2**	**23.9**	**88.2**	**32.8**
Spain	**49.5**	**50.8**	**10.9**	**61.0**	**72.4**	**23.2**	**80.1**	**29.8**
Portugal	52.4	49.2	5.9	52.5	64.9	35.6	91.9	55.6
Austria	51.8	51.3	14.0	57.7	68.3	33.4	85.9	46.4

Notes: The first three categories in this table summarize the average work burdens of men and women in each country by calculating the ratio of their own contribution to that of the total burden for the couple of which they are currently a member, and expressing it as a percentage. If they are the only contributors in a certain domain (e.g., unpaid care or paid work), as well as if they are former couple members living alone (or only with other dependents), then their ratio is 100. If they have no work within a particular category (e.g., care of dependent children or adults) then their ratio is 0. Calculating the ratio in this way allows us to take account of the burdens of former couple members following separation, divorce or the death of a couple member. The table reports the average values of the distribution of each ratio.
Ratio-balance: paid work + childcare + dependent adult care.
Ratio-care: childcare + dependent adult care.
Ratio-work: paid work.
The fourth heading, *Ratio-paid,* expresses a different comparison: the ratio of men and women's paid work hours compared to their total work burden in hours (paid work + childcare + dependent adult care), excluding unpaid domestic work (for which adequate data was unavailable). In other words, it expresses the average part of their *working* time (excluding domestic work) that receives economic retribution.
Source: ECHP (waves 1–8). Authors' own calculations.

stress for mothers rather than fathers. Childbirth worsens women's time stress significantly in all countries except Portugal and Denmark. Newborn children more than double women's risk of reporting increased time stress in Spain, Italy, Greece, Austria, Finland, France and The Netherlands. By contrast, any impact on men fails to reach statistical significance in any country except for France and Finland (with around half the magnitude of that for women). *In all* countries mothers are significantly more likely to experience time stress than childless women whereas fathers are not (with the partial exception of Greece and France).

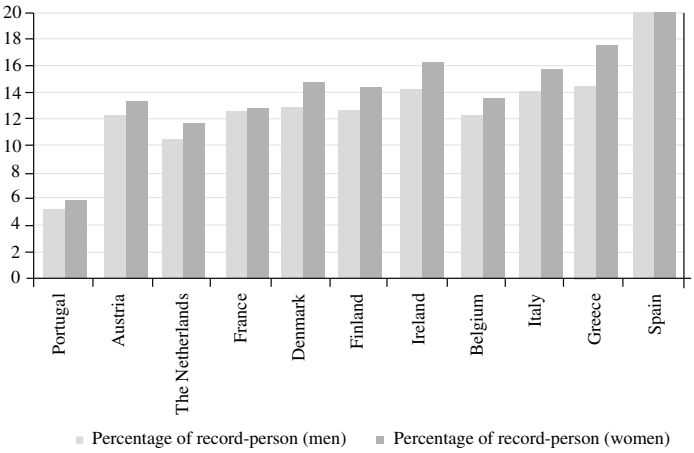
It is the age of children rather than their number that appears to matter: it is not their presence as such or the number of children that produces increases in time stress, but the presence of infants. Having a child aged one to two doubles women's risk of increased time stress in Belgium, Finland, France, Italy, the Netherlands and Spain, and raises it by about one half in Greece, Portugal and Austria. Once children pass the age of two, family time schedules seem to readjust, at least enough to prevent further increases in time stress. People *adapt* to having children, both through changes in their other obligations (e.g., reducing paid work hours) and opportunities (public childcare is much

FIGURE 4.3: Level of satisfaction at entrance record: men and women in couples 25–45



Source: ECHP (waves 1-8). Authors' own calculations.

FIGURE 4.4: Level of reported time stress men and women in couples 25–45



Source: ECHP (waves 1-8). Authors' own calculations.

more extensive for those aged 3+), or revision of their expectations about the amount of leisure time they might aspire to.

It is notable that in Italy, Spain and France, where school and employment timetables differ, the effect extends (with a decreasing magnitude) up to higher ages too. For men, however, there are few effects that reach significance, except in France and Finland. Overall, only in Denmark and Portugal, for very different reasons in each case, does either the arrival or presence of children appear to have little effect on parental time stress. Expenditure on families and children is higher in Denmark than any other European country (see table 4.6). Other studies have shown that, compared to parents with heavy work and caring loads elsewhere in Europe, those in Portugal are unlikely to report much time stress. This is consistent with a range of other research findings on the family and the labour market in Portugal. No single convincing account of this phenomenon has yet emerged, but one possibility is the relatively recent arrival of economic and social progress, so that parents making comparisons over time (for example with the experience of their own parents rather than with couples elsewhere in contemporary Europe) may draw positive conclusions about their situation.

TABLE 4.6: Social expenditure on family and children, 2001

	Euros constant 1995 prices
Denmark	1118
Sweden	739
Finland	710
Austria	703
Germany	693
France	610
Belgium	512
Ireland	438
United Kingdom	434
Netherlands	263
Italy	179
Greece	174
Portugal	122
Spain	68

Source: SEEPROS.

A similar division by gender exists for those who report regularly spending time caring for other adults (generally older persons, whether or not in their household). Women who do this have a significantly higher risk of increased time stress everywhere except in Denmark and Finland, where care-related services and provisions are notably good, whereas this is the case only for Dutch and Italian men. The incidence of such care was much lower than that of childcare, involving 5% compared to 66% of women in the chosen sample, and 2% versus 38% of men. However, since a control is implemented in the model for the total weekly number of hours devoted to care, the significance of this indicator points to the *load* on time management that this implies, either because it requires different schedules or brings fewer psychological rewards. Again, with the exception of Denmark and Finland (where care provisions and services are well developed) and with a lower magnitude in France and Austria, care for people other than children seems to add to women's time pressure in a way that it does not for men.

4.5. Couple members and paid work

While the arrival of children was the prime determinant of increases in time stress for women, it was the nature of employment that was most important for men. However these effects operated (more weakly) for women too. Unemployment lessened time stress for both men and women, as did *women's* inactivity (men's inactivity was different, probably because it is more frequently health related in this age group). Everywhere except Finland (and not reaching statistical significance in Denmark and Portugal) being a housewife lowered the risk of experiencing increased time stress, suggesting that inactive women were better able to adapt to changing demands on time allocation. Temporary contracts, when significant, worsened time stress. This result is of particular interest in Spain, where it affects almost one third of young employed men (Polavieja 2003). Being self-employed rather than an employee increased time pressure for men in the *southern* countries (Italy, Greece and Spain) where men are more often still the sole breadwinner and self-employment is more often a strategy to exit unemployment and carries lower degrees of social protection. It also proved significant for women in Portugal and Finland, probably because of the longer hours of work involved. Being enrolled in education, where significant, appeared rather incompatible with family life at this stage of the life course.

Part-time work appeared to protect more women than men from time stress, while, on the contrary, long working hours had a larger impact on men. ECHP data show that men with young children work longer hours. Given that infants not only pose new demands on time but also require increased family expenditure, childbirth looks like an event that routinely triggers a *reduction* in women's paid work hours (sometimes to zero; as in withdrawal, temporary or permanent, from the labour market) and a compensatory *increase* for men, consequently strongly associated with a rise in the risk of time stress.

In this respect it is interesting to note the effect of respondents' contribution to the couple's working hours. When a woman is the main or only income provider for the family (i.e.,

works longer hours than her partner), this as much as triples her risk of time stress (as in the case of Denmark). Conversely, being a traditional male breadwinner has no such effect on men. We know that women more frequently expose their leisure time to cuts than their working partners (Saraceno 1993). While men with inactive partners might be *served* by their wives (Major 1993; Major et al. 1987), this is sometimes at the cost of their own longer hours.

4.6. Work (main activity) satisfaction

However, work had a key effect beyond that of hours or contract status. One of the strongest predictors of individuals' risk of time stress was their satisfaction with their main activity: that is, for employed respondents, their *job satisfaction*. This was measured by a six-point scale rating respondents' *satisfaction with their main activity*. When a respondent was completely satisfied, their risk of experiencing increased time stress dropped dramatically. This effect was equally strong and significant for men and women, and occurred in all countries. The smallest drop identified was 63%, in Belgian men, up to a truly impressive 99% reduction in the case of Dutch women. This highlights the crucial distinction between clock time and its perception. Women or men who enjoyed what they did (whether in a paid job or not) were *protected* from experiencing time stress, independently of the actual amount of *free* time their care responsibilities and/or employment left them.[3] This effect was also large and highly statistically significant in the individual fixed-effect models. This suggests that some endogenous factor (i.e., because of some unmeasured *optimistic* trait, those individuals more likely to report a higher degree of work satisfaction may also be less likely to report declines in satisfaction with leisure time) was unlikely to be the cause of this effect.

[3] We explored two alternative specifications of this variable in our analyses. One measured only job satisfaction: i.e., when the main activity was employment. The other measured satisfaction with whatever the main activity was defined as being. Both specifications produced very similar results.

4.7. Conclusions

Our approach demonstrates the capacity of longitudinal studies to measure changes in attitudes or perceptions while controlling for variation across individuals in their *absolute* level. Thus the *absolute* level of a respondent's satisfaction with their amount of leisure time will largely be a function of the particular comparator groups (real or imagined) they use in making their judgement, as well as temporal comparisons with their own past experience and private beliefs about what comprises *satisfaction*. However *changes* in this level will depend upon changes in these three factors, all of which we might reasonably expect to relate to the occurrence of other life events (e.g., changes in employment, income, household or family composition, education and so on). Our results thus suggest that event history analysis of longitudinal data can provide valid indicators not only for behaviour, but also for attitudes, as in the case of our dependent variable. Event history techniques allow us to identify micro social processes that are often obscured within cross sectional *snapshot* surveys, however detailed.

Our substantial conclusions are, at first sight, paradoxical. Our measure of time stress and respondents' reports on the distribution of the *total* of their paid and caring work time both suggested that the sexual division of time stress in couples of childbearing age (including former members of such couples) was fairly equal (although *within* these totals, men still did more paid work and women more caring work). Moreover, the likelihood of experiencing time stress did not vary between the sexes. However, the *predictors* of time stress still differed substantially for men and women and, with the exception of Denmark, and to a lesser extent, Finland and France, resembled the traditional *male breadwinner* system. The strongest determinants of time stress for women were the arrival and presence of young, pre-school age, children. Conversely, the arrival and presence of infants had little effect on men. Results also suggest that more important than the number of children is the age of youngest child, and that it is the presence in a household of children below the age of three that most influences time stress, especially for women (and probably more indirectly, through a compensatory increase in working

hours, for men). The different time stress results for men and women caused by the birth and presence of children confirm that changes in men's parenting and domestic behaviour still lag behind gender change in the labour market and employment.

For both men and women, long hours of work increased time stress, but the effect was stronger for men. Women were more protected than men by short working hours, while men's stress was more often the product of very long (45+) weekly working hours. This suggests that a key element in contemporary *work-life balance,* given the sluggish growth in fathers' assuming more responsibility for reproductive duties, is mothers' ability to vary the extent of their paid work commitments, either by leaves of absence or by reducing weekly hours temporarily. This supports the evidence of those studies that have linked the structure and circumstances of labour markets (a strong protection of *insider workers* coupled with high temporality for new entrants, and a lack of part-time jobs) with *lowest low* levels of fertility in Southern Europe (Kohler et al. 2002; Del Boca et al. 2004). The data from national Labour Force Surveys (figure 4.5 for the United Kingdom and figure 4.6 for Spain) suggest that in these, and some other countries, virtually the only way either men or women can alter their labour market participation across the life course is to leave employment altogether rather than alter their hours of work. For both men and women, their own unemployment lessened time stress.

FIGURE 4.5: Weekly hours of work and employment rate by age in years: United Kingdom 2003

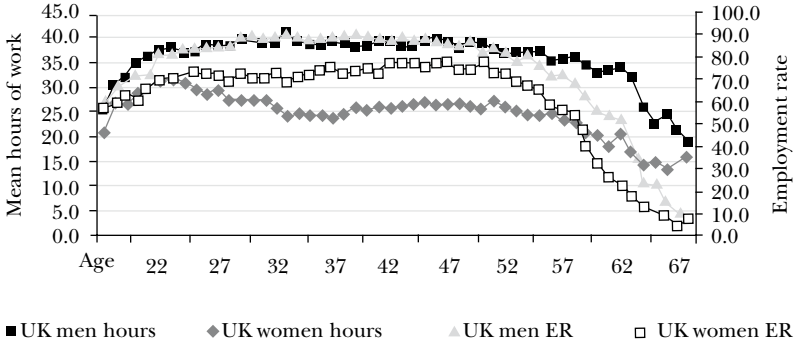
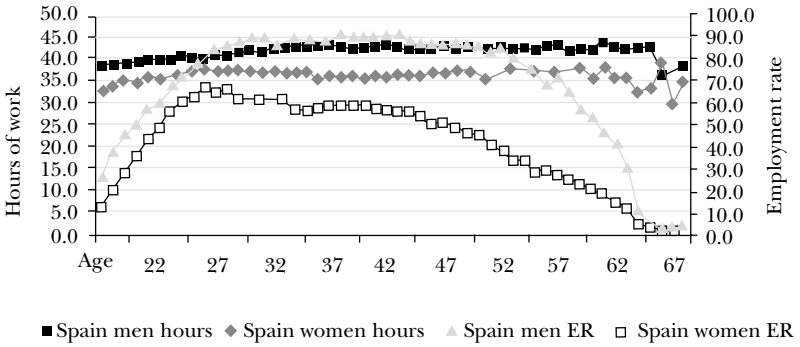


FIGURE 4.6: Weekly hours of work and employment rate by age in years: Spain 2003



This paradox disappears, however, when we consider the once ubiquitous *male breadwinner system* in Europe as a *reproductive* system rather than merely an employment system limiting married women's access to paid work. Our analysis here suggests that its reproductive aspect is central to contemporary fertility decline in Europe. Formal, and increasingly substantive, sexual equality in education and the labour market have revolutionised women's opportunities there, but the unequal division of infant parenting work in the home remains. Factors such as the lack of opportunities for fathers to take leave or reduce hours, or the excessive costs to the couple of doing so while sexual inequality in the labour market persists, mean that labour market adjustment to the arrival of children falls overwhelmingly onto mothers. There is one partial exception to this pattern, which perhaps shows where the future of work-life balance may lie: Denmark. Here the impact of substantial state support for parents allows both fathers and mothers to continue with full time employment with enough time to care for pre-school age infants to avoid any significant increase in time stress.

Our second substantive finding, that job satisfaction is a very substantial prophylactic against time stress is also, at first sight, surprising, but is nevertheless corroborated by evidence of quite

a different kind for the United Kingdom (MacInnes 2005). Both men and women who say they are very satisfied with their jobs, or with their *main activity* if they are not employed, rarely suffer time stress even if they work long hours or have young children. This finding demonstrates vividly the essentially social nature not only of time perception, but the social construction of work and leisure, effort and reward, necessity and freedom or alienation and expression. Those who spend their time doing what they value or enjoy, however intensively or extensively, rarely feel bereft of *free* time.

These findings have three general policy implications. The first is that to the extent that children, especially infants up to three years old, continue to create time stress for women, this might best be tackled by the extension of public childcare and employment protection for mothers, as developed in various ways by the Scandinavian countries. The second is that the sexual division of time stress between men and women appears to depend on the complementary way they alter labour market activity to cope with the presence of infants. Broadly speaking, fathers increase and mothers reduce their labour market commitment. We could hypothesise that while elements of such a division of labour might relate directly to sex (such as lactation), much of it has to do with employers' expectations and the occupational structure, such that it is either easier or more advantageous for mothers than for fathers to alter hours, take leave or withdraw from employment. This might best be tackled by greater focus on parental rather than strictly maternal employment rights, along with measures to combat general sex discrimination in employment. Third, attention can usefully be paid not just to the issue of *long hours* in employment, but the quality of employment and job satisfaction. It is probably the case that those with the least material resources to cope with time stress are often also those whose employment provides relatively few intrinsic rewards, leaving them with lives in which drudgery alternates with shortage of time and an accumulation of domestic and caring work. For them *well being, work-life balance* or even the concept of *free time* must seem a distinctly utopian proposition.

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5. Women's Employment and the Adult Caring Burden

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5.1. Introduction

The risk of caring for adults begins to be significant by the age of 35. One out of four Spanish women caring for adults is younger than 40, while the average woman has her first child at the age of 28. Therefore, since many women encounter an overlap between adult care and childcare, analyses of the trade-off between informal care and formal work need to also incorporate the adult care dimension.

Population ageing is one of the great challenges for policy making throughout Europe. Its consequences for pension guarantees and the financial sustainability of welfare states have received most attention, while the simultaneous rise in demand for care has been far less intensely scrutinized. Population forecasting informs us that, on average, the share of the ultra-aged (75+) nearly doubles every twenty years, and since this population group is characterized by extraordinarily high probabilities of needing care services, clearly the needs and risk structure that accompanies ageing will shift heavily towards service provision.

Considering that demand for care will rise exponentially over the coming decades, Europe's welfare states will be hard pressed to respond, not least because the traditional source of care that comes from family members is likely to dry up as women's lifelong employment becomes the norm. A first glance tells us that, with a few exceptions, public policy has been slow to develop across much of Europe. Moreover, the kinds of policies that have been adopted vary substantially. One can identify a distinct

Nordic approach that stands out for its emphasis on direct public provision of care services. Germany and Austria exemplify a second approach based, in this case, on cash transfers to households with caring burdens. Perhaps the most prevalent policy, so far, is to consider care a private matter, either by assuming that the market for care will function adequately for the majority (as in the United Kingdom) or by delegating responsibilities to the family itself—which is the prevailing view in Southern European policy. Southern Europe stands out for its lack of any systematic development of elderly care services. This cannot be ascribed to lack of need. Recent research on Spain has identified a huge unsatisfied need for home help services, nursing homes, and for housing adapted to the needs of the frail elderly. The prevalent informal care is, moreover, characterized by great inequities, both in terms of its distribution across gender and across the social classes (Sarasa 2003). At the time of writing this work, the Spanish government has produced a draft for a new adult care law that seems deeply influenced by the latest innovations in other conservative European regimes such as Germany and France, but whose final version is not yet before Parliament.

In a sense, the Southern European countries find themselves in a *tabula rasa* situation as far as caring policy is concerned. From a public policy perspective, this implies the potential for policy learning through an evaluation of the experience gained from reforms in other European countries. Simply put, the choice seems to be between three basic formulae. One, exemplified by Britain, combines a pervasive reliance on market purchased care with publicly provided services targeted quite narrowly to the truly needy. Considering the status quo in Southern Europe, this option would not entail a dramatic departure from existing policy except in extending coverage of public aid to a somewhat larger clientele. The second, exemplified by the insurance-based cash transfer policy adopted in Austria, Germany, and Luxembourg during the 1990s, would imply the establishment of a comprehensive additional social insurance scheme. And the third, exemplified by Scandinavia, would probably imply the most radical reform, considering that it would call for the construction of a major infrastructure of public service provision.

Any informed debate on policy reform and innovation must include an assessment of efficiency and equity. The former has to do with the comparative effectiveness of a policy to accomplish welfare goals in consideration of overall costs. The latter is a question of the direct and indirect distributional consequences of any given policy. The principal aim of this paper is to explore which policy combination may potentially yield the most *Paretian* outcome in terms of possible trade-offs between equality and efficiency. Before we turn to such analyses, we will first lay out the principal dilemmas involved and then briefly describe the workings of the different policy models.

To improve the provision of services for the frail elderly compels Southern European states to choose among the different strategies already implemented by other European Union members. We can summarize those strategies in three main options. First, the British one, where public services are available mainly for the poor or very frail, and remaining dependent people having to purchase services in the market. This, in essence, would mean more of the same for Southern European societies, only with greater coverage and more public resources invested. Second, the cash transfer option implemented during the 1990s in Germany, Austria and Luxembourg, among others, and third, the provision of public services with universal eligibility criteria as occurs in the Scandinavian states.

Do all institutional designs produce similar outcomes in terms of equity and efficiency? That is the issue we are going to explore. Before doing so, however, we have to consider two basic details: what the main dilemmas are, and what are the main patterns characterizing each institutional design.

5.1.1. The challenges of demographic ageing

Lower fertility rates and higher life expectancy are increasing the share of elderly people in all advanced societies. The ratio of employed to retired people is falling and threatens the future equilibrium of Social Security budgets. Over the past few decades, European governments have implemented reforms to address the issue of growing pension and health expenditure, many of which involve weakening entitlements for future pensioners.

Some experts suggest that the need for major spending reductions is unfounded, because the added social costs of ageing can be offset by the lighter spending on families and children that will accompany falling birth rates (Concialdi 2000).

It is, however, rather unclear how much of the increase in aged spending can be offset by potential savings in family and child benefits in the Southern European welfare states. As female employment is growing rapidly, governments are under mounting pressure to provide more public services for children. And we should not forget that a substantial increase in women's (and especially mothers') employment rate is being defined as key to improving the ratio between actives and retirees, as well as to broadening the contribution base for Social Security and general taxes. This is nowhere more true than in Southern Europe, where female activity rates *and* fertility levels are extremely low (Castles 2003). Realistically, future immigration flows alone will not ensure the sustainability of social security systems (Storesletten 2000). Leaving aside possible increases in productivity which will undoubtedly improve the available resources, the greater involvement of women in the labour market seems absolutely necessary in Southern Europe.

While it is possible that the greater financial burden due to ageing can be partially compensated for by raising female activity rates, we should bear in mind that healthcare expenditures are also powerfully affected by ageing. As Jenson and Jacobzone argue, all OECD countries face the question of how best to provide care for elderly persons who may be more frail than sick; more in need of help with everyday living than of medical care; more in need of support to live independently than requiring care in institutions (Jenson and Jacobzone 2000: 18). This is essentially the issue often defined as *ageing in place*. But very different policies lie behind this generic label. Major differences are evident with regard to the financing of ageing in place programmes, the kind of benefits to be delivered, and the criteria for eligibility. Any given choice will, in turn, affect the opportunities both to generate higher employment, especially for women, and to obtain a broader tax and social security contributions base.

Ageing in place policies can deliver relatively lower health service costs, higher employment and more public revenues, but this depends on whether the care available is designed to alleviate family caring burdens and to encourage women to seek formal employment. Where ageing in place programmes do not offer women enough incentives to obtain a formal job, the results in employment ratios and public revenues will be modest only. That may be the case if ageing in place delegates the bulk of caring work to the family, possibly accompanied by cash transfers. In such a scenario, the consequences for health expenditure are more ambiguous. Delegating caring activities to the family may curb public health expenditure in the short term, but since the health of informal carers is known to deteriorate when caring lasts a long time, the long-run effect may be rising spending.[1]

5.1.2. Adult care and employment

The relationship between care and employment can be studied by focusing on several dimensions. One dimension has to do with the new jobs directly created by the introduction of formal services to cover care needs. Recent research has shown that employment growth in the caring sector depends on the modes of financing and provision (Bosch et al. 2001; Christopherson 1997).

Another field of research, focusing on labour supply, home production and caregiving, examines the equilibrium between caring and working time, and tries to identify the conditions under which caregivers can combine caring and employment. That is our main concern in this work. The time allocation model suggests that caregiving and employment compete for the caregiver's time resources (Becker 1965). The trade-off depends on the relative marginal utility of paid work and caregiving which, in

[1] Neurotic disturbances are especially prevalent among caring women, and are associated to situations where being in charge of a dependent has negative consequences on caregiver employment (Singleton et al. 2002). The survey conducted by the PSSRU (1998) among English caregivers detected not only a high prevalence of mental disturbances but also that more than half had been ill during the year previous to the interview; a ratio that rose as caregiving hours increased. The most common illnesses were hypertension and osteomuscular diseases.

turn, depends on relative wages. The higher the actual wage rate or a caregiver's earnings potential, the higher the opportunity cost of caregiving.

Earnings potential and actual wages depend on individual attributes such as age, educational credentials, sex and the skills acquired through work experience. Furthermore, "in the long run, reducing work hours for caregiving or quitting work altogether will reduce the caregiver's earning potential and thus reduce the marginal utility of employment" (Spiess and Schneider 2002).

On the caregiving side, the marginal value depends on the accessibility to care services provided by third parties (market, state or relatives) and on the intensity of care needed by the receiver. At the same time, studies of caregiver stress find a decrease in their marginal utility of care at high levels of assistance provision. Notwithstanding this, the empirical evidence on the relationship between caring and formal work is unclear. Although most bivariate comparisons of hours of work and caring time show a negative association, results from multivariate analysis are less consistent, depending largely on how the samples are constructed and on the estimating techniques (Johnson and Lo Sasso 2000; Spiess and Schneider 2002).

Furthermore, the trade-off between care and work seems to operate within a framework shaped by cultural values. Whether to care or not depends on how deep moral values about family duties are rooted. In most advanced societies, in spite of the *individualization* thesis, rising employment rates among women have not produced any significant reduction in their motivation to look after frail relatives. Using ECHP data, Spiess and Schneider (2002) do not find any *caregiving crunch* when employment time rises.[2] Similar results have been found in the U.S., where the paid employment of female caregivers reduces caring time, but only when other formal or informal caregivers are available (Johnson and Lo Sasso 2000).

Do these results mean that no trade-off exists between caring and employment? The empirical research done by Doty

[2] Vast empirical evidence also seems to exist for Germany (Dallinger 2002).

et al. (1998) indicates that this trade-off is especially acute in the U.S., when women work full time and the care receiver's dependency is severe. In such a situation women confront a choice between cutting back their hours of work or accessing larger amounts of supplemental help, even from their husbands. So the main relevance of this trade-off is not so much for the dependents' well-being as for the carers'[3]. The main issue then is how caring interferes in carers' employment opportunities. Undoubtedly the nature of a country's welfare state support will have a major effect on how women reconcile care and employment, so this paper will also centre on the role of welfare institutions.

The importance of welfare regimes becomes clear if one considers that the amount and composition of *supplemental help* is strongly related to governmental policies. Johnson and Lo Sasso (2000) found in the U.S. that the likelihood of caring for parents among children aged between 53 and 65 was greater when their parents lacked alternative sources of social support. Similar results have been found for the EU (Spiess and Schneider 2002), where starting or increasing caregiving decrease the weekly work hours of midlife women. Spiess and Schneider (2002) also find significant differences between *Northern* and *Southern* European countries. Their results, however, cannot be used to draw inferences about institutional effects on caregivers' employment, since the *Northern* group brings together such different welfare regimes as Denmark (the only Scandinavian country considered), the Netherlands, Germany, France and Belgium. Since we aim to identify the influence of welfare institutions on the labour supply of caregivers, we must first know how welfare policies are designed at the national level.

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[3] We do not assume that the two are unconnected. We know nothing about changes in the quality of care when carers choose to work, but we stress the existence of altruistic values that place caring for relatives before self-interest. These values are also supported by reciprocal relationships. In the case of intergenerational relations, midlife parents tend to transfer time and money to their children that are then returned, mainly in time form, when the parents become physically dependent (Schaber et al. 1994).

5.2. Institutional designs of dependent care

We can identify three main groups of nations in the EU by the yardstick of coverage ratios (see table 5.1). The Scandinavian countries have developed the largest networks of nursing homes and home help services. There, around one third of elderly people receive one or the other kind of care, with home help services being the most important. At the opposite extreme, we find the Southern European countries where service coverage is lowest and care is most familialized. In the other in-between countries, coverage lies close to 10% of the elderly population; the bulk of services are nursing homes, although home help is rising.

In an attempt to curb demand for hospitals and nursing home admissions, most Continental European governments implemented new policies during the nineties. In 1993, Austria established a universal grant for dependent people. Germany, in 1995, set up a new Social Security programme covering dependence risk (one that Luxembourg imitated in 1998), and France implemented a new benefit in 2002 following a series of earlier unsuccessful reforms.

TABLE 5.1: **Services for elderly people at the end of 1990s**

Country	Share of coverage in percentage of people older than 64	
	Home help	Residential care
Denmark	21.7	9.0
Sweden	17.9	9.1
Netherlands	9.5	8.0
France	7.0	5.0
Germany	6.5	5.0
United Kingdom	5.0	7.0
Italy	5.4	2.2
Spain	2.0	3.0
Portugal	1.0	2.0

Source: Rostgaard, T. (2002).

These recent Continental European policies differ in important respects from the more longstanding and institutionalized Scandinavian experience with respect both to the instruments used and the results achieved. Key dimensions of policies that directly influence results are: the type of benefit, eligibility criteria, costs and sources of financing and the organizational model. There are, in each case, important trade-offs, meaning policy makers are forced to make hard choices.

5.2.1. Cash or in-kind benefits?

Two main public strategies can be used to address *ageing in place*. Public authorities can provide free, or heavily subsidised, in-kind services or they can choose to transfer cash benefits to households with a dependent member. The consequences of either strategy can be radically different.

First of all, they can affect dependents' well-being. Benefits in cash imply an increase in the income available for dependents, but there is no guarantee that this will translate into better care or into preventive actions against further deterioration of dependents' health. Benefits in kind can be a better tool for monitoring the health and autonomy of dependents, while offering more assurance that public resources are actually being invested in dependents' care.

Secondly, the type of benefit also has different effects on informal caregivers, in particular because it affects the trade-off between employment and caring. Still, at least in theory, what is really important is not so much the kind of benefit as its *intensity*.

Cash benefits can be interpreted differently, depending on the relative amount of money being transferred. Cash transfers reduce the caregivers' opportunity cost linked to potential earnings lost in the labour market. As a result, they may reinforce the traditional role of women by lowering the opportunity cost of informal caring. Alternatively, one may interpret cash transfers as a means by which women can purchase substitutive services or supplementary help that, in turn, allows them to remain (or become) employed. In fact these two possible effects of cash transfers were considered in the implementation of the recent

Austrian and German policies. However, the employment effects of cash benefits will depend very much on their generosity. Low benefit levels that do not match the cost of market services will, most likely, not permit women to purchase help as a substitute for their own informal care. Only when the amount of money is close to the cost of market services will women have a realistic possibility of seeking employment without incurring additional costs.

The double effect of cash benefits also works for benefits in kind. In this case, the main issue has to do with the intensity of service provision. Very restrictive or poor service delivery implies that dependents' needs will not be adequately covered, thus negatively affecting women's labour supply. Conversely, women will be more prone to be active in the labour market when the gap between the needs of dependent adults at home and the needs covered by external providers narrows.[4]

One extreme formulation of the employment-caring trade-off is represented by the *invalid care allowance* in the United Kingdom. Beneficiaries of this allowance are forbidden to work although most of them are poor women of working age. The allowance operates as a sort of wage but, with two serious disadvantages; it is neither sufficiently generous to permit the independence of the beneficiary, nor is caring recognised as formal work by the Social Security administration (Baldwin et al. 1991).

Benefits in cash are the cornerstone of the German, Austrian, French and Luxembourg reforms. Although the main motivation is to alleviate the rising demand for nursing homes and hospital beds, they also try, indirectly, to encourage the supply of formal services. Conversely, the cornerstone of the Scandinavian approach is the public provision of services, and cash benefits are of minor importance.

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[4] In a time allocation model the amount of unattended need determines the marginal utility of women for additional hours of care, and so influences women's choice between caring, leisure and working time. The higher the value of additional hours of caring the higher the price asked for working time, and women will prefer to care if the labour market does not offer high enough wages.

5.2.2. Sources of financing and eligibility criteria

There are three main sources for financing care; namely general taxation, social insurance contributions and private savings. In practice, all three can be combined.

Personal savings and insurance can be a source of private financing, but insurance companies have proven ineffective in raising the supply of formal services. Even in the U.S., where private insurance has been strongly promoted via tax deductions and grants, the results have been insignificant. Here, private insurance finances only 7% of total spending on nursing homes (Olsen 2002). The high costs of premiums deter most potential consumers (Wiener 1994).

Another disadvantage of private insurance is its incapacity to cover current and short-term needs, mainly because premiums are designed to cover future risks among the insured. Accordingly, people currently in need of care will be left out unless the public sector steps in. In other words, to ensure coverage it is practically inevitable that the public authorities assume at least some share in financing. The size of this share and the eligibility criteria for benefits differ, however, among welfare regimes. Eligibility can vary according to age and level of dependency. Furthermore, access to benefits may be conditional on previous contributions, means tested, or else open to all nationals or residents.

In the United Kingdom, public services are financed by general taxes and eligibility is restricted by dependency level, co-payment capacity and the absence of informal carers. The Scandinavian countries provide a large supply of tax-financed public services covering all citizens, no matter their income or age. From the 1970s onwards, they have pioneered the strategy of prioritising home help services and community care over nursing homes. Finally, in Continental Europe, tax financed services were generally limited to the very poor up until the nineties. Since then, the state has extended coverage to the majority of citizens, though not via direct services but by cash transfers, partially or totally financed out of Social Security contributions. The largest gap exists in the Southern European countries, where the public authorities still remain very inactive, insisting that care is a family responsibility. However population ageing and changes in the

role of women are fuelling a debate on what strategy the state should adopt to improve (and finance) elderly care.

One additional alternative is to include patient co-payments. Co-payment is currently used in Scandinavian countries, in the United Kingdom, and also in the new programmes implemented in Continental Europe, albeit governed by different rules. Co-payment is a useful tool in containing demand and public expenditures but it can, potentially, give rise to a perverse incentives structure. If, for example, the user fee is proportionally lower for nursing homes than for home help, then consumers would tend to demand admission to residential homes and reject the home help alternative even if their dependency level were low enough to enable them to remain at home with some additional assistance. Such perverse effects are de facto ruled out if, as in Denmark, home help is free and co-payment is confined to nursing homes. Conversely, the Japanese experience is a lesson in what to avoid. The new Japanese elderly care policy entails an ex-post and flat-rate co-payment. Users pay 10% of the total cost, independently of the services they consume. Furthermore, they first pay the full cost in advance and only later receive the reimbursement of the 90%. Campbell and Ikegami (2003) estimate that Japanese elderly use only 50% of the services they qualify for, because demand is concentrated in services with the lowest relative costs.

5.2.3. The cost of caring: how much and who pays?

Dependency forecasts are important for the evaluation of future costs. It is currently thought that ageing involves greater dependency, but available data seem to contradict that assumption. In many nations, the increase in life expectancy has come together with increases in *disability-free* life expectancy. The net result is that the average number of years in a situation of dependency has remained unchanged. The greater coverage and efficacy of health systems have contributed to lower mortality rates, but also to preventing some of the illnesses that are likeliest to cause disability. The contribution of preventive community health services is crucial here. Also, severe disabilities are strongly associated with the last years of the life cycle. This means that rising life expectancy is not necessarily associated with more years of

disability, but rather with a delay in the age at which disabilities become likely.

The future cost of caring does not depend so much on the absolute number of elderly people as on the demographic dependency rate; that is, on the ratio between dependents and potential caregivers. Caring has traditionally been concentrated among midlife women, but their role is declining. The ratio of women aged 45 to 69 over people older than 70 has dropped since the middle of the twentieth century and will go on falling in the future (European Commission 1993a). The increase in demographic dependency means households are likelier to be involved in caring for frail elderly in spite of the expanding welfare state (Sundstrom 1994). And this implies rising social costs for carers in terms of health, disposable income and employment opportunities. Here the question is how much the nation is ready to pool risks, and help households with dependent members.

Leaving equity and efficiency issues aside for the moment, the cost of caring can vary hugely depending on the criteria used to estimate it. Estimations of the non-monetary costs suffered by households with dependent members are not available at comparative level, and we have to limit our estimates to public expenditure, although even estimates of international public expenditure for elderly care are not that accurate.

Available figures are not homogenous; sometimes they include health expenditure and sometimes only social services expenditure. Furthermore, the distinction between expenditure for elderly care and for other adult dependents is not very clear. Jacobzone et al. (1998) estimate that public expenditure for elderly care in the most advanced OECD countries varied between 0.6% and 3% of GDP in the mid-1990s, the highest expenditure being in the Scandinavian countries and the lowest in Southern Europe.

Jensen and Hansen (2002) estimate that Danish public expenditure for all categories of dependent people, including those younger than 65, lies around 2.7% of GDP.[5] For the United

[5] This figure does not include the contributions made by users through co-payment, which reduce the public spending bill. Nor does it include administration costs at local level, which would push up expenditure.

Kingdom, the cost amounts to 1.3% of GDP (OECD 1998), while for Germany the dependency insurance implemented in 1993 alone absorbs close to 1% of GDP, although means-tested expenditures by local governments should be added to this figure.[6]

These figures may lack accuracy, but it is clear that the distribution of caring costs varies greatly across EU states. At one end, the Southern European states consider caring a private matter to be internalised within each family. At the other, the Scandinavian states have assumed the societal responsibility of caring for their dependent citizens. These figures parallel the coverage ratios discussed above, but some additional remarks are needed in order to understand differences in efficiency.

TABLE 5.2: Percentage of Gross Domestic Product expended on benefits for disabled adults and elderly people in 1998

	Austria[a]	Germany	Denmark	Spain	United Kingdom[b]
Benefits in cash	11.9	11.5	8.6	9.5	12.8
Benefits in kind	0.9	0.7	3.0	0.3	0.8
Total	12.8	12.3	11.6	9.8	13.6

Notes: [a] Austrian data do not include expenditure on home help and care in day centres. [b] United Kingdom data do not include expenditure on residential and day centres. The *Royal Commission Report* (1999) estimates total expenditure on provision of services at around 1.6% of GDP.
Source: OECD *Social Expenditure Database.*

Table 5.2 shows the structure of expenditure for a number of countries. Spain, Germany, Austria and the United Kingdom, although with different levels of spending on community services, share a similar bias in favour of cash transfers towards the elderly and disabled. Pensions and other transfers make up the bulk of expenditure. Theoretically, beneficiaries can buy the services they need in the market but this possibility is realistically limited

[6] Local governments cover the care of people who have not contributed enough to Social Security or who need more care than the Social Security will finance. Campbell and Ikegami (2003) estimate that most nursing home users are financed by local government.

to a minority and thus reinforces inequalities. Most interestingly, the total level of Danish expenditure is quite low (only a bit higher than Spanish), but with a marked bias towards benefits in kind. This, of course, helps promote employment and, in turn, a broader tax base, so means that the net public cost of caring is lower than denoted by the official (gross) expenditure figures. How much lower is difficult to evaluate, but Adema (1999: 30, table 7) suggests the difference is appreciable. According to his estimates, net social expenditure in the Scandinavian countries is 8 percentage points lower than the official gross spending figures. For Denmark, net expenditures are 36% lower than gross public expenditure, while the reduction is far smaller elsewhere (only 13% for the United Kingdom and 11.5% for Germany).[7] Assuming a homogeneous relationship between net and gross public expenditure for all welfare sectors, we could apply these coefficients to adult care benefits, including both in-kind services and cash benefits. The result is a very low net public expenditure in Denmark, equivalent to 7.5% of GDP, compared to 10.9% in Germany and 11.8% in the United Kingdom.

In sum, the Danish combination of cash and in-kind benefits seems competitive on efficiency grounds, when we consider the superior results not only in home help coverage but also in poverty reduction. At the beginning of the nineties, the elderly poverty rate was 1.3% in Denmark, against around 4% for Spain, the United Kingdom and Germany and 7% for Austria.[8]

5.2.4. Coordination and flexibility of health, social and housing policies

A wide variety of professionals and workers are involved in caring for frail elderly and other dependent people. Many of them depend on different branches or departments of government, and others are employees working for private providers or self-employed workers (that may be working in the black market). The coordination of such a heterogeneous mix poses major

[7] Spain and Austria's data are not included in Adema's report.

[8] Data obtained from the *Luxembourg Income Study* refer to 1990 for Spain and 1995 for the other countries. Poverty measured as equivalent disposable income below 40% of the median.

challenges from an efficiency point of view. Coordination is particularly difficult in welfare regimes where the finance of caring is split between health and social services, each with different rules of eligibility. Dependents are more likely to demand medical treatment in welfare regimes where social services are means tested whereas eligibility for medical services is either universal or conditioned by previous insurance contributions. The result is an inefficient allocation of public resources because of the over-utilization of hospitals, which are far more expensive than nursing homes or community-based services.[9] For this reason, the European Commission (1993a) recommends the containment of health expenditures through a reorganisation of nursing homes and the expansion of home help. Coordination difficulties increase moreover when both public and private providers share the supply of services. Unfortunately, we lack rigorous research and evaluation studies on this issue that would permit comparisons. In the United Kingdom, *case managers* with their own budget coordinate multidisciplinary teams at the local level (Tester 1996). Scandinavian countries operate a similar kind of scheme and, moreover, local governments have exclusive responsibility for health and social services (Casado and López Casasnovas 2001), and provide incentives that discourage unnecessary case transfers to hospitals (Kirk 1997).

Coordination between social services and housing is also of the essence. Efficiency gains are possible if public authorities provide access to housing adapted to dependents' needs, either by adapting conventional housing, or by promoting the supply of small nursing homes and shared housing. Dependency episodes are not always irreversible, and this means that people who become seriously dependent need not be confined in nursing homes. More generally, it is possible to organize service supply flexibly so as to ensure a flow that matches needs more closely. Someone may, for example, require hospitalization for a short

[9] Estimates for Austria, for example, indicate that in the mid-nineties, between 14 and 19% of hospital beds were occupied by elderly people who could be attended in their own homes or in nursing homes (Österle 1996), while in Japan, the so-called *social hospitalisation* has fuelled successive proposals to develop communitarian services and nursing homes (Assous and Ralle 2000).

time, followed by a stay in a rehabilitation centre, and can then later return back home, possibly contingent on adequate home help service or other amenities. Flexibility is crucial for coping with an acute crisis in a person's health, and also for the needs of informal carers.

5.3. Equity and efficiency of different institutions

Policies for dependent people must be evaluated by weighing their costs against the results obtained in terms of the quality of life of carers and care receivers. Here our concern is principally with the amount of time household members devote to care, and how this affects their opportunities for employment.

The ECHP furnishes harmonised data for European countries with different welfare regimes. The data are, however, somewhat limited in their ability to compare institutional factors. There is no information on households' utilization of social services, nor on the help received from relatives or on purchased private caring services. Hence, we cannot measure directly the effects of these variables on employment, although we can explore differences in labour activity between countries with very different institutional arrangements and try to see whether the results are consistent with the institutional hypothesis. We have selected the United Kingdom, Denmark, Austria, Germany and Spain as the best representatives of different welfare regimes.

In liberal regimes, like the United Kingdom, government offers only limited public services delivered through means-tested procedures. The accent is on encouraging market arrangements through incentives like tax deductions. Co-payment is an important tool for restricting demand in public services and for promoting private services. It is assumed that women are in paid employment and that this will help defray the costs. When this fails, attendance allowances are available to substitute earnings from work, if the caring needs of the dependent are serious enough. National surveys show a major trade-off between care and work for women but also men when they act as informal carers. Carmichael and Charles (1997, 1998 and 1999) find that

informal carers in the United Kingdom earn less per hour than would be expected given their human capital, and are less likely to participate in the formal labour market when they care for more than ten hours a week.

In conservative regimes reliance on kinship is greater; women's activity rate is lower than in liberal regimes and market services are not actively promoted. The role of government is generally limited to providing means-tested services. Since the 1990s, we have seen the implementation of new cash transfers for dependents, in order to compensate caregivers and, to a lesser extent, to encourage local networks of long-term care. Austria and Germany are pioneers while others, like Spain, have not yet passed any reforms of this kind. Here, then, we have an excellent basis for comparison.

Social democratic regimes have built up large networks of public services delivered on the universality principle. This has helped foster female employment, both by creating jobs in the welfare sector and by freeing women from informal caring work. Public social service supply will increase the opportunity cost for female carers, because they also increase the opportunities for relatively well paid jobs for less educated women.[10] In this group of welfare states, Denmark is by far the country with the largest and most generous coverage in caring services for dependent adults.

5.3.1. Patterns of adult care

It may come as a surprise that there is no clear association between the amount of people in need of care and the degree of caring done by households (see table 5.3). Denmark, Germany and the United Kingdom show high ratios of chronically sick and disabled as well as of dependent people. However, the share of households where at least one member spends some hours a week

[10] The importance of the opportunity cost of caring has been empirically validated in the EU by Spiess and Schneider (2001) using ECHP data. Women who have reached a second or third level of education experience significantly smaller reductions in weekly work hours than those with lower levels of education.

The expansion of public provision of childcare and care for the elderly in Scandinavian countries has nonetheless created more employment opportunities for middle or low qualified women (Theobald 2003), whose wages are not so low as in other countries where formal care is mainly provided by the private sector.

caring for adults is much greater in Spain and Austria than in Germany and Denmark. Indeed, Denmark scores lowest in terms of levels of family input.

TABLE 5.3: Disabled adults and informal caring

(shares in percentages)

Country	Denmark	Spain	Austria	Germany	United Kingdom
Share of chronically ill and disabled people	34,1	23,7	21,2	37,0	38,0
Share of people with severe dependency	5,9	6,0	6,2	8,2	na
Share of households with 1+ care givers	8,4	10,7	11,6	9,1	13,1
Households with 1+ caregivers/ dependents ratio	1,4	1,8	1,9	1,1	na
Average number of caregiving hours by households	17,2	53,8	26,3	24,3	21,7
Share of care giving people	6,4	5,1	4,8	5,7	7,9
Share of care giving men	38,6	23,0	21,1	33,1	34,9

Source: Own elaboration from *ECHP* 1998 data.

There is also no association between the amount of informal caring time and the ratios of dependency. Once more, Denmark exhibits the lowest average of household hours per week but Germany's ranking is similar to that of Austria and the United Kingdom. Although Spain boasts one of the lowest ratios of dependency, there are relatively more households with carers, and the average hours per week they dedicate is more than twice the number of the other countries considered.

Household duties are not distributed equitably between the genders, although this too varies by country. Denmark, together with the United Kingdom, represents the highest ratio of informal carers and also the greatest degree of male participation. Conversely, Spain and Austria have the lowest proportion of informal carers and also the lowest level of male participation. These

data suggest that the more caring for adults is considered a private and female activity, the more households will be involved in caring. When the need for care intensifies, the main carer will require supplementary help which, if unobtainable from formal services, will be obtained from other women in the family, many of them living in other households. Conversely, where the feminization of caring activities is weaker, additional help will draw more on the partner, thus limiting the number of households involved. The linkage between caring and gender depends on cultural values but on labour market structures also. Where the labour market offers employment opportunities for women, as in Denmark and the United Kingdom, the opportunity cost of caring rises for women and this helps force men to share caring responsibilities. This is probably especially the case where employment opportunities for older men have declined sharply, as has happened in Germany.

When dependency is acute and care needs very high, co-residence in the same household is an easier solution than living in separate homes. Everywhere the main carer of severely dependent people is a relative living in the same household; even in Denmark where the proportion of dependents cared for by non relatives is the highest.[11] However, huge differences appear among countries when we consider the number of dependents living with the person who cares for them. The data suggest that the supply structure of formal care has some influence on patterns of co-residence. In Denmark, universal access to home help allows dependent people to be independent in greater measure than in the other countries. Only one in three of Danish dependents live with their carers, compared to almost 70% in Spain, 57% in the United Kingdom and around 51% in Austria. In Germany, where dependents can choose in-kind benefits if they prefer, the extent of co-residence is a bit less than in Austria (see table 5.4).

From table 5.5 we can also see that informal caregivers need to spend less time caring in Denmark than in any other country. In Spain, followed by the United Kingdom, caregivers dedicate much more caring time, while Austrian and German caregiv-

[11] The coefficient of correlation between the ratio of caring for more than 19 hours per week and the proportion of dependents living with their carers is 0.75.

ers occupy a middle range position. Germans, who can choose between cash or in-kind benefits, dedicate somewhat less time than Austrians, who only can receive cash benefits.

TABLE 5.4: Place where caregiving is done

(percentages)

Country	In the home	Outside the home
Denmark	28.6	71.4
Spain	68.2	31.8
Austria	50.6	49.4
Germany	46.2	53.8
United Kingdom	56.5	43.5
Average	49.0	51.0

Source: Own elaboration from ECHP 1998 data.

TABLE 5.5: Average number of hours in caregiving per week

Country	1 to 4	5 to 9	10 to 19	20 to 44	45 or more
Denmark	39.76	20.36	19.52	12.39	7.97
Spain	2.90	4.96	20.54	37.28	34.31
Austria	11.00	16.35	32.43	30.58	9.65
Germany	13.91	19.83	26.83	26.45	12.98
United Kingdom	16.29	16.27	19.29	20.89	27.25
Average	16.77	15.55	23.72	25.52	18.43

Source: Own elaboration from ECHP 1998 data, except for United Kingdom and Germany; elaborated from ECHP 1996 data.

The impact of caring intensity on employment opportunities and health status depends both on the hours devoted to care but also the overall duration of caring obligations. A large number of hours for a long time not only distances caregivers from the labour market, but also has stress effects that can seriously damage their health. The ECHP data do not allow us to estimate the impact of caring for the chronically dependent, but we can consider as a

proxy the number of successive waves where interviewees say they are caring for adults. As table 5.6 shows, only a quarter of Danish carers have cared for more than two years, while the same proportion reaches 40% in Spain and Austria.

In sum, the Danish policy does not substitute fully for informal care, but it clearly allows caregivers more free time for leisure or formal work. The means-tested delivery of services in Spain and the United Kingdom claims much more of the time of informal carers, while the universal, or quasi universal, cash benefits of Austria and Germany put caregivers in a better position than means-tested programmes but still at distance from the Danish model of universal in-kind benefits. We turn now to the question of caregivers' employment possibilities.

TABLE 5.6: Caregiversdistributed by number of years of caregiving (1994 to 1997)

(figures in percentages)

Country	1 year	2 years	3 years	4 years
Denmark	47.5	28.0	14.8	9.8
Spain	37.0	23.0	26.1	13.9
Austria	35.0	22.6	20.7	21.7
Average	39.8	24.5	20.5	15.1

Note: Data for Germany and United Kingdom are not available since 1996 onwards.
Source: Own elaboration from ECHP 1994, 1995, 1996 and 1997.

5.3.2. The perception of employment impairment among carer women

The European Community Household Panel (ECHP) data allow us to explore the association between caring for dependent adults and employment, both from an objective and subjective perspective. The interviewed were asked if "caring for some adult or child impedes them from getting the kind of job they would like". The answers to this question represent the subjective opinion of caregivers on the employment consequences of caring.

TABLE 5.7: Women caregivers aged 20 to 59, without children and replying that looking after a dependent prevents them from getting a better job

(figures in percentages)

Country	Denmark	Spain	Austria	Germany	United Kingdom
Percentage	3.03	24.72	45.11	13.43	21.62

Source: Own elaboration from ECHP 1996 data, except for Austria which due to missing values have been estimated from ECHP 1997.

Table 5.7 shows, for each country, the proportion of women caregivers aged between 20 and 59 years with no children that believe caring impedes them from getting the kind of job they would like. Once more, Denmark stands out in that very few caregivers consider themselves to be limited in their job opportunities. Conversely, the share in Austria is so extremely high that one may doubt the reliability of the data. It also seems surprising that the proportion of Spanish caregivers that feel themselves impaired is only slightly higher than in the United Kingdom, when we consider the scarcity of formal care and the large number of hours expended by Spanish households. This unexpected result could be explained by the low activity rate of Spanish women. Those who are not employed cannot feel themselves hampered by caring if they do not wish to work, or if they consider that their inactivity is caused by factors other than caring like, for example, a lack of job opportunities. In other words, women's subjective perception of the limits imposed by caregiving will depend on how far they are attached to what Hakim (2000) has defined as *home-centred* or *work-centred* lifestyles.

Modelling the effects of the main factors theoretically influencing a worker's career can provide a more precise evaluation of caregiving effects on subjective perceptions of career impairment. Career opportunities are constrained by the time available, so more time spent on caring will reduce the amount of time available for labour supply or, alternatively, raise its price. Wages are higher for well educated women and one can expect that women with tertiary education will be more prone to invest in careers than in caregiving. Therefore, the feelings about career impairment of women giving a similar caring time should rise

along with educational level. But, at the same time, high earnings facilitate the purchase of substitutive care services, and highly educated women can choose to remain employed by redistributing caring time in a more flexible way. In this case, career impairment would be lower, as substitutive care services are more readily afforded. Hence, two dummy variables (poor and rich) have been added to the model measuring women's relative personal equivalent income *(wrpei)*. The *poor* variable equals 1 if *wrpei* is lower than 50% of the median, and the *rich* variable equals 1 if *wrpei* is higher than 1.5 times the median.

Women's age will also influence their perception of employment opportunities in several ways. Younger women are at the beginning of their careers, and therefore face potentially much more severe opportunity costs than do older women. In such circumstances, having to care for someone would be perceived as more of a burden by a younger woman. At the same time, objective labour market opportunities can affect subjective perceptions. In most EU countries, the youngest and oldest have the poorest employment opportunities. People younger than 30 are still consolidating their career; some are still in education, others in transition jobs and many in precarious jobs. At the other extreme, people older than 45 are more exposed to employers' strategies of replacing them with younger workers. In other words, perceptions of the consequences of caregiving should be the result of a mix between subjective and objective external opportunities.

Employment and marital status are other factors that influence the way women gauge their opportunities. Being inactive can have two opposite meanings. For women with deeply rooted traditional values, being inactive may be the result of a free choice independent of any caregiving responsibility. For the more career oriented, being inactive may be the result of insurmountable difficulties in coping with labour and caring activities. The answers of both kinds of women will foreseeably be different when asked about the effects of caring on their employment situation. More *home-centred* women would not feel impaired, because they would not want to work. Conversely more *work-centred* women would feel themselves seriously impaired if they became inactive because of caregiving duties.

Getting married reduces women's attachment to the labour market, even when they have no children. Between a quarter and a third of married women leave the labour force before having children in some European countries, and in Continental Europe many married women leave employment or change from full-time to part-time jobs when they become mothers (Stier et al. 2001). After children have been raised, most of them have serious difficulties in regaining the employment status they held prior to motherhood. Very probably many of those women will have lost their attachment to a *work-centred* lifestyle, and will be prone to undervalue the added employment effects of looking after a husband, parents or parents-in-law.

Table 5.8 shows the odds ratios from a logistic regression where the dependent variable is the answer given by interviewed women, aged between 20 and 59, to the question about impediments to doing the kind of job they would like. As independent variables we include age, labour force status, education, relative income, marital status and, of course, the amount of weekly hours devoted to caregiving. These hours separate childcare from adultcare; the second being measured with a dummy variable that equals 1 if the amount of time allocated in adultcare is higher than 14 hours per week. This time threshold has been chosen because a significant trade-off has been identified between adultcare and paid work when women jump above it (Sarasa 2006).

TABLE 5.8: Odds ratios for women's impediments to doing the kind of job they would like because of looking after children or dependent adults

	Denmark	United Kingdom	Spain	Germany	Austria
Aged 20–29	2.20 **	2.81 **	2.45 **	5.88**	7.99 **
	(3.68)	(4.97)	(11.35)	(11.44)	(15.38)
Aged 30–39	2.30 **	2.38 **	2.46 **	4.53 **	5.93 **
	(4.03)	(4.41)	(12.91)	(11.17)	(14.70)
Aged 40–49	1.36	1.48	1.67 **	3.25 **	3.44 **
	(1.41)	(1.90)	(7.43)	(8.55)	(10.10)
Category of reference women aged 50 to 59					
Secondary	1.15	1.13	0.89 *	0.95	1.16*
	(1.27)	(1.37)	(–2.18)	(–0.63)	(2.20)

TABLE 5.8 *(cont.):* **Odds ratios for women's impediments to doing the kind of job they would like because of looking after children or dependent adults**

	Denmark	United Kingdom	Spain	Germany	Austria
Tertiary	1.66 ** (4.30)	1.05 (0.40)	0.78 ** (–3.84)	0.81 (–1.84)	0.94 (–0.42)
Category of reference women with primary or lower education level					
Caring for adults 14 o more hours per week	2.17 ** (3.24)	0.57 ** (-3.09)	1.96 ** (11.47)	1.31 * (2.16)	1.55 ** (3.78)
Category of reference women caring less than 14 hours or not caring for adults					
Number of hours looking after children	1.02 ** (12.82)	1.03 ** (24.12)	1.01 ** (14.22)	1.02 ** (15.78)	1.02 ** (17.66)
Cohabitation	0.94 (–0.53)	0.99 (–0.08)	1.50 ** (5.96)	1.27 * (2.03)	1.15 (1.60)
Active in labour market	0.58 ** (–4.84)	0.46 ** (–9.00)	0.33 ** (–25.18)	0.19 ** (–22.22)	0.41 ** (–13.60)
Poor	1.44 (1.55)	1.15 (1.19)	0.97 (–0.65)	0.73* (–2.45)	0.98 (–0.18)
Rich	1.32* (2.13)	0.78* (–2.02)	0.74** (–5.43)	1.07 (0.65)	0.63** (–4.61)
Wave 3	1.01 (0.10)	1.15 (1.40)	0.66 ** (–6.73)	0.98 (–0.19)	0.79 ** (–2.57)
Wave 4	1.00 (0.00)	Na	0.70 ** (–5.61)	Na	1.26 * (2.49)
Wave 5	1.13 (0.95)	Na	0.76 ** (–4.23)	Na	1.04 (0.50)
Wave 6	0.90 (–0.78)	Na	0.86* (–2.27)	Na	1.29 ** (2.69)
Pseudo R^2	0.0876	0.2744	0.0978	0.1961	0.1604
Number of observations	4,600	4,712	13,176	4,757	5,714

Notes: Logistic regression estimated by STATA 8.0 software package. (*) Significant at a confidence level of 95%. (**) Significant at a confidence level of 99%. *Z* values between parentheses. Na: data not available.

Estimation adding ECHP 1995 to 1999 waves together. The first wave has been dropped because the question was not formulated then in some countries. Observations of all women aged 20 to 59. Dependent variable = 1 if women feel impaired; = 0 in any other case.

Looking first at the control variables, we can see that age undoubtedly influences the perceptions women have about the limitations imposed by caregiving on their employment opportunities. As expected, in all countries the youngest women express most dissatisfaction about the consequences of informal care for their employment opportunities. Employment status also has a clear influence on the answers of interviewed women across all selected countries. Being active reduces the probability of feeling impaired, probably because those feelings are stronger among women that have been forced to abandon their jobs to care for a relative. In Denmark this rarely occurs, while it is quite common in conservative and liberal regimes, especially among married and low-educated women.

Looking at the variables related with to theoretical social care theoretical effects, one can see how allotting more than 14 hours per week to adultcare is positively associated with negative feelings of impairment among women. The United Kingdom shows a surprising negative association that is probably spurious, since the share of women allocating time to adultcare is higher even than in Spain. Might it be that the British ECHP data included volunteering? In any case, how subjective perception of impairment relates to socioeconomic status seems to be mediated by the welfare regime. The effects of education on career impairment confirm that penalties are unequally distributed when disposable income is the main resource for accessing substitutive services. When coverage is extended across all social classes, as in Denmark, perceptions of impairment rise with education and income. Conversely, where substitutive services are distributed through market prices, low-educated women cannot afford them and are compelled to reduce their working time, thereby suffering greater penalties. This is clear in the case of Spain, in whose residual welfare state the share of unsatisfied caring women gradually declines with rising education and income. The other selected countries follow the same pattern as Spain but with lower statistical significance.

5.3.3. Dependent adult benefits and carers' employment opportunities

At first sight, bivariate descriptive figures point to some trade-off between caring and working time. Labour inactivity

and part-time employment are more frequent among midlife caregivers. Figures offered by Spiess and Schneider (2002: tables 2 and 3) seem to confirm that some differences exist across welfare regimes. The share of midlife women (aged 45 to 59) in employment is lower among caregivers in every country, but the differences in employment are 1.7 times higher in the more *liberal* United Kingdom than in Denmark, and 2.5 and 3 times higher in the *conservative* Germany and Spain respectively. The pattern of these differences is roughly repeated if we include younger women and extend the sample to age 25 to 59. Our own estimations from the ECHP 1996 wave show that Denmark retains the lowest difference in employment ratios (around 7% lower for caregivers) and Spain the highest (36% lower employment among caregivers), although some changes emerge in the middle ranks where caregivers' relative employment becomes lower in the United Kingdom (18% lower employment than the female average) than in Germany (13.4%) and Austria (7.1%). Considering part-time work, the share of caring women working less than 15 hours per week is only slightly above average in Denmark and Germany, but is especially high in the United Kingdom and Austria where the overrepresentation of part-time jobs among caregiving women is 4 times higher than in Denmark.

Caregivers encounter at least two limitations to their employment opportunities. For employed women, caregiving reduces the amount of time available for paid work, training and professional improvement. The longer it lasts, the greater the effect, with the resulting damage to their careers. Furthermore, when everyday caregiving absorbs a lot of time, women may be forced to abandon their jobs. But the theory of intergenerational transfers supposes that the impact on labour-market conduct of children caring for their parents will partly depend on whether the help is provided in time or money. Providing labour-intensive care for dependent adults may prevent carers from working or persuade them to reduce their work hours (a middle-aged worker, for example, may elect to advance retirement age because of such duties). Alternatively, while market services enable a child to purchase rather than provide care, a person with financial

responsibility for the care of frail parents or other adults may elect to increase their labour supply or delay retirement, in order to ensure enough income to buy substitutive services (Soldo and Hill 1995). The extent of such behaviour does not seem that great across European Union states, but Spiess and Schneider (2002: 18) find that "a relatively sizeable proportion of caregiving women starts both—caregiving and working, increases both—work hours and caregiving hours, or reduces work effort along with care effort". Intergenerational transfers of time and money can be substituted for one another depending on the affordability of market substitutes for direct services. In this situation, cash transfers may operate as a demand subsidy facilitating substitution in a way that would promote women's work hours. Thus the question to evaluate is whether cash transfers in Germany and Austria, and direct provision in Denmark, are equivalent incentives to caregivers' employment.

Modelling variables related with labour and caring activities may help us to better understand the association between them in each country. We can then explore whether national results are consistent with the welfare institutions hypothesis. A good way of modelling would have been to measure some indicator of care needs as the exogenous variable together with the amount of care received from market and public providers. That information is not available in the ECHP data, and we have chosen a dummy variable indicating whether the interviewed woman is caring or not, whatever the number of hours she spends. With this election we are supposing that most women with frail parents, and married women with frail spouses, spend some hours a week caring, no matter how many hours may be put in by formal providers.[12] In fact, to start caregiving is independent of employment status except when starting care means more than 14 hours at week.[13] We assume that the amount of hours spent by women is the residual of the hours needed by the dependent adult minus the hours supplied by other relatives as well as market and public provid-

[12] Caring some hours is normal among women even when formal service provision is extensive as in Denmark.

[13] Spiess and Schneider (2002: table 9) regress a probit model and find no significant association between labour status and the start of caregiving.

ers. If our assumptions are correct, what we are estimating is the probability of women being active in the labour market when they have chosen to allocate time to some relative in need of care. (We insist, no matter how many hours she spends, because the average number of hours women spend in each country depends on the availability of substitutive services. In other words, in a hypothetical state where no formal services were provided at all, the number of caring hours put in by women would be much higher than in another state where citizens would get all the caring services they need, and the former would face far more constraints on working.) In estimating the trade-off between adult caring and paid work, we have to allow for endogeneity problems arising from selection bias, since women allocating time to adultcare may be *home centred* and with very low labour market attachment. However, this selection bias is not very high when estimated with a two-stage Heckman's equation and it does not change the substantive results (Sarasa 2005), hence we have opted for simplifying the presentation with a binomial logistic model.

We measured a dummy variable indicating whether women aged 20 to 59 were caring for adult people in any ECHP wave from 1994 to 1999, and another dummy variable indicating if women were active or not. Women employed in agricultural and fishery occupations were dropped due to the strong positive association between those occupations and caring for adults. The caring effect on activity was controlled by age, education, childcare and marital status.[14] Furthermore, being foreign born and having had some unemployment spell during the last five years were also included as control variables. Unemployment spells can be an indicator of labour market attachment, since unemployed women are more prone to transfer into inactivity. And foreign-born women could have different employment patterns with respect to natives.

Looking at the regression results (see table 5.9), we can see that the fit of the model is not very high, probably because other relevant factors have not been included. For example, care needs

[14] Marital status is a dummy variable equal to 1 if women are married or in cohabitation.

are determined by the functional status of the care receiver, but the ECHP offers no information in this connection. In addition, the choice of type and intensity of care is only partly under the control of the reference person we are surveying; other relatives will also participate in the decision, bargaining from their own labour, marital and health statuses, which introduces additional complexity into the model. Reciprocal transfers between parents and children are also important, but again the ECHP data do not allow this facet to be explored. We can only know time and money transfers between generations in one direction: the destination but not the origin of money transfers; and the origin but not the destination of time transfers. Furthermore, there are other institutional variables whose effects should be added to those of the kind of care benefits received by dependent people, such as paid or unpaid leave for caregiving, for example, and the availability of part-time jobs. None of these are included in the model. The combination of greater flexibility in organising working time with the availability of formal services permits women to remain employed albeit reducing their work hours.[15]

With respect to control variables, unemployment only negatively affects labour supply in Denmark, whereas the effect is positive in other countries. This is especially so in Spain, Austria and Germany, where female unemployment is higher and women's attachment to the labour market weaker, so that unemployment in those countries may be more linked to women actively seeking work. The effects of being foreign born are more inconclusive. Age influences female activity in the expected way, rising from the twenties and then decreasing among older women. Education effects are also as expected; employment increases with education, but the intensity varies by country. The odds of being active are three to five times higher for women with tertiary education than for those with primary or less education in Spain, Germany, Austria and the United Kingdom, while in Denmark the education effect

[15] A negative association between starting, or intensifying, the provision of care and changes in work hours is significant in Northern Europe but not in southern countries, indicating that Southern European women have no choice about reducing work hours; the choice is mainly between work or care (Spiess and Schneider 2002).

TABLE 5.9: Odds ratios for women being active when caring for adults

(agriculture and fishery occupations dropped)

	Denmark	United Kingdom	Spain	Germany	Austria
Age	1.54 **	1.10 **	1.43 **	1.25 **	1.31 **
	(17.98)	(4.56)	(32.86)	(11.70)	(15.24)
Age2	0.60 **	0.90 **	0.63 **	0.75 **	0.69 **
	(–16.11)	(–4.07)	(–33.54)	(12.25)	(–16.33)
Secondary	1.02	1.47 **	1.24 **	1.41 **	1.82 **
	(0.28)	(6.71)	(6.20)	(6.57)	(11.88)
Tertiary	1.80 **	2.84 **	4.25 **	3.06 **	4.92 **
	(5.96)	(13.77)	(37.10)	(12.57)	(14.17)
Category of reference women with primary or lower education level					
Cohabitation	1.11	0.85 *	0.36 **	0.41 **	0.50 **
	(1.46)	(–2.48)	(–27.80)	(–12.43)	(–11.24)
Foreign born	0.47 **	0.95	1.08	Na	0.74 **
	(–6.09)	(–0.48)	(0.88)	–	(–3.93)
Eldercare	0.99	0.48 **	0.70 **	0.67 **	0.70 **
	(–0.09)	(–9.06)	(–7.49)	(–5.06)	(–4.23)
Childcare	1.02	0.33 **	0.54 **	0.31 **	0.49 **
	(0.24)	(–14.82)	(–17.67)	(–17.22)	(–13.47)
Unemployment 5	0.82 **	1.14 *	2.37 **	1.94 **	2.19 **
	(–2.98)	(1.96)	(30.08)	(10.69)	(11.90)
Wave 2	0.89	1.81 **	1.48 **	1.93 **	0.74 **
	(–1.08)	(8.36)	(8.65)	(9.84))	(–4.21)
Wave 3	0.74 **	2.25 **	1.52 **	2.26 **	0.93
	(–2.85)	(10.01)	(9.23)	(11.93)	(–1.04)
Wave 4	0.84	Na	1.66 **	Na	0.88
	(–1.55)	–	(10.83)	–	(–1.64)
Wave 5	0.80	Na	1.60 **	Na	0.89
	(–1.93)	–	(9.85)	–	(–1.45)
Wave 6	0.86	Na	1.55 **	Na	Drop
	(–1.23)	–	(9.13)	–	
Pseudo R^2	0.1234	0.0628	0.1586	0.0871	0.1010
Number of observations	9,973	7,789	28,744	9,128	9,790

Notes: Logistic regression estimated by STATA 6.0 software package. (*) Significant at a confidence level of 95%. (**) Significant at a confidence level of 99%. *Z* values between parentheses. Na: data not available. Estimation adding ECHP 1994 to 1999 waves together. Observations of all women aged 20 to 59, excluding retired and ill women. Women in agriculture and fishing occupations have been dropped due the high association between those occupations and the probability of adult caregiving. Dependent variable = 1 if women are active; = 0 otherwise.

is considerably weaker. Since employment opportunities are far greater for all Danish women, education matters less, as do marital status and caring for children. None of these variables have any effect in Denmark, whereas they reduce labour supply in all the other countries. The same happens with caring for elderly or adult people, i.e., Danish women's employment is not significantly affected by caregiving while the opposite is true in all other countries.

Bivariate analysis shows us that Danish caregivers seem to manage the caring/working trade-off better than their counterparts in other welfare regimes, because they keep on working, and working full-time, much more than any others. At the opposite extreme, Spanish women have not many options to choose from. The paucity of part-time jobs and social services provision means Spanish woman confront the caring/working trade-off in its crudest form. Social services for frail people are somewhat more extended in Austria and Germany than in Spain; furthermore, Austrian women can opt for part-time work more readily than Germans, which would explain the smaller differences in relative employment among Austrian caregivers and non caregivers. Part-time work and some elderly care services are also available in the United Kingdom, but even though British caregivers can opt for part-time jobs, many of them do not participate in the labour market, and the relative difference in employment between caregivers and not caregivers is higher than in any country except Spain.

The multivariate analysis partially confirms this data. The constraints of adult care on women's employment are especially high in the United Kingdom. In tandem with the general shift towards a more liberalistic welfare model since the 1970s, Britain's *ageing in place* policies have combined encouragement for private services with a means-tested approach to public provision. The results of our analyses suggest that the British model does little to improve women's chances of reconciling caring and work. The odds of being employed in the United Kingdom are reduced by a factor of 5+ if caregiving, while the same in Austria, Germany and Spain is only 3–.

When market prices and means tests are the main eligibility criteria, different behaviours could theoretically be expected. The elderly may attempt to transfer assets to their children rather than

consume them in the process of getting formal care, expecting to be eligible for public provision. But if this transfer is ruled out by administrative controls or not wanted by the parents, children may prefer to provide care in order to protect an inheritance that would otherwise be lost. In the absence of subsidised services, many caregivers would then opt to abandon employment or reduce work time. The United Kingdom data seem to confirm the hypothesis that means-tested policies are not much help when it comes to reconciling work and caring.

At the same time, whatever the importance of cash transfers in facilitating substitution, their effects on female employment in Austria and Germany seem less than those of direct provision in Denmark. Yet one is struck by the absence of differences between these countries and Spain, where the provision of both cash and in-kind benefits is even lower than in the United Kingdom. This may be related to the overall activity levels of women in each country. Regardless of the level of service provision, if women's attachment to the labour market was weak to begin with, as in Spain, we would expect that caring for dependents would not have much of an influence on their employment status. Conversely, its effects will be stronger where most women are active, as in the United Kingdom. Herein lies the policy relevance of the Danish case. Providing universal services to elderly people facilitates *ageing in place* goals without penalising women's ability to remain employed outside the home.

5.4. Conclusions

Our empirical results are consistent with the underlying hypothesis. Benefits in cash may be a financial compensation for households and caregivers with dependent members, but they do not appear to be associated with high levels of female employment. The usefulness of cash benefits should be reconsidered insofar as they fail to produce an employment dividend or any change in the structure of care. As Glendinning and McLaughlin's (1993) comparative study showed, there is no evidence that cash benefits

increase informal care or reduce institutionalization. Nor, as Lingsom's (1994) study of Norway suggests, is there any evidence that the cash benefit approach improves the quantity and quality of informal care.

Comparatively speaking, the data suggest that the Danish strategy of favouring universal public provision of services is superior in terms of guaranteeing care and nurturing employment. As a whole, considering combined Danish outlays on low pensions and a high supply of services, the total cost is lower than any other alternative, while delivering low poverty rates among the elderly and higher female employment rates. even among women over 50.[16] Moreover, the Danish approach ensures far greater service coverage and more equity between genders and income classes. These results should be relevant for policy makers in Southern European countries, where few steps have yet been taken towards a comprehensive policy of elderly care. Our analysis suggests that strategies similar to the Scandinavian ones may present a superior policy choice, since they produce greater employment and may also ensure a more equitable and efficient use of public resources.

Finally, policy making for long-term care tend to be couched primarily in terms of demographic ageing, but there is a good argument for generalizing to the broader population of adult dependents. In Spain, for example, 40% of disabled people, and 1 in 3 dependents requiring more than 30 hours of care a week are younger than 65 (Sarasa 2003). A realistic policy for long-term care would therefore have to address the risk structure across the entire adult population and not only the frail elderly.

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[16] See OECD (2001) for activity rates among older than 50.

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6. Children in the Welfare State

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6.1. Introduction

Do we pursue the right family policies? Do we invest sufficiently in our children? Most parents would probably say no. European welfare states are generally slow to adapt to new circumstances and family policy is no exception. The reluctance to shed the traditional familialistic paradigm is perhaps most evident in the Mediterranean basin, but core attributes of familialism remain very present in all but a handful of countries.

Familialism reflects a traditionalist view of what pro-family policy means. Its roots lie in the subsidiarity principle that was enshrined in the papal encyclical *Rerum Novarum* (1891). In post-industrial society, familialism becomes counter-productive because women have redefined their life course, families are more unstable and fragile, *atypical* households have become the norm, and the male breadwinner is no longer a credible guarantee of adequate living standards. The greatest irony of all is that familialism is now anathema to fertility and family formation.

Since *family failure* is now to be expected, we need to redefine what family-friendly policy implies. Families face new and often more intense social risks which they increasingly lack the means to cope with. This results in welfare lacunae unless market or government provision steps in. Market failure is the rule rather than the exception for social welfare. For one, the price of commercial services exceeds most families' ability to pay. Those that most need services are often those, like the poor and young child families, that can least afford them. Further, private welfare incurs serious information asymmetries. If families and markets fail in

tandem, public support is, by definition, the last alternative. The basic question, therefore, is whether contemporary welfare states are up to the task.

Children stand centre-stage in any new welfare equilibrium. Failure to support families may produce either of two undesirable scenarios. First, we risk seeing a society without children if motherhood remains incompatible with work. And, second, if parents fail to invest adequately in their children, Europe can definitely say goodbye to its dream of becoming the world's most competitive knowledge economy. Skill requirements are rising rapidly and those with a poor start are likely to see their life chances severely impaired.

A new family policy needs to recognize that children are a collective asset and that the cost of having children is rising. The double challenge is to eliminate the constraints on having children in the first place, and to ensure that the children we have are ensured optimal opportunities (Livi Bacci 2001; Esping-Andersen 2002).

Government spending in favour of families varies tremendously across the EU, ranging from almost 4% of GDP in Denmark to half of one% in Spain (see table 6.1). Examining the purchasing power adjusted figures (from Eurostat), Danish per capita outlays are exactly 10 times the Spanish and 3 times the Dutch. Neither is there any coherent trend. Some countries, like Germany, have increased their efforts in the 1990s while others, notably the Netherlands, are retreating. Dutch per capita spending has stagnated which implies that it lags behind GDP growth.[1] To be sure, this has been partially offset by more (tax-subsidized) private spending. And tax allowances do not figure on expenditure accounts. Were we to focus on total GDP use rather than solely *public* accounts, the EU nations would look far more convergent.

The simple reason why a new *social contract* is called for is that fertility and child quality combine both private utility and societal

[1] Dutch spending on families fell from 2.5% of GDP in 1980 to 1.7% in 1990 and only 1.1% in 2002—moving the Netherlands from the top to the bottom half of the OECD table.

gains. And like no other era in the past, the societal gains are mounting all the while that families' ability to produce them is weakening.

In this final chapter, I first re-examine the twin challenges of fertility and child development. In the second part, I turn to the role of welfare reform, posing one basic question: can we identify an optimal policy mix that will ensure both the socially desired level of fertility and investment in our children? The task is to identify a Paretian optimum that will simultaneously maximize efficiency gains and social equity.

TABLE 6.1: Public support in favour of families

	Spending per head of population In PPS euros (2002)	Spending as percentage of GDP (2001)
Belgium	75	2.3
Denmark	1050	3.8
France	680	2.8
Germany	750	1.9
Italy	237	1.0
Netherlands	330	1.1
Spain	105	0.5
United Kingdom	450	2.2
U.S.	n.i.	0.4

Sources: PPS per capita spending is from Eurostat (ESSPROS) and spending as a share of GDP is from the OECD's SOCX data files.

6.2. The child deficit

As pointed out in the introduction, contemporary fertility falls way short of citizens' preferences—which hover a bit above the 2-child norm on average. The preferred number does decline with age, but it is unclear whether this mirrors people's resignation to a *fait accompli* or, alternatively, a more mature and reasoned assessment of what is optimal (McDonald 2002).

Turning the clock back 30 years, most advanced nations boasted fertility rates well above replacement level: Scandinavia occupied the low end with a TFR of 2.0, France and the Netherlands represented the mean with 2.6, and Spain led the group with almost 3.0. Subsequently, all countries began to slide, most bottoming out in the mid-1980s. The Nordic countries, France, and the U.S. managed a recovery, while others moved to rock-bottom levels (Italy and Spain in particular). Denmark, France, Norway and the United Kingdom are rare examples of stability at middle-range fertility (1.7-1.8). The EU15 average is a stable 1.5, and the Southern European, a stable 1.2. The picture looks even more dramatic at the regional level. Veneto, Liguria, Galicia and Asturias all have TFRs well below 1.0.

Even fairly minute differences in TFR will have huge effects on long-run population growth. If it remains at 1.3, net population decline will be about 1.5% per year, cumulatively producing over 100 years a society that is 25% of its original size. To illustrate, Spain's population at the end of the 21st century would fall to 10 million. If, alternatively, the TFR is 1.9, the annual population decline is limited to 0.2%, resulting in an end-of-century population that is 82% of its current size (McDonald 2002).

Immigration can compensate but not much. To offset fertility below 1.6, the annual volume of immigration would need to quadruple (McDonald 2000, Storesletten 2000). To exemplify, Italy's annual immigration inflow would have to rise to 400,000 in order to guarantee a stable population size. Considering that most EU countries seek to limit immigration, such scenarios are not realistic. But even if they were, the compensatory effect of immigration may end up far smaller in the long haul because immigrant fertility eventually converges with that of the native population (OECD 2000).

Very low fertility may have serious societal consequences. It produces a society of old people and it diminishes growth. Consider the contrasting dependency projections for 2050, which say the Spanish ratio will jump by 138% (from 24 to 57%) and the Swedish by only 36%. The OECD estimates that demographic change will lower European per capita income growth

from the present 1.7% to a projected 1.1% by 2050 (Sleebos 2003).[2]

The contemporary child gap correlates with a host of sociodemographic changes. As discussed in Gonzalez's chapter, there has been some rise in childlessness, especially among highly educated career women, and in countries where career-family reconciliation is difficult (see table 6.2 below). But much more important is the postponement of first births, a trend that is fairly similar across all advanced societies (Gustafsson 2001). The average age of first births is now 28–29, with Spain edging up towards age 31! Postponed fertility normally implies fewer total births.

If delayed fertility were simply period-specific, we would expect a return to *normalcy*. But all data suggest otherwise. Delaying first births is part and parcel of the new female life course in which education and career-consolidation are *sine qua non*. The question, then, is whether a late start will inevitably thwart citizens' quest for children. The answer is no, since in some countries women do manage to catch up despite a late start. Sweden's spectacular fertility boom prior to the 1990s was mainly due to an acceleration of 2nd births (Jensen 2002; Billari et al. 2001). As table 6.2 shows, women in Denmark, France, and the Netherlands are twice as likely to catch up as are German, Italian and Spanish women. Note, however, that Dutch childlessness marks a record high and that in Spain, too, the phenomenon is substantial.

Fertility rates often average *apples and oranges*. In the U.S., for example, the Hispanic fertility rate is double that of *whites*; in Europe, immigrants boast far greater fertility than natives. There are often large differences between rural and urban women, and female education is usually associated with fewer children. Urbanization, the disappearance of the housewife, and women's huge gains in education go a long way to explaining the fall in births. As the gender wage gap narrows, fertility may also decline.

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[2] EU (ECOFIN) estimates that ageing alone will reduce long-term growth rates by 3/4 of 1% (from a current EU average of 2% to 1.25%).

TABLE 6.2: Childlessness and the probability of having a second child within five years of the first (Kaplan Mayer hazard rate estimation)

	Percentage women childless at age 40	Probability of 2nd child within 5 years
Denmark	12	38
France	9	42
Germany	15	26
Italy	17	25
Netherlands	20	51
Spain	17	24
United Kingdom	17	43

Source: Estimated from ECHP.

Still, there are counter-tendencies. One, the *new* woman is generally not a careerist but rather one who prefers the *dual-role* model of motherhood and lifelong employment (Hakim 1996). Both labour supply and child preferences confirm this. Two, in some countries—notably in Scandinavia—the traditional education-fertility profile is being revolutionized. We now register the highest fertility rates (2+ children) among women with tertiary education, and the lowest among women with only compulsory schooling (Esping-Andersen et al. 2005). Hence, more female education and employment do not necessarily imply fewer children.

6.3. Explaining the child gap

There is certainly no dearth of theories. As described in the introduction, one school of thought emphasizes the historical shift towards *post-materialist* values (Van de Kaa 2001). In this view, children stand in the way of individual fulfilment and liberty. There is no doubt something to this story, at least in terms of portraying a general trend. Public policy would appear to be irrelevant if this were the *main* explanation.

The values theory confronts too many empirical inconsistencies, not least the fact that actual fertility falls far short of people's

preferences. It is also difficult to reconcile the theory with observed variation. Values aside, most theories—including Becker's microeconomic theory—are policy relevant. A common core premise is that low fertility mirrors the tensions that mount when gender roles and family behaviour fail to adapt to the changing preferences of women (McDonald 2002). In essence, low fertility occurs when women embrace a new life course in a world of traditional familialism. The tensions are related to the rising cost of children and to the barriers to family-work reconciliation. The two are but different sides of the same coin.

There are direct monetary costs related to children's consumption. A recent benchmark estimate suggests that the added cost of one child hovers around 20–22% on average. But the spread is quite large and educated mothers, especially, tend to spend substantially more (de Santis 2004; Bianchi 2004).[3] The cost of conventional child consumption (food and clothes) is falling, but this beneficial trend is cancelled out since the cost of *new* consumption items (childcare especially) is rising rapidly (Bianchi et al. 2004). Family benefits may help offset the cost but since even the most generous benefits, like the Danish, are equal to only 4% of average earnings, the effect is at the margin. In the Netherlands, the benefit is a bit lower and in Southern Europe a pittance (OECD 2002: table A2).[4] In any case, research shows that family cash transfers have no real effect whatsoever on fertility (Gauthier and Hatzius 1997; Sleebos 2003).

The really important cost of children is indirect, and comprises two effects. There is, firstly, the implicit monetary value of parental time devoted to children. Attempts to cash out its monetary equivalent are fraught with difficulties. Klevemarken (1998), using rather conservative assumptions, has cashed out the equivalent value at around US$ 22,000–29,000 for an average Swedish family. This implies that Swedish parents' collective care for their children would add an equivalent of 20% to GDP.

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[3] Estimates based on the conventional Engel method arrive at substantially higher per child costs. Note that the 20-22% estimates lies very close to the elasticity used in the new OECD equivalence scale.

[4] Since family allowances are usually a universal flat-rate benefit, their marginal effect may be somewhat higher for low-income parents.

The second effect lies in the opportunity cost (or child penalty) of motherhood in terms of lost potential lifetime income. Considering women's rising earnings power, work interruptions and reduced labour supply can result in substantial income penalties. The penalty is the composite of forgone income during the years of interruption plus a long-term depreciation effect due to eroded human capital and experience loss. Applying the standard Mincer-Polacheck benchmark estimator to a woman who interrupts a total of ten years, the directly forgone income of the *missing 10 years* will amount to about 5% of potential lifetime income, while the human capital depreciation effect is far more severe, equivalent to another 20% of potential lifetime income (Polacheck 2003).

Women respond by shortening interruptions and delaying births.[5] Sigle-Rushton and Waldfogel (2004) show a general decline in lifetime income loss—but only for some countries. For medium-educated mothers with two children, the gross income loss up to age 45 ranges from 23–25% in Scandinavia and the U.S. to 40% in Germany and the Netherlands. Extending the estimate up to age 60 suggests that an important part of the child-penalty is eventually recuperated *if,* that is, women remain in uninterrupted employment until retirement. In this latter scenario, the Danish mother will have lost only 8% of her potential income, and the German and British about 25%.

The major difference between Scandinavia and elsewhere lies in the duration of interruptions and in subsequent work histories. Whereas British, Dutch and German women have long interruptions and then resume with reduced working hours, Scandinavian women return relatively quickly and usually opt for full-time work. In a recent British study, Rake (2000) identifies a polarizing trend because higher educated women now emulate the Nordic pattern while low educated women reduce even further their post-birth labour supply.

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[5] This is the case for the Netherlands and the United Kingdom, but in Germany interruptions have actually become longer (Gustafsson et al. 2002). In the 1990s, the average number of interrupted months ranges from 32 in Germany to 10-13 in Scandinavia. The United Kingdom has undergone a dramatic change in just one decade with the average declining from 25 in the 1980s to 14 in the 1990s (Gustafsson et al. 2002).

Since female employment accelerated in the 1990s, in particular in Southern Europe, one would expect some convergence towards the Nordic pattern among younger women.[6] Data on birth-related interruptions can be used to make rough predictions of what will come to pass among those who are mothers today. Using the ECHP panels, 1994—2001, table 6.3 compares two European extremes, Denmark and Spain. The simulated lifetime income penalty applies Mincer-Polacheck coefficients to the empirically observed birth-related interruptions of all women (averaged) and of low educated women (less than upper secondary). The simulation assumes that mothers return to stable full-time work following the (average) interruption. The penalty would be far greater if this were not the case.

The interruption gap between low educated and average women is wider in Denmark than in Spain. But even low educated Danes interrupt relatively briefly and hence lifetime income losses are modest. In contrast, Spanish interruptions are uniformly longer and this produces far greater lifetime income penalties across the board.

TABLE 6.3: Simulated lifetime income penalties for women with two children in the 1990s

	Average birth interruption (months)	Total percent lifetime income penalty
Denmark		
All women	9	5.0
Low educated	20	9.0
Spain		
All women	46	20.0
Low educated	50	21.0

Source: Estimated from ECHP panels 1994-2001. Note that estimates assume that mothers return to full-time employment subsequent to the average interruption period.

[6] De Santis (2004) argues that the Italian child penalty is now around 30%.

This is where childcare matters. If access is limited to commercial care parents must dish out approximately 10,000 euros for a full-time, all-year place in a quality centre in countries like Germany, Britain or the Netherlands.[7] This implies, in essence, a *regressive tax* on mothers' labour supply and is in any case prohibitively expensive for most young families, not to mention low income and lone parents. If no cheaper alternatives are available, families must choose between one of two evils: either forgo children in the interest of the woman's career, or sacrifice the mother's career in the interest of family formation. The Netherlands is a prototypical example of this trade-off: a sizable share of women remain childless and another sizable share abandon their career.

Not surprisingly, fertility correlates with childcare (Kravdal 1996; Esping-Andersen 2002; Del Boca 2002; Aaberge et al. 2005).[8] There are three possible ways to make care more affordable: via familial support (the grandmother), via deregulated product markets (the American way) or via generous government subsidies (the Nordic approach). Grandmothers have been the main solution in Southern Europe, but the reservoir of available carers is diminishing quite rapidly (González and Jurado 2005). The highly differentiated price structure in the U.S., coupled with tax deductions to parents, may meet demand, but the consequence is extremely uneven—and mostly low-quality—care (Meyers et al. 2004). In the Nordic model, public subsidies defray the lion's share of costs. Considering that attendance is now *de facto* universal from age one onwards, the net parental cost is evidently affordable to all families. Some countries, notably the United Kingdom and the Netherlands, pursue a hybrid model that combines commercial provision with some public subsidies. I shall examine more closely the implications of each approach in the following section.

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[7] As the OECD (2002: Table 3.5) shows, the cost of one child in private, unsubsidized Dutch daycare is equivalent to 91% of wives' average wages.

[8] There is even stronger evidence that mothers' employment is very sensitive to the price and/or availability of childcare. For the U.S., Anderson and Levine (2000) show that a 10% reduction in the cost of day care would raise employment by more than 3%. For Europe, Gustafsson and Stafford (1992), Kreyenfeld and Hank (1999), and Del Boca (2002) show that availability is decisive for participation.

Childcare policies, however generous they may be, will not solve all problems alone. Their impact depends, firstly, on the length of paid maternity leave; if too brief, mothers are compelled to make a radical choice between returning to work or interrupting their careers. Low educated women are more likely to curtail their careers, while higher educated women will respond with reduced fertility.

Secondly, earlier research and several chapters in this book demonstrate that much of the reconciliation problem lies buried in the labour market. Flexible time schedules and access to part-time are essential. Job security matters because women now insist on economic autonomy. Unemployment, unstable and precarious jobs all affect fertility very negatively. The fact that (young) women are hugely over-represented among the unemployed and those with temporary contracts—in particular in Southern Europe—helps explain pervasive low-low fertility (Bernardi 2005; Esping-Andersen 2002; González and Jurado 2005; McDonald 2002). Seen from a different angle, Scandinavian research shows that high fertility among educated women is mainly found among public sector employees (Jensen 2002; Datta Gupta et al. 2003). Table 4 illustrates the importance of job status for women's decision to have children.

Except in Denmark, unemployment is everywhere a major obstacle to fertility. In Germany and the Netherlands, it lowers the likelihood of a birth to almost half. Job insecurity, too, is clearly a major impediment. In the Netherlands and Spain, having a permanent contract raises the odds of fertility by a factor of 2.5. The coefficient for public sector employment, which undoubtedly offers more cushioned working conditions, is everywhere positive but only statistically significant in Germany and Spain.

As noted, low fertility reflects a disjuncture between the changed life course of women and the persistence of traditional gender roles. The first part of the disjuncture, namely women's changing roles, is clearly evident in the importance of employment conditions and career status: women undoubtedly hesitate to give birth until their careers are adequately assured.

The second part of the disjuncture has to do with gender roles. Reconciliation is easier when welfare states help *de-familialize* the caring burden. This may, however, not suffice unless matched by a

more egalitarian gender contract between spouses. Duvander and Andersson (2003) show that the decision to have a second child in Sweden depends very much on whether the father took parental leave around the first birth. In chapter 3, Esping-Andersen et al. show that Danish fathers' involvement in caring for the first child also correlates strongly with the decision to have a second child. In other words, a more egalitarian division of paid *and* unpaid work may emerge as a bottom-line condition for future fertility.

TABLE 6.4: Employment insecurity and fertility. Logistic odds ratios. The regressions include controls for education level and full-time/part-time status

	Denmark	Netherlands	Germany	Spain	United Kingdom
Unemployed	2.5***	0.64*	0.22**	0.54***	0.33**
Permanent contract	1.4	2.6**	0.30*	2.5***	1.9
Public sector job	1.0	1.1	1.6**	2.2**	3.4

Source: Estimated from ECHP (1995 wave).

Time use data show that men typically increase their share of domestic work when mothers work full-time, but perfect substitution is nowhere found.[9] Scandinavian and American males in full-time double earner couples are far more prone to pitch in. For example, the ratio of unpaid hours between women and men is now 1.4 in Denmark, and 1.7 in Sweden and the U.S.). In United Kingdom the ratio rises to 2.4, and in Italy to an embarrassing 3.6.[10] The male contribution to childcare activities is also positively related to the level of education. As women's autonomy and educational attainment increase we might expect a further improvement in gender equality within couples.

[9] In fact, in the United Kingdom the male's share is smaller than when the spouse works part-time (for data, see OECD 2001: table 4.5).

[10] The ratio in the Netherlands is 2.3 but refers to wives in part-time employment (OECD 2002: table 2.13). Scandinavian and American men's contribution has more or less doubled over the past 10-15 years. The Danish female/male ratio of household work fell from 1.7% in 1987 to 1.4% in 2001 (Deding and Lausten 2004).

6.4. The quality of children

Today's youth often face a hostile environment within which to maximize their life chances. The evolving knowledge economy raises the human capital *ante* that is needed to ensure good job prospects. There is no clear consensus as to what skills, precisely, matter most (Bowles et al. 2001). Formal education is obviously a *sine qua non,* especially for early career moves. Today's early school dropouts are likely to end up being the low wage and precarious workers of tomorrow. Remedial policy, such as *activation* and adult training is generally an ineffective corrective (Heckman 1999; Heckman and Lochner 2000). The non-completion of upper-secondary level education provides one very good benchmark of our social exclusion problem in the decades to come.

Other human capital dimensions are gaining in importance. Modern companies put a premium on social skills and *emotional intelligence,* and social capital can be very important for getting ahead. That said, the reigning consensus is that strong cognitive skills are the first and foremost precondition; in part because cognitive abilities are decisive for learning and hence for school completion and, in part, because—almost by definition—knowledge-intensive production assumes that people have the skills to understand, interpret and productively apply information. Key competences, like cognitive skills and the motivation to learn, are developed very early in life (Karoly et al. 1998; Ramey and Ramey 2000).

The continuous and powerful impact of social origins on children's life chances that inter-generational stratification studies identify is very much due to the fact that children's basic competences are implanted in the first childhood years, i.e., when they are mostly *privatized.* Inequalities in parental stimulus are subsequently transmitted to the schools, which, in turn, are generally poorly equipped to rectify differentials in learning abilities.

Postwar reformers believed that social inheritance could be effectively diminished through free access to education. The guiding idea was that this would eliminate liquidity constraints and thus equalize chances across the social classes. From the path-breaking Coleman report to the U.S. Government, followed by a

virtual mountain of research, we know that the design of education systems has only a very limited impact on inequalities of opportunity. Early streaming, under-staffing, and segregated schools no doubt worsen social inequalities, but the core mechanisms lie in the family of origin (Shavit and Blossfeld 1993; Eriksson and Jonsson 1996).[11] This view has received powerful confirmation in the PISA studies (OECD 2003).

6.5. Explaining inequalities in child outcomes

Parent's investments in their children take two principal forms. One is monetary, the other is crudely speaking *cultural*. Although free education diminishes the role of income inequalities, money continues to crucially influence child outcomes. In most countries, participation in quality pre-school learning depends on household income. Well-off parents are far better positioned to invest in additional extra-curricular learning activities, be it ballet or language classes, and child health is generally also related to family income.

Poverty and income insecurity are among a child's biggest enemies. U.S. research shows that a poor child will, on average, have two years less of schooling and, subsequently, earn roughly 30% less when adult (Mayer 1997, Haveman and Wolfe 1995). Most worryingly, the poor child is far more likely to end up as a poor parent, thus reproducing the syndrome from generation to generation. European research identifies very similar—albeit somewhat less dramatic—poverty effects (Maurin 2002; CERC 2004).[12]

Since economic insecurity harms child outcomes, ongoing trends in income distribution must be of serious concern, since young households and, in particular, child families are losing ground in a major way. With the sole exception of Scandinavia, child poverty has risen over the past two decades: in Germany

[11] See Machin (2005) for an up-to-date review of the school effect.

[12] The Nederlandse Gezinsraad (cited in OECD 2002), finds that up to 15% of children from long-term low income families are at risk of poor developmental outcomes.

by 4 percentage points, and in the Netherlands and the United Kingdom by 5 (LIS data). The child poverty level is now around 9-10% in France, Germany and the Netherlands, 15% in the United Kingdom, and a whopping 22% in the U.S.

Put differently, as far as the income effect is concerned, most advanced nations are swimming upstream at the very moment when the need to secure strong child outcomes is intensifying. It follows that any measure that effectively combats child poverty amounts to a key investment in children's life chances and in our collective future. This point is emphasized in Eriksson and Jonsson's (1996) analyses of why the Nordic countries boast far more egalitarian educational attainment than elsewhere. They stress, in particular, the effectiveness of public income support to child families and, indeed, as the data show, there has been no increase in Scandinavian child poverty although these nations too have witnessed rising income inequalities.[13]

The *cultural* dimension is substantially more difficult to identify with any precision. To be sure, it is very multifaceted. One effect is represented by Bourdieu's (1983) notion of cultural capital, namely the ability of parents to inculcate their children with the kinds of middle class cultural norms, styles and expressions that prevail in most schools. This kind of cultural transmission is key to inter-generational class reproduction. A second effect, arguably far more important, has to do with the kinds of parental cultural and educational resources that ensure a strong cognitive stimulation and learning environment. One way to capture this dimension is through information about families' reading habits and possession of books (De Graaf 1998; OECD 2002; Esping-Andersen 2004). Indeed, multivariate regression analysis shows that this cultural dimension is of far greater importance than parental socioeconomic status in explaining children's cognitive abilities (Esping-Andersen 2004).

And, finally, *culture* includes a third dimension, namely the intensity and quality of parent-child interaction and nurturing.

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[13] The effectiveness of the Scandinavian model is evident in comparative child poverty levels: in 2000, less than 3% in Denmark and Finland and 4% in Sweden (estimates from LIS and from the 2001 wave of the ECHP).

Here we confront a rather controversial issue, namely whether mothers' employment outside the home has adverse consequences for child development. If so, we may again be swimming upstream considering that the majority of modern women insist on career continuity.

There is some evidence that the reduced intensity of parent-child interaction that results from motherly employment can be harmful (Ermisch and Francesconi 2002; Ruhm 2004). It is well-established that maternal employment can be harmful in the child's first 9-12 months (Waldfogel et al. 2002; Ruhm 2004; Gregg 2005). But the effect thereafter depends very much on the quality of mothers' jobs and of outside care. Job-related stress and fatigue are demonstrably problematic. And there is ample evidence that high-quality childcare more than offsets any potential negative effects (Currie 2001; Waldfogel 2002). Indeed, evaluation studies of early intervention programmes uniformly conclude that children from problem families who participate in sponsored quality pre-school centres do far better in terms of school completion and a host of other variables, such as crime and teenage pregnancy (Haveman and Wolfe 1995; Waldfogel 2002). A similar pattern emerges when we analyze the PISA data. In countries where access to quality childcare is scarce, as in Spain, Germany and the U.S., full-time employment does appear to have adverse effects (albeit not very strong) on children's cognitive development, while in Scandinavia, where attendance is essentially universal, the impact of motherly employment appears in fact to be positive.

There are two important riders to this conclusion. Reduced interaction with mothers may be offset by more paternal dedication to children. In fact, the total number of parental hours with children in the U.S. and Scandinavia has actually risen since the 1960s; in part because of reduced working hours; in part due to fathers' greater involvement (Bianchi 2000).

The second rider is that mothers' employment has distinct effects on boys and girls. In analyses of the PISA data, I find that the effect is, surprisingly, completely orthogonal: always positive for girls but often rather negative for boys (especially if the mother works full-time). The positive effect for girls has surely something to do with the role model of mothers (Esping-Andersen 2005). If

fathers increase their time with children, the negative effect on boys may diminish to the extent that boys are more influenced by the paternal role model

When we put together these different strands of evidence, we also have a ready-made explanation for why the Scandinavian countries are the only clear cases where the impact of social origins on educational attainment (and cognitive development) has declined in any significant way over the past decades (Esping-Andersen 2005). On one hand, the income effect has been almost *de facto* eliminated via the eradication of child poverty. On the other hand, the *culture* effect has been weakened because all children, irrespective of parental resources and social origin, benefit from identical quality care. The net effect is bound to be redistributive in the sense that children from the weakest families gain the most. It is telling that the combined effect of socio-economic status and parental cultural capital variables on child literacy performance is half as strong in Sweden as it is in most other OECD countries (Esping-Andersen 2005).[14] It is equally telling that the PISA data show that the Nordic countries exhibit unusually little variation in children's cognitive abilities.

6.6. Redesigning the welfare state: a social investment approach

The foremost objective of social policy is to secure citizens against risks. We live in a society in which rapid ageing tends to monopolize policy debates. Ageing implies substantial future spending commitments, and also the rise of hugely expensive novel risks such as frailty and dependency. Many fear that the welfare state may prove financially unsustainable, and such fears will undoubtedly mount if it is also called upon to invest seriously in our children.

A myopic *categorical* focus on the elderly versus the young leads to poor policy because it fails to connect old age with

[14] The two variables, jointly, explain 11% of the variance in Sweden compared to an OECD average of 20%.

people's life course. Today's retirees do well not solely because pensions are generous but in large part because they enjoyed good lives with stable employment and steadily rising wages. The magnitude of the demographic crunch that will climax at mid-century will depend very much on the quality of our children's life course, on the quantity of young workers and on their productivity.

Contemporary youth cohorts are historically speaking tiny and must shoulder an unparalleled demographic burden. They also confront a far more intense set of risks since life chances are more and more contingent on strong skills. Investing well in our children does not come at bargain basement prices but it will yield a double bonus by delivering individual and societal welfare gains at once.

It may be difficult to pinpoint the exact *net social value* of children. For one, the heterogeneity of children in terms of their potential skills, productivity and lifetime contribution is huge. U.S. research suggests that a typical American child, over the life course, will yield a net social return in the neighbourhood of $100,000 (Preston 2004). The precise amount is not very important, but the fact itself alerts us to several core principles that a recast social policy must adhere to.

Firstly, if the social benefit of children is substantial while the parental cost of having children is rising, there is a ready-made case for redistribution in favour of child families. When we consider that social spending on families is nowhere greater than 4% of GDP, society is undoubtedly getting a good deal, and the childless in particular.[15] Hence, there is a ready-made case for redistribution in favour of children and, logically, the level of taxation required should be commensurate with the collective returns. This leads me to the second principle. If it can be demonstrated that expenditures on children yield an increase in their lifetime net social value, the public outlays involved will have a clear investment character.

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[15] Including also public spending on education would add another 4 or 5% of GDP.

6.7. Public policy and fertility

As discussed above, raising fertility requires that we help reconcile women's altered life course preferences with family formation. Even if our main goal must be to help citizens to have their desired number of children, the social gains from raising fertility will be substantial. Each additional child may be adding $100,000 to our collective welfare. As to the *quality* dimension, it goes without saying that any measure that improves children's life chances will yield substantial individual and societal returns.

The question is whether the welfare state can be made to produce such quantity and quality improvements. Policy makers in the past were often pro-natalist, and, in France especially, generous income inducements were thought to raise fertility. We now know that such incentives bear little fruit.[16] Following the famous Myrdal report in the 1930s, the policy issue is primarily the reconciliation of family and work. Within the EU at large there now exists broad support for a basic package of *family-friendly* policy. Although rhetoric and practice are often at odds, the consensus boils down to a combination of adequate paid maternity-parental leave, affordable quality childcare, and mother-friendly employment provisions such as flex-time. Can family-friendly policies move us towards a superior Pareto frontier? What would such a policy package have to look like in order to do so? As we have seen in the previous section, scientific research may be helpful in answering such questions.

If fertility is now mainly related to the opportunity cost of motherhood, any measure that effectively diminishes the child penalty should help move the birth rate up towards social preference levels. Family allowances may not have much of an effect, but family-work reconciliation policies—and childcare in par-

[16] The best—but still not very robust— econometric estimates suggest that a 25% increase in family cash benefits may raise the TFR by 0.07 per woman (Gauthier and Hatzius, 1997; for an overview, see also Sleebos 2003). If, say, the Netherlands wishes to narrow the child deficit to a 1.9 TFR via cash inducements, the value of family cash benefits would have to be more than 9 times their present value. And since these estimates are quite shaky it is far from certain that the fertility response would be as expected. Ermisch (1988) argues that cash benefits affect the timing but not the volume of births.

ticular—do appear to matter. Since nations' reconciliation policies tend to evolve in synchrony it is very difficult to statistically separate the distinct effects of the main components (i.e. daycare, leave schemes and workplace measures). For Norway, Kravdal (1996) finds that doubling childcare raises the TFR by more than 0.1 point. Knudsen (1999), analyzing Danish data, estimates that fertility rose by 0.3 percentage points (from a TFR of 1.5 to 1.8) as a result of the expansion of daycare plus child leaves since the early 1980s. Del Boca also finds strong effects in Italy and, for the U.S., Blau and Robins (1998) show that both the cost and the lack of access to care reduce fertility.

It is especially provision for the under-3s that yields positive fertility responses (Esping-Andersen 2002; Castles 2003). Both Castles (2003) and Aaberge (2005) conclude that mother-friendly job measures, such as flexi-time, positively influence fertility. And, as mentioned, there is now also quite solid evidence that more gender equality in the division of household labour will raise the birth rate, at least among educated women. Hence, our policy considerations must include stronger childcare and leave incentives for men.

Overall, the *direct* fertility dividend of a family-friendly policy package is not likely to be of overwhelming proportions, but insofar as it also helps reconcile work with motherhood there is unquestionably also a positive *indirect* effect. Its impact is no doubt also uneven across the population: arguably most effective among women who face the steepest opportunity costs of motherhood. And even if the fertility gains appear quite miniscule we must remember that even a small rise in the TFR (say by 0.3 points) amounts to a substantial individual and societal welfare gain. It means that parents come closer to their preferred family size, and, as I mentioned earlier, it will have huge long-term consequences in terms of population growth.

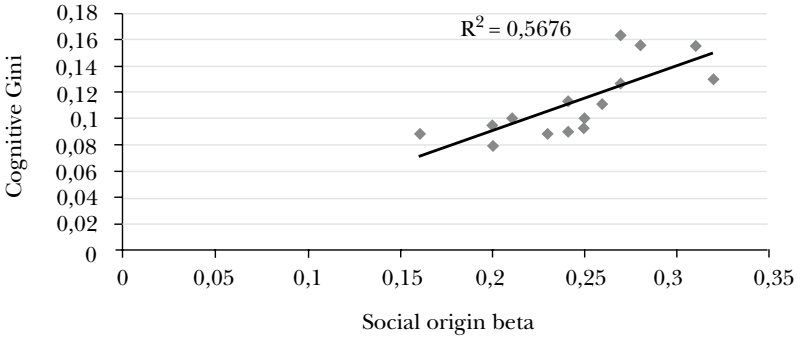
7.8. Public policy and children's life chances

There is no simple ready-made formula that will guarantee good child outcomes. Since we know that cognitive abilities

correlate with social origins, it comes as no surprise that the level of cognitive inequality among children depends on the overall degree of inequality between families. In highly inegalitarian societies, such as the United Kingdom and U.S., the share that falls to the lowest (essentially dysfunctional) cognitive quintile is far larger than in egalitarian nations such as Sweden, Norway or the Netherlands (approximately 20% compared to 8% in Norway and 11% in the Netherlands).[17] Computing Gini coefficients for cognitive test scores provides a telling indicator: the Danish Gini is 0.08 compared to 0.16 for the U.S. In figure 6.1, I regress nations' cognitive score Gini on a social inheritance variable (the strength of the association between children's and parents' educational attainment).[18] The correlation would be even higher of we regressed cognitive Ginis on nations' income distribution Ginis. In fact, there is a very strong correlation also between inequalities of income distribution and inter-generational inheritance.

All told, this indicates that policy must focus primarily on those monetary and cultural mechanisms that link social origins to child outcomes. There can be very substantial gains from mini-

FIGURE 6.1: The relationship between cognitive inequalities and the strength of inter-generational social inheritance



Source: Esping-Andersen (2004: 123). The regression is based on 15 OECD countries.

[17] Computed from the IALS data.
[18] For details, see Esping-Andersen (2004).

mizing the effect of low income. Hence a policy that effectively eliminates child poverty would yield very positive results in terms of equalizing children's educational chances.

It is more difficult to see how policy might affect the *cultural* mechanisms. How, for example, might we compel parents to read to their children, or to help them with their homework? Weak parental *cultural* resources may translate into less cognitive stimulation which, in turn, may impair children's schooling. There is also a possible indirect effect since weak parents are disadvantaged in terms of navigating the school system on behalf of their children. Information asymmetries are likely to be especially accentuated among low educated parents and within immigrant communities.

Educational reformers have pursued numerous policies to remedy such inequalities and deficiencies. On this front Sweden may very well represent the vanguard, in particular with its emphasis on an anxiety-free and individualized learning environment. It is telling that between-school effects on children's cognitive skills are very small compared to just about any other country. But still, remedial programmes within schools, no matter how well designed and financed, have not proven very effective in eradicating the impact of social origins. This is primarily because the first six years in children's lives are decisive—and these years are, in most societies, shaped almost exclusively within the four walls of the parental home.

A major clue as to how social policy can effectively address socio-cultural handicaps comes from the vast amount of evaluation research of the U.S. Head Start programme, one of the very few success stories from President Johnson's War on Poverty. As it has now been in operation for four decades, we are also in a position to gauge the long-term effects of early intervention across a large part of people's lives. The gist of Head Start is to intervene in problem families where children's development is at special risk. The programme is highly targeted and reaches, at a maximum, 3% of U.S. children, providing a very full menu of interventions. Among these, the most successful has been to place at-risk children in high quality childcare centres. Summing up the principal findings, Head

Start yields very positive results in terms of school completion, staying off crime, and later adult earnings and job attainment (Currie 2001; Duncan and Brooks-Gunn 1997; Haveman and Wolfe 1995; Karoly et al. 1998). It is tempting to speculate that if Head Start were to expand its target population to, say, 20% of American families, the percentage of young people with a dysfunctional cognitive performance would decline to North European levels.

The magnitude of the *cultural* problem in any given country is related to the size of the parental generation that lacks the resources to adequately stimulate their children's learning abilities. In some EU countries—like Spain and Italy—there remains a very large number of adults with only minimal education. Within the typical parenthood age bracket (35–44), 54% of Spanish mothers have no more than compulsory education, compared to only 12% in Sweden but a fairly high 33% in the Netherlands (OECD 2003). The rapid growth in educational attainment will diminish this problem in the decades to come. In Spain, for example, the percentage of women 10 years younger with no more than obligatory schooling has declined by 13 points, and in the Netherlands by 8 points. But we also face counter-tendencies that emanate from large waves of generally low educated immigrants who, in addition, face multiple cultural and educational disadvantages that can seriously jeopardize their children's chances. Even in Sweden, where the school system has most ambitiously sought to rectify immigrant children's learning disadvantages, the cognitive score gap between native and non-native children is one of the largest in the OECD, and the probability of school failure is roughly 5 times higher for immigrants than for natives.[19]

Many analyses of Head Start trace its success to the fact that it redistributes cognitive stimulation in favour of the most needy. A very similar phenomenon, driven by events rather than intentions, unfolded in the Nordic countries as they expanded early childcare in response to women's rising employ-

[19] This evidence derives from the author's participation in an OECD mission to Sweden in February 2005.

ment rates. The policy deliberately emphasized uniform *middle class* quality standards, perhaps more for electoral than other reasons.

The Nordic model has undoubtedly had a non-trivial impact on equalizing children's school preparedness.[20] Denmark, Norway and Sweden are the only advanced countries that show a substantial reduction in the effect of parental education, income, and also *cultural capital* on children's educational attainment. To illustrate, the impact of parents' education on the likelihood of attaining upper secondary and tertiary education has been cut in half for the youngest cohorts—born in the 1970s, and the first for whom childcare attendance became the norm. In countries like the U.S., United Kingdom or Germany, parental impact remains as strong as it was for the cohorts born in the 1940s and 1950s. The equalizing potential of universal early care is also evident when we focus specifically on children of parents with very low education (obligatory or less). Their chance of completing upper secondary education has doubled in Denmark for the youngest cohorts and in Norway even tripled. Again, this stands in sharp contrast to other countries where by and large there has been no relative improvement in the fortunes of such young people.[21]

There are two potential downsides to the childcare strategy. The first, as discussed above, is that children may suffer from less intensive child-parent interaction, especially when mothers work full-time and return quickly to work after birth. Most of the evidence suggests that such adverse effects disappear if (i) children remain with the mother during most of their first year, if (ii) mothers have quality jobs, and if (iii) childcare quality is high. The second is that the cognitive homogenization process built into pre-school (and by extension also into comprehensive school models like the Swedish) implies a lowering of standards; a move towards a low common denominator of learning. Analyses of the Swedish education system, as well as of Swedish PISA data suggest that this cannot be the case. But there are some indications

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[20] For an overview of research on the impact of childcare on child outcomes, see Waldfogel (2002).

[21] For detailed analyses, see Esping-Andersen (2005).

that this may have been true for Denmark where, until recently, pre-school centres emphasized social integration at the expense of pedagogy and learning. While Denmark's performance in the PISA studies is internationally strong in terms of children's cognitive homogeneity (there is very little variance in test performance between children), the overall mean scores are rather unimpressive. Indeed, the lessons learned from the PISA analyses have been a major impulse behind current plans to strengthen the pedagogical content of childcare.

The key question is how social policy can be designed to address negative family effects. We are on solid terrain when it comes to the role of policy in upholding family incomes. Very few countries boast an income maintenance policy that *de facto* guarantees against child poverty, although the Nordic countries do come pretty close when we add together the impact of family benefits, housing allowances and social assistance.

The good news is that the additional public cost of eliminating child poverty is a bargain, financially speaking. Adopting the 50% of median poverty benchmark, it would absorb 0.26% of GDP in the United Kingdom—the EU country with the highest poverty rates (Esping-Andersen and Sarasa 2002). In any case, the rise in mothers' employment provides a far more effective anti-poverty guarantee. When mothers work—in single parent and couple families alike—the probability of poverty falls by a factor of 3 or 4. Hence improving the compatibility of motherhood and employment also yields a major pay-off in terms of child poverty risks.

So we return once again to reconciliation policies. If, as most research concludes, maternal employment is problematic for child welfare during the first year there exists a clear case in favour of extending the mix of maternity and parental leave.

The EU has recently issued a directive that calls for a minimum of three months parental leave in addition to maternity leave. Still, the combined entitlement available to mothers (plus fathers) varies enormously across the EU, from a miserly four months in Spain to 12+ months in the more generous countries. Leaves that are too brief can produce adverse effects in terms of reconciliation.

To minimize the career effects of short leaves, mothers will attempt to place their children with others. This, we know, can have adverse *quality* effects. Very early childcare attendance is often the option among career-committed women, especially in the U.S. where paid leave does not exist and where the career penalty of interruptions can be especially high (Waldfogel et al. 1999). A combination of paid leave arrangements that cover *at least* the child's first 9 months would accordingly appear optimal. We know from Scandinavian experience that (i) the standard paid leave period (now a minimum of 48 weeks) does not produce any appreciable lifetime income penalty, that (ii) the majority of mothers soon return to full-time employment, and that (iii) women come fairly close to having the number of children they actually desire.

Most EU countries have leave provisions on the books that appear consistent with these multiple objectives (and the EU directive), but appearances are deceptive since optional parental leaves often imply sharply reduced benefits. Formally speaking, the Netherlands and the United Kingdom provide for a total of 40 weeks of leave. The first 16 weeks (18 in the United Kingdom) are fully compensated but the remaining 24 parental weeks provide a benefit that is less than 15% of the average wage.[22] It is doubtful that women committed to employment will opt for extended periods of uncompensated leave, meaning they will probably be driven back to work. It is revealing that 60% of Dutch mothers return to work within 6 months of birth—while another 25%+ disappear more or less permanently from the workforce (Gustafsson and Kenjoh 2004). Even if most Dutch mothers return to part-time employment, it means that a large part of children's first year is spent with a grandmother or in a centre.

Most EU countries pay lip service to gender equity in parental leave schemes, and Sweden is the only country where the father-share is seriously used. Feminists, unsurprisingly, lobby fiercely for more parity in the take-up of leaves. Their case is strengthened when we consider that fathers' contribution may induce more births and, turning to the *quality* dimension, the sex of the

[22] Spain is an unusually deceptive case. Women are formally entitled to a full 128 weeks parental leave but with no benefits.

parent that cares for the child is presumably of minor importance (Ermisch and Francesconi 2002).

6.9. Designing a childcare system

Early child intervention programmes may yield very positive results but they are usually narrowly targeted in favour of exceptionally needy children. There are very good arguments in favour of sponsoring high-quality care for the most disadvantaged, because there is unambiguous evidence that they will profit disproportionally. The problem is that the size of the *at-risk* population is usually far larger than the realistic scope of such policies. The British Labour government's Sure Start, very much inspired by Head Start, seeks to widen its reach by intervening in deprived neighbourhoods rather than in specific families. The shortcoming here is that problem families do not necessarily live in such communities. There is a lot to be said in favour of special measures that address really needy children. Still there is even more ammunition in favour of a global high-quality universal childcare approach (bolstered by additional targeted intervention) since this is simultaneously required in the pursuit of reconciling motherhood and work: childcare kills two birds with one stone.

If childcare emerges as the centre piece of any child welfare strategy, we need to examine its policy ramifications carefully. It is immediately obvious that universal and affordable quality childcare does not come cheap. Worse, the inherent cost-disease problem of care services (due to lagging productivity) implies constantly rising financial pressures. Of course, this cost pressure will not disappear if childcare is financed privately or publicly.

Ensuring quality implies pedagogically qualified personnel and small staff-child ratios. National quality norms for the under-3s range from a staff-child ratio of 1:12 in Spain to Denmark's exceptionally low 1:3 ratio—but then most Danish daycare workers have no special pedagogical training.[23] The Dutch norm is about

[23] The Danish government is now debating a reform that calls for a much stronger pedagocical profile.

1:5 (OECD 2002: table 90). Affordability boils down to the size of the subsidy and the parental co-payment. In turn, the level of childcare supply will depend directly on effective demand—again largely a question of subsidies and affordability.

I know of no country where early childcare *provision* is predominantly publicly provided. The Nordic countries pursue a mix of municipally run centres (about 70% in Denmark) and co-operatives, often established by parent associations. Commercial centres have no claim to public subsidies and, hence, basically do not exist. The model evidently succeeds in delivering broad access, since 85% of 2 year olds now attend—97% on a full-day basis (OECD 2002). At the other extreme, the U.S. also manages to achieve ample coverage with an almost exclusively commercially run system. Yet only a minority of centres are of a certified quality standard (and are therefore expensive). In most EU countries, public childcare for the under-3s is extremely scarce and largely of the social assistance type, i.e. income tested and targeted on families with special needs. Usually the only alternative is expensive for-profit care. Two countries, the United Kingdom and the Netherlands, pursue ample coverage by subsidizing commercial centres.

If quality standards are assured across the board, there is no particular reason why one should prefer either public or private, unless, of course, there are associated equity or efficiency costs involved. In the Netherlands, the market strategy was preferred as a way to limit public spending and also to promote parental choice.

A private system will probably produce greater competition, innovation, and variety. Of course, a Nordic-style mixed model that does not discriminate against private non-profit initiatives may, in principle, reap similar benefits. A major problem with commercial welfare markets is that they easily provoke serious inequities due to information asymmetries and client creaming: choosing the best solution for one's children may require substantial resources (such as knowledge). Thus, less educated and, especially, immigrant families may find themselves handicapped—especially in an environment where demand exceeds supply. An indirect outcome is social segregation, as Sweden's ongoing *privatization* of its school system clearly demonstrates.

As regards access, many EU countries boast high enrolment rates for children aged 3+. It is with the under-3s that the majority of countries fall far short of the EU's benchmark of 33% coverage. We can distinguish three sets of countries. The Nordic group has now achieved near-universal coverage, which is not surprising since access is legally guaranteed to all families and municipalities are compelled to uphold the guarantee.[24] In a second group that includes Belgium and France, coverage hovers around 30%. Most EU countries fall into the third group, with coverage below 10% (Gornick and Meyers 2003). Britain and the Netherlands (with a coverage rate around 17%) are inching their way towards the EU benchmark, although there are several factors that suggest progress may be slow.

The key to equity and adequacy lies, of course, in affordability. Undoubtedly, the British and Dutch failure to produce anything near full childcare coverage has its origins on the financial side. Despite public subsidies (via tax credits), British parents' co-payment is almost half the total cost, and there are no exemptions for low-income families. This may explain why the ambitious plan to expand supply is faltering. Of the 600,000+ new places created between 1998 and 2003, more than half have subsequently disappeared because parents could not afford to enrol their children (Evers et al. 2005: 202). The Dutch strategy has been to stimulate expansion by subsidizing parents and by inducing firms to defray part of the cost. The latter's share of total costs is 25%. The lion's share of places (75%) are in commercial centres, but since supply falls far short of demand an estimated 50% of parents use informal care arrangements. There is one primary reason why the Dutch strategy may falter; namely its reliance on employers. Employer participation appears limited to two-thirds of all workers. Since their financial contribution implies added fixed labour costs, small firms are undoubtedly loath to participate. The consequence can easily be a double hazard: on one hand, the employer quota may lead to discrimination against women

[24] In some areas shortages remain. Still, there are only 4,000 families on the waiting list in Denmark. In Sweden and, to a much lesser extent, in Denmark, municipalities subsidize (licenced) childminders to help meet demand.

in hiring decisions; on the other, uneven employer participation provokes social dualisms.

A second reason why the Dutch model may falter is that the net parental cost of childcare is quite steep. A full-time place for one child amounts to 60% of the average wife's net earnings, and for two children it rises to 77% (special deductions for low income parents reduce the payment substantially). This is *de facto* a steep *tax* on mothers' employment and may be one reason (together with shortages) why a sizable number of mothers either abandon the workforce or limit fertility to one child. The Dutch model, of course, is designed to cater to a part-time environment and, consequently, for most mothers—who require only half-time care—the cost is reduced to 41% of her earnings for one child. But here we may have double causality, since the cost (and scarcity) of full-time care may induce mothers to opt for part-time employment.

Comparatively speaking, Sweden probably offers the most generous conditions with a parental co-payment equal to 10-15% of total cost. Neighbouring Denmark has a graduated pay scale. Families with less than 60% of median income go free and a full fee (equal to 30% of total cost) kicks in at median household income. Considering that participation is now *de facto* universal, one can conclude that this is an affordable system for all. The cost is bound to increase as the educational credentials of personnel are raised—unless matched by higher staff-child ratios. As it stands, a saturated supply of day care along the Danish model necessitates heavy public outlays—equivalent to roughly 2% of GDP—which is about 10 times the *public* cost in the Netherlands. Are childcare expenditures a good social investment? Would low spenders like Britain or the Netherlands reap additional benefits that can be justified if they were to emulate Danish or Swedish expenditure levels?

To answer such questions we must first of all do the right kind of financial accounting. To begin with, we must remember that the effective overall cost of childcare remains pretty much identical whether it is financed out of one pocket or another. If the political objective is to provide quality care for all children, the total

slice of GDP that we must dedicate will not change much however costs are allocated. If we accept that Denmark comes close to both objectives, then we should expect that total spending will end up being around 2.7–2.8% of GDP. Dutch public spending of only 0.2% of GDP gives the deceptive appearance of cost-effectiveness. If the Netherlands were to pursue universal coverage on a full-day schedule, total GDP use would end up similar to Denmark's. The choice of which pocket must be emptied may have efficiency or equity repercussions, but hardly any consequences for how much we really spend.

Rosen (1996), in a very controversial analysis, argues that the public expenditures destined to help reconcile motherhood and work in Sweden are inefficient, yielding a high *negative return*—which he estimates to be about half of the total. The calculations that underpin this conclusion compare the total public expenditures against the total earnings of the mothers of small children. This is, however, a fallacious analysis because it completely ignores how lifetime earnings (and thus also lifetime tax payments) are affected by mother-friendly programmes. A dynamic life-cycle method produces—unsurprisingly—different results.

In table 6.5, I present estimates for Denmark using the standard Mincer approach to estimating lifetime income effects. To be on the conservative side, my model mother is a full-time low wage earner (2/3 the average wage) who, at age 30, will have two children. I assume she will interrupt work for five years if she does not have access to childcare, whereas if she does make use of daycare, she will return to employment immediately after her standard maternity leave entitlement terminates. I also assume that she will remain employed until age 60.[25]

Table 6.5 shows that (in 1995) the cost to government of providing pre-school care for a mother of two (over a five-year period) amounts to little more than half a million DKr (roughly 67,000 euros). Since this allows the mother to return to employment, she receives full earnings during the period plus she avoids substan-

[25] A very similar study conducted by Price Waterhouse on behalf of the Blair government arrives at estimates that are very similar to those presented here.

tial experience and human capital loss. Hence over her lifetime she will earn about 2.2 million DKr (about 290,000 euros) more than if she interrupted. This, in turn, implies that she will pay more taxes on a lifetime basis: an additional 770,000 DKr (about 103,000 euros). Comparing the revenue dividend to the exchequer with the original government outlay on daycare yields a net return to government of 260,000 DKr. (35,000 euros)—which amounts to a respectable 50% return on the initial investment!

TABLE 6.5: Dynamic accounting of the costs and returns of day care

Assumptions

- Mother, at age 30-35, has two kids
- She does not interrupt employment (except one year maternity).
- Her wage is 67% of the APW, and
- She will continue working until age 60.
- We apply a 1.5% p.a. *Mincer estimate* of cumulative loss for a 5-year interruption

	DKr
Cost to government	
2 years in creche (x2)	= 168,000
and	
3 years in pre-school (x2)	= 342,000
Total	510,000
Gains to mother	
(a) 5 years with full earnings	= 800,000
and	
(b) life-time wage gain from no interruption	= 1,400,600
Total	= 2,200,600
Gains to Exchequer	
additional revenue from (a)	= 280,000
and	
additional revenue from (b)	= 490,000
Total	770,000
Net return to Exchequer on original outlay (770.000 – 510.000)	260,000

Note: Price and income data, derived from the Danish government, refer to 1995.

The net return would have been greater had we examined the case of a median wage earner.[26]

The Danish model is arguably optimal for reconciliation in an environment where the vast majority of mothers insist on returning to full-time employment.[27] And the initial high outlays will eventually be recouped—primarily because Danish women do indeed work full-time for most of their lives.

In a context like the Dutch where the employment rate of mothers is 10 percentage points lower, and where the vast majority remain wedded to part-time employment, both the expenditure and revenue side of the equation change. Reconciliation policies—child leaves as well as day care—are designed with a part-time economy in mind (and probably create difficulties for women pursuing full-time employment). Does this make a difference in terms of facilitating *equilibrium* fertility rates?

It is of course impossible to forecast future employment behaviour, but if women in the rest of the EU followed the Nordic pattern, we would expect to see a gradual shift from part-time to full-time job preferences in the decades to come—if for no other reason, because female educational attainment and earnings prospects are rising. The 10% participation gap between the Netherlands and Denmark is also likely to narrow with more childcare and longer maternal leaves. If so, public expenditure on affordable childcare plus adequate child leaves will, as in Denmark, constitute a social investment that is quite profitable and indisputably optimal in the Paretian sense.

The impact of family-friendly policy on child welfare cannot be easily monetarized. Nevertheless, if maternity leave is inadequate or if coverage of childcare is incomplete, there will inevitably emerge inequalities in child development. Infant children whose parents are compelled to work will suffer, as will those whose parents have insufficient income because they must remain home

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[26] Only in the case of high-income families might the net return be negative, since we can assume that such families would purchase private care in the absence of subsidized public provision.

[27] The main weakness of the model is that it does not provide serious incentives for fathers to take up their share of parental leave and, as argued, this may have a negative impact on births.

with their children. If there are large lacunae in childcare coverage, children that are enrolled will be given a major head start in life over those that remain excluded.

The core problem is not only that such dualisms are undesirable but, worse, that they are inevitably socially skewed. It is likely, indeed almost certain, that the children that would benefit the most from childcare are the ones most likely to be excluded. This is particularly the case if unaffordability is the chief reason behind non-participation. The largest marginal gain of early childhood stimulation will by definition go to children from socially, culturally and economically disadvantaged homes. It is for this reason principally that a universal strategy may yield a very high individual *and* social return.

During the decades of childcare expansion, the Nordic countries learned these lessons the hard way. Subsidized childcare was, in the past, denied to unemployed mothers and to mothers on maternity or parental leave. Since unemployment correlates with low education, low income, and multiple family problems, it is evident that these children and mothers will benefit disproportionally from enrolment (caring for small children is also an obstacle to finding work). Similarly, long child leaves turn out to be very concentrated in immigrant families—again a group for whom early childhood enrolment an urgent matter. Also, our societies now include very large, and recent, immigrant communities that, for a host of reasons, have difficulties integrating and ensuring that their children will. For all these reasons, there is a strong case in favour of special *affirmative action* measures that give children from underprivileged milieux an extra boost *as early as possible*. To exemplify, some municipalities in Denmark are experimenting with a bussing system that will redistribute pre-school children so as to combat heavy ethnic or class segregation in childcare and kindergartens. Similarly, we could choose to favour the most at-risk children by placing them in top-quality care centres. We could even contemplate a more elaborate *carrot and stick* policy. In many immigrant communities, husbands are loath to allow their wives to work and this indirectly also means that their children do not attend pre-school institutions. If social assistance and other public transfers were made conditional on childcare attendance, this could help eradicate yet another source of social inequality.

Early childhood experiences may be the most crucial, but it is evident that a child investment strategy should not stop at age 6. This paper deliberately focuses on early childhood and is therefore not the place to debate education policy, except to stress one detail. Mothers' reconciliation problems do not end once children begin in school and unwarranted differences in children's' learning abilities continue throughout their school years. Just as insufficiently flexible (or too short) child centre hours pose major difficulties for parents, so does the part-day nature of school attendance. And we need to preoccupy ourselves also with the kinds of activities that children pursue after the formal school day ends. It is a pretty safe bet that children from culturally and income poor families are more likely to be parked in front of the TV. If so, offering *after-hours activities*, be they sports, music lessons or chess, on school premises should produce an additional beneficial effect. Apparently only 3% of Dutch school children participate in such activities compared to 80% in Denmark.

6.10. Conclusions

Any discussion of welfare reform in the 21st century must accept a number of givens; novel circumstances that no rational policy maker can pretend will disappear in future. The first is that women's embracing of lifelong employment is here to stay. The second is that success in life depends more and more on possessing adequate skills. The third is that the family is increasingly fragile and less equipped to shoulder conventional welfare responsibilities. And the fourth is that population ageing cannot be halted over the next four decades.

If our goal is to build a welfare architecture that responds better to the new realities, there are compelling reasons to give first priority to children. First and foremost, it is the obligation of social policy to ensure equal opportunities for society's children. Secondly, and virtually by definition, the task of social policy is to insure its future citizens against social risks. And today's children will face different and more intense risks than previous generations. Thirdly, for any nation that it genuinely committed to a future with minimal social exclusion and maximum economic competitiveness, investing in

our children must come first. And fourthly, if we succeed in having many healthy kids today, you and I will have a better assurance of a good retirement in the years to come.

As we contemplate welfare reform we also need yardsticks of equity and justice, in particular because the kinds of policies that will help establish a positive equilibrium do not come cheap—and will coincide with the heavy financial pressures that ageing produces. A child-centred welfare strategy combines two elements that must dictate our equity fundamentals. It represents, on the one hand, a substantial investment. Expenditures that benefit child welfare today will yield a positive return over many years. On the other, it also represents a unique combination of individual private gains and positive social externalities. At the core of the new welfare edifice, there therefore lies a strong social investment component that logically requires redistributive financing.

If we desire to improve both the quantity and quality of children, my study suggests that—on either front—there exists no single ready-made policy remedy. The reasons why citizens have a sub-optimal number of children are multifaceted. Much of the child-deficit boils down to the problems of reconciling motherhood and careers, and it is not hard to demonstrate that a well-designed package of leave entitlements and affordable childcare is a first and necessary precondition. But there is also much evidence that suggests that such a package needs to be accompanied by factors that are usually ignored, such as the characteristics of female employment. It is also very likely that a new optimal fertility equilibrium will necessitate a fundamental change in the male life course.

When we examine contemporary life-course change, it is immediately evident that women have been doing the lion's share of the changing. Put crudely, women are adopting a life-course pattern that is ever more masculine. In contrast, men have—except at the margin—hardly altered their life-course behaviour. In the past, women's primary concern when contemplating maternity was their husbands' earnings power. This male role is losing relevance now women's concerns increasingly centre on their personal opportunity costs. Hence the relevance of the male in the fertility equation will increasingly hover around his contribution to child care and domestic chores. It may be that a new fertility

equilibrium requires that men embark on a *feminization* of their life course. A major obstacle here lies in the intensifying competitive nature of economic life. As Sweden exemplifies, policy cannot be effective if the incentives are not strong enough. Since the Swedish earnings structure is unusually compressed, adapting the Swedish approach may be difficult or costly in other countries.

The pursuit of child quality is similarly multifaceted, but it is clear that our attention must focus on the family milieu. A first and necessary step is, without question, to minimize economic insecurity within families and, hence, some kind of public guarantee against child poverty would appear an urgent priority. But there is growing awareness that *money* may actually matter less than *culture;* something that would appear to paralyze policy making. And, yet, we have evidence that investments in children's early development via quality care and other intervention programmes yield very positive results. The key, in a sense, lies in minimizing the parental impact among those children that are unluckily born. The U.S. Head Start programme teaches us that targeted intervention can produce excellent results, but then the beneficiary group ends up being far smaller than the truly needy population. Scandinavian experience suggests that we may reap a much greater benefit via universal and quality-invariant childcare.

Finance ministers are likely to oppose such reforms, pointing to the very high costs involved. Were we simply to take Danish practice as a yardstick of what kinds of financial requirements might be involved, we would have to convince the finance ministry to come up with something equivalent to 4% of GDP. To give some perspective, this is only slightly less than what the Dutch government currently spends on all education (and about 2/3 of what the Danish and Swedish governments spend). It is also slightly more than what it would cost government to provide full service coverage against old age dependency.

Any cost estimate must, nevertheless, take two key considerations into account. Firstly, the kinds of expenditures that will foster more fertility are pretty much the same as those that will promote child quality and, hence, the same spending commitment kills two birds—indeed three—with one stone. Affordable and accessible childcare helps raise fertility (maybe increasing the TFR by 0.3

points, as Danish estimates suggest), mothers' employment (again perhaps by 3 percentage points for every 10% reduction in price), and benefits child development, especially for disadvantaged children. Secondly, the initial public spending on childcare—by far the heaviest spending item within the package—will yield a net positive return to government in the long haul, if *mothers embrace a full-time, full-life employment preference*. And thirdly, we will probably end up spending the money anyway, be it through the public purse or from people's own pockets. When we debate costs we should always remember that what is cheap for the government ends up more expensive for the citizen. The real issue is how the final financial allocation affects equity and efficiency.

To end, I emphasize the importance of the long haul for two reasons. One, there is in my opinion only one way to conduct good welfare policy analysis, and that is to think in terms of the dynamics of people's life course. Two, policy making is myopically timed to the electoral cycle and will, accordingly, tend to prioritize reforms, however urgently needed, that mainly produce rewards in the long run—when we are all dead. Realizing how different phases of the life cycle are interconnected goes a long way to improving our ability to pursue the right kinds of welfare reform.

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Conclusions

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FOR decades, research on the family remained a bit lethargic. This is certainly no longer the case and in recent years scholarship has literally exploded. The travails of the contemporary family have, similarly, become a major theme in the media and public debate. As so often happens, attention intensifies when there are dark clouds on the horizon.

The dark clouds are many and also quite massive. We can distinguish two main trends that the public regards as threatening. One has to do with the mounting instability of partnerships and marriage, and with the rise of unconventional family forms. This is a topic that we have not dealt with in this book. A second has to do with the long-lasting fertility slump. The traditional pronatalist sentiment is now marginal, and the debate is, instead, dominated by two kinds of concerns. On the one hand, we have the long-term consequences of negative population development in terms of economic growth and, especially, population ageing. And, on the other, there are those who see low fertility and rising childlessness as a menace to social welfare—a sign that citizens are unable to form the kinds of families they actually desire.

Persistent low fertility combined with rising childlessness cannot be explained solely by reference to *post-modern* values of individual self-realization. To be sure, the long-term seminal decline in fertility that we have observed over the past century is part and parcel of the Second Demographic Transition that is driven, in turn, by changing social preferences. But it is difficult to invoke a values explanation when we consider the marked international differences in contemporary fertility. Why is Nordic, French and British fertility 50% higher than Spanish and Italian? Why is childlessness especially

pronounced in Spain and Germany? It is difficult to imagine that Spaniards harbour more post-modern values than, say, Swedes. Not surprisingly, most scientific research has centred its attention on other possible explanations, most importantly on the difficulties of reconciling modern women's dual role as mothers and workers.

The latter was also the starting point for our research. When we adopt a comparative perspective, it is striking how national fertility differences seem to go hand in hand with countries' family policy ambitions. Yet the correlation is not perfect. The United Kingdom and the U.S. boast high fertility levels and also poorly developed *mother-friendly* policies. This immediately suggests that reconciliation policies are an important, but not sufficient explanation. The aim of our research and, now, this book was to fill in the explanatory gaps.

There are, in our view, several important dimensions in the fertility nexus that existing research has failed to highlight sufficiently. The first has to do with the role of the male partner in the decision to have children and, subsequently, in contributing to their care. Even though formal theory, especially in microeconomics, explicitly builds on *joint* bargaining between the partners over all issues related to family formation, task specialization, and investment, the joint element largely disappears in applied empirical studies. Micro-level fertility research has consequently focused almost exclusively on the attributes of women, in particular on the impact of education, career dedication, and expected lifetime earnings on child bearing. We have, to be sure, learned a lot from this research tradition. Variations in fertility tend to be quite consistent with theory in the sense that higher educated women, facing steeper opportunity costs, delay child bearing, have fewer children, and are more prone to remain childless. Still, there are novel developments under way that seem in direct contradiction with theory. An important clue for our research was the recent inversion of the education-fertility correlation in the Nordic countries: low-educated women now tend to have fewer children than the highly educated. The question is why?

It would be hard to answer this puzzle by reference to reconciliation policies, because all Nordic women, be they highly educated or not, enjoy exactly the same entitlements to identical

standard work-life balance policies. And surely, highly educated Nordic women should face much greater opportunity costs of motherhood than the less educated. An important clue that informed our research came from recent findings in time use studies, namely that there has been a significant, indeed dramatic increase in childcare and domestic work involvement among highly educated men—but not among their less educated brethren—over the past 10-15 years. We decided therefore to pay special attention to the impact of males' and fathers' attributes in couples' decisions to have children.

One reason why conventional microeconomic research has paid little attention to the male side of the coin is that it routinely assumes a unitary decision model for households. If we relax this assumption, and instead believe that couples routinely engage in bargaining, in particular over decisions of major importance such as career interruptions and care for children or other family members, we would expect that outcomes (such as who minds the children) will depend on the *relative bargaining power* of the spouses. Our hypothesis was that highly educated women will have more children if they are able to compel their partners to take more responsibility for domestic tasks and childcare. Accordingly, fathers' caring contribution becomes a vital equivalent—and supplement—to welfare state policies such as parental leave and childcare services.

Two chapters in this book have explicitly examined the role of fathers. In chapter 3 we decided to compare fertility choices in Denmark and Spain, countries that represent the two extremes in European fertility. Although data limitations call for caution, our analyses do suggest that the decision to have more children among highly educated Danish career women is very much linked to their male partner's dedication to child-care. In Spain, however, the father *doesn't matter.* These findings help explain why the conventional women's education-fertility correlation has been turned upside down in the Nordic countries. They do not, however, provide a full explanation for the *Spanish puzzle;* namely why fertility is so low across the board. In chapter 4 we revisit the same issue but via very different kinds of data. Here the dependent variable is not fertility but the dynamics of time stress, par-

ticularly as related to childbirth and having small children. The findings are intriguing, since the degree of time stress that comes from the demands of parenthood and paid employment is fairly similar among fathers and mothers. What, however, differs notably are the *triggers* of time stress. For women, the key predictor of time stress is the arrival and presence of small children, while this had little effect on men's time stress, which seems mainly related to their job. As in chapter 3, Denmark (with Finland) is an exception to the rule because here women's time stress is not mainly the consequence of childbearing. In part, this can be explained by welfare state support (the virtually complete coverage of early childcare) and, in part, by men's relatively greater involvement in care work.

The impact of mother-friendly policies on fertility has, in most research, been defined rather narrowly in terms of facilitating paid work with motherhood. Herein lies a second dimension of fertility that we felt required more analytical attention, namely how the *nature of the job* might influence women's childbearing behaviour. We encountered many clues that directed our research in this direction. Scandinavian research has, for example, shown that fertility is substantially higher among women working in the public sector. Indeed, one can identify a systematic selection mechanism whereby pregnant women and mothers with small children move from the more competitive private sector to the far more protected environment of public employment. Also, when examining cross-national variations in fertility, one is struck by how these overlap with the employment conditions that young women (and men) face. In Southern Europe, and in Spain *par excellence,* unemployment and/or precarious temporary contracts are not only far more prevalent than in the north, but also primarily affect young adults and, in particular, young women—who happen to be in their prime childbearing ages.

We decided accordingly to grant special attention to the possible consequences of employment security for fertility. Theoretically speaking one would readily expect that job conditions and, more generally, economic insecurity would have adverse effects on fertility. Fertility research has routinely assumed the traditional male breadwinner model, and this implies that

wives' employment situation is ignored. Instead, it was explicitly hypothesized that wives' childbearing would depend on whether the husband had attained a stable earnings profile. In a world now dominated by dual earner couples it would seem logical to extend this hypothesis to both spouses and, perhaps, in particular to the prospective mother. If women insist on lifelong employment and economic autonomy as a precondition of motherhood and even marriage, one would expect them to postpone births until they have attained stable and secure employment. Otherwise the risks, and opportunity costs, of a birth will be regarded as overwhelmingly high.

Other chapters in the book address this question. Two, in particular, make it their central focus. In chapter 1, María José González and Teresa Jurado direct their lens on first births. While the average age of first birth has risen everywhere, the jump has been especially pronounced in Spain. They see the difficulties of having a first child partly in the many obstacles associated with forming an independent household, including difficulties in accessing affordable housing, and partly in job insecurity. Especially adverse to fertility is uncertainty about one's job prospects, fuelled to a large extent by temporary contracts and widespread unemployment. Symptomatically, self employment —often the epitome of employment insecurity—is very negatively related to births. Similarly, in chapter 2, Pau Baizán demonstrates how important job satisfaction and employment security are for higher-order births. It is widely recognized that reconciling work and motherhood is far more difficult as the number of children increases. Both these studies bring new light to our understanding of the Spanish low-fertility syndrome. Based as they are on comparative cross-national analyses, the results show very clearly that job security effects are especially pronounced in the Spanish case. This must, of course, be interpreted in the context of the very undeveloped family support policies that characterize Spain: very short maternity leaves and almost no childcare access for children aged 0–3.

As research progressed it became evident to us that the dilemmas that contemporary families face extend throughout the life course of adults. In particular, the problems of reconciling family responsibilities with women's new economic roles tend to concen-

trate in two life-cycle phases: when children are small and then again when older family members, parents especially, become frail and dependent. On scrutinising the data on Spanish women's caregiving, one is, in fact, struck by the substantial overlap, because, for many women, adult caring begins fairly early: i.e., before their children have left the parental home. To illustrate, one out of four Spanish women caring for adults is younger than 40. And when we add to this that the average age of first birth is close to 30, this implies that such women often have fairly young children to care for simultaneously.

In chapter 5, Sebastian Sarasa examines how different countries' social support systems also affect women's adult caring obligations. The study is built around a comparison of three distinct social care models: the British and Southern European model, where public provision is targeted on the very frail and poor, leaving the vast majority of households to private solutions; the *Germanic* model based on cash transfers to care givers; and, lastly, the Nordic model where care services are provided on a universal and comprehensive basis by the public sector. The results of multi-variate analyses suggest very strong parallels between caregiving for children and adults. The British (and Southern European) as well as the *Germanic* models produce far greater incompatibility problems with regard to carers' ability to continue employment. In contrast, the Nordic servicing approach succeeds quite well in reconciling care and careers both for mothers with small children and for women with frail adult dependents. Interestingly, the far greater externalization of care in the Nordic countries is not associated with a weakening of family involvement. As chapter 3 shows, Danish parents actually spend more time with their children than they did in the 1960s. And, as chapter 5 shows, the *incidence* of adult care in Denmark is fairly similar to that of other countries. The big difference lies in the *intensity* of care.

Policy implications

The research project that underpins this book was, from the very beginning, aimed not only at academic debate but also at policy

relevance. Our deliberate choice of using country comparisons in our analyses was guided by the view that we can learn from practice in other welfare states. What, then, have we learned? What are the main implications of our findings for policy making?

Pulling together the evidence presented in this book and the explicitly policy-directed analyses in chapter 6, our findings suggest a number of major policy implications. Since family formation now occurs in a context where the vast majority of women insist on being employed and pursuing careers, there is absolutely no doubt that modern welfare states need to prioritize policies that help reconcile motherhood and paid work. We have identified two moments where the incompatibilities become especially severe: when children are small, especially under three, and when adult family members require care.

Contemporary debate emphasises two key ingredients in a sustainable *mother-friendly* policy: adequate maternity and parental leaves and affordable childcare. In many EU countries, including Spain, *paid* child leaves are very short, and this can have adverse consequences for reconciliation since many mothers choose simply to abandon employment to care for infant children. There are also, as discussed in chapter 6, important grounds for extending paid leaves much further, since child development can be harmed if mothers return to work while children are very small. Defining an optimal leave policy is not easy. A recent EU-level decree stipulates a minimum of three months' paid parental leave in addition to the basic maternity leave. Implementation is clearly lagging behind, but if Spain were to adhere to the decree the total length of leave would cover at least the first six months of the child's life. Considering the positive effects of close parent-child interaction during the first year, one might conclude that an optimal arrangement would guarantee up to nine months' leave at least.

Many countries have begun to stress the importance of fathers taking part of the parental leave entitlement. With the exception of Norway and Sweden, the father take-up rate has been symbolic—usually limited to a week or two's duration. The problem lies partly in incentives. Males usually earn considerably more than women and, hence, this affects the opportunity cost. But it also

lies in *stigma* effects; namely the problem that if men take leave it will send the wrong signals to employers. The fact that male take-up is now concentrated among highly educated men may, in the longer run, help erode this stigma.

Childcare for the under-3s is the second key ingredient in work-life balance policies. The challenge is not only to provide a sufficient and affordable supply, but also to ensure that early child-care is of uniform high quality. The Nordic countries have pursued this double aim with considerable success, considering that enrolment is now close to universal. The associated cost is clearly substantial—Denmark spends almost 2% of GDP on all pre-school education for ages 0-6 (a third of this cost is defrayed via parental co-payment). The important point, very much emphasized in chapter 6, is that the cost is basically recouped via mothers' enhanced life-long employment earnings and tax payments. A second important point is that failure to subsidize childcare costs implies a regressive and problematic tax on women's labour supply. Subsidizing early childcare is arguably one of the best social investments in the repertoire of welfare state policies, in part because it enhances female employment and, in part, because it helps stimulate early childhood learning and cognitive abilities.

Our analyses suggest, however, that child leaves-plus-care is insufficient if our goal is to enhance citizens' work-life balance. A major incompatibility, very much evident in Spain, lies in the relationship between normal working hours and pre-school *and* school hours. If parents—typically the mother—attempt to adjust working hours to school hours, they can easily end up sacrificing their career prospects. Rather than prolonging school hours to fit the working day—which would result in unduly long periods of external care—it would appear more relevant to modify the rhythm of the typical working day so as to give parents and carers better opportunities to interact positively with their children.

Our analyses also point to another aspect of working life; namely the role of job insecurity and job satisfaction. Herein lies perhaps the single most thorny dilemma since ongoing labour market deregulation is likely to generate ever more job insecurity. Yet, here again, one can learn from other countries' experience.

Denmark, for example, represents one of Europe's least regulated labour markets and, as we have seen in chapter 4, also records far less parental stress than elsewhere. There is no doubt that access to good childcare helps in this respect, but a second important reason lies in the prevalence of public sector employment among mothers. Since it is hardly realistic to expect a major expansion of welfare state jobs in the future, we face the challenge of how to diminish work-life stress by other means. Although this is a topic that clearly lies beyond the scope of this book, it is one that we need to address with some urgency.

Our study has produced two additional findings that are of clear policy relevance. Firstly, fertility is very much connected to conditions affecting early adulthood. Low-low fertility, as in Spain, is related to the postponement of the first child. In Southern Europe, postponement is especially dramatic due to the difficulties associated with establishing an independent household and forming partnerships. As so much contemporary debate suggests, this is partially connected to problems in housing markets, in particular the lack of affordable rental housing. But it is surely also connected to the precariousness of early career formation, exemplified by very high youth unemployment rates and pervasive temporary employment. A combined policy of stimulating affordable rental housing with improved income support for young parents would undoubtedly help accelerate independent household formation and first births.

Second, and finally, our research suggests that we need to re-think the role of fathers in family policy. The conventional male breadwinner model is, for all purposes, disappearing, and as women now insist on economic autonomy and careers their decisions about having children will depend more and more on the degree to which the male partner helps reduce the opportunity costs of births. As mentioned earlier, fathers' participation in parental leave schemes would be one important step in this direction. However, existing practice—even in vanguard cases such as Sweden—suggests that the upper limits to this approach are fairly close. More important, it seems, is to increase fathers' participation in household production and childcare on a daily basis. How might policy respond to this challenge?

There is above all one factor that seems to lie behind greater paternal involvement; namely wives' bargaining power in the household. As argued both formally and substantively in the introduction, spouses' bargaining power depends primarily on their respective contribution to total household income. In this context, we should expect that men's contribution to household work and care will depend on their spouse's relative income share. This suggests two relevant policy guidelines. Firstly, efforts could be made to augment wives' employment, in particular among less educated women. Secondly, wives' bargaining power would be enhanced if they controlled the income transfers received from the state. At present, income support to families in Spain is extremely residual and mainly takes the form of tax deductions—which usually benefit husbands. There is a very strong case indeed for a policy that transfers income directly to child families *in the mother's name and to her bank account*. This is now standard practice in most advanced welfare states.

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