

Introduction.

The Contemporary Fertility Puzzle

Gøsta Esping-Andersen
Pompeu Fabra University

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 familism, once the epitome 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

$$U = U(n, q, z). \quad (1)$$

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:

$$I_p = \pi_c nq + \pi_p z + \varphi, \quad (2)$$

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

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

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,

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

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_j . 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,

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

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

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

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.

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.

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.

References

- AHN, N., and P. MIRA. "A note on the changing relationship between fertility and employment rates." In *Estudios sobre la Economía Española*. Madrid: Fedea, 1998.
- BAIZÁN P., "Second birth and women's employment: A fallacious mutual impact? Evidence from Greece, Italy, Spain and Portugal in the 1990s." Paper presented to the Conference on "Lowest-low fertility in Southern Europe." Rostock: Max Planck Institute for Demographic Research, June 27-28, 2002.
- BECKER, G. *A Treatise on the Family*. 2nd ed. Cambridge, Mass: Harvard University Press, 1991.
- BERNHARDT, E. "Fertility and employment." *European Sociological Review* 9 (1993): 25-42.
- BIANCHI, S., P. COHEN, S. RALEY, and K. NOMAGUCHI. "Inequality in parental investment in child rearing." In K. Neckerman, ed. *Social Inequality*. New York: Russell Sage, 2004:189-219.
- BIEN, W. "Changing values among the future parents of Europe." Paper presented at the European Observatory on Family Matters, Sevilla, September 15-16, 2000.
- BILLARI, F. C., M. CASTIGLIONI, T. CASTRO MARTÍN, F. MICHELIN, and F. ONGARO. "Household and union formation in a Mediterranean fashion: Italy and Spain." In M. Corijn and E. Klijzing (eds.) *Comparative Research on Fertility and the Family in Contemporary Europe: Findings and Lessons*. New York/Geneva: United Nations, 2002.
- CIGNO, A. *Economics of the Family*. Oxford: Clarendon Press, 1991.
- ESPING-ANDERSEN, G. (with D. GALLIE, A. HEMERIJCK, and J. MYLES.) *Why We Need a New Welfare State*. Oxford: Oxford University Press, 2002.
- GAUTHIER, A., and J. HATZIUS. "Family benefits and fertility." *Population Studies* 38:295-306.
- GOLINI, A. *Tendenze demografiche e politiche per la popolazione*. Bologna: Il Mulino, 1994.
- HAKIM, K. *Key Issues in Women's Work*. London: Athlone, 1996.
- HOEM, B. "Entry into motherhood in Sweden. The influence of economic factors on the rise and fall in fertility." *Demographic Research* 2, no. 4 (2000).
- JENSEN, P. "The postponement of first birth: does it lead to a decline in completed fertility or is there a catch-up effect?" Unpublished paper. Aarhus University, Department of Economics, November 2002.
- KNUDSEN, L. "Recent fertility trends in Denmark. The impact of family policy in a period of rising fertility." Research Report no. 11. Odense: Danish Centre for Demographic Research, 1999.
- KOHLER, H., F. BILLARI, and J. ORTEGA. "The emergence of lowest-low fertility in Europe during the 1990s." *Population and Development Review* 28 (2002): 641-80.
- KRAVDAL, O. "How the local supply of daycare influences fertility in Norway." *Population Research and Policy Review* 15, no. 3 (1996).
- LIVI-BACCI, M. "Too few children and too much family." *Daedalus* 130, no. 3 (2001): 139-56.
- LUNDBERG, S., and R. POLLACK. "Bargaining and distribution in marriage." *Journal of Economic Perspectives* 10, no. 4 (1996): 139-58.
- MCDONALD, P. "Low fertility: unifying the theory and demography." Paper presented at the Population Association of America Meetings, Atlanta, May 9-11, 2002.

