

## CHAPTER 1

### INTRODUCTION

#### 1.1 LOW FERTILITY AND POSTPONED CHILDBEARING IN EUROPE

Douglas Coupland's novel *Generation X*, published with an appreciable success in 1991, portrays the story of three young people in their twenties who quit their jobs, leave their hometowns, and settle down in a small town in the Californian desert. They are 'overeducated' individuals, overloaded with information, and shaped by the consumer culture, yet totally lacking the career ambitions and family values of their parents' generation. Andy, Claire, and Dag survive on low-paid 'McJobs', are strongly individualistic—practically to the point of being unable to develop lasting relationship—and feel alienated and ambiguous about the future. Their lives are conspicuous in their almost complete absence of family and children; their parents, typically divorced, are mentally and geographically worlds apart. Having children apparently does not belong to the options considered by the characters, who live in their own inner worlds.

Hardly any other novel better epitomises the cultural and social change, which has occurred in the course of one generation and turned the perception of many traditional values on family and reproduction upside down. For many young men and women in developed societies, marrying and having children has become a matter of choice, the possibility of a distant future. They live in an uncertain world which values flexibility and which is marked by impermanence—in employment, consumer products, and intimate relationships. Women have gained almost complete independence from men through receiving higher education and participating massively in paid labour, and have been freed from unintended pregnancies by a broad range of modern contraceptives. Men often seem to retreat from partnership and child-rearing commitments, preferring spending money on consumer goods or pursuing a career instead (Goldscheider and Kaufman 1996). In the light of these shifts, it comes as no surprise that most developed societies have low or very low fertility rates and that women are having children at progressively higher ages. What is surprising, however, is the pace of these changes.

Consider changes in the period total fertility rates (TFR), which are, despite their flaws, commonly used as fertility measures for a given period. When fertility began to decline rapidly in Western and Northern Europe in the 1970s, the fears of population decline in Europe were resurrected (see Teitelbaum and Winter 1985). In 1978, for instance, the Council of Europe published an analytical book with a symptomatic title—*Population Decline in Europe*. In the same year, the mean total fertility rate in Western and Northern Europe was 1.66, in the European countries of the Soviet Union (including Asian parts of Russia) 1.94, in the state-socialist countries of Central Europe (including East Germany) 2.13, and in Southern

Europe 2.17. The mean TFR for Europe stood at 1.93 and only two countries—Luxembourg and West Germany—recorded the TFR below 1.50, reaching as low as 1.38 in the latter case.<sup>1</sup> A quarter of a century later, these figures might look like reasonably high fertility rates. In 2001, all the post-communist countries of Central and Eastern Europe as well as the Southern European countries (except Portugal) had total fertility rates below 1.40, fifteen European societies had TFRs of 1.30 or lower, and the mean European-wide TFR was 1.39—by 28 percent lower than in 1978 and as low as the lowest level for that year, recorded in West Germany. The visions of declining population size have turned into reality. Curiously, this did not happen in Western or Northern Europe as envisioned in 1978, but in the post-communist societies, in particular in the former Soviet Union. It seems to be an ironic twist of history that record-low birth rates and population decline in Europe have become unexpectedly concentrated in Central and Eastern Europe following the triumph of democracy and capitalist market economy after the revolutions and upheavals of 1989-1991.

Although these sketchy contours of European fertility levels paint a bleak picture of Europe being short of children and potentially facing population decline and progressive ageing of hardly manageable proportions, this study provides a nuanced and less dramatic view of current and future fertility trends in Europe. The unifying topic of this study is the process of fertility postponement, which is mirrored by an unprecedented increase in the mean age of first-time mothers in most European societies. The analysis of this process has a particular relevance for understanding period fertility trends, since the shifts in fertility timing may cause sizeable fluctuations in fertility rates (e.g. Ryder 1980). The main idea explored here is that very low period fertility rates in Europe are the outcomes of the effects of fertility postponement (labelled as *tempo effects*). Moreover, cross-country differences in the pace of fertility delay appear to account for a portion of the differences between total fertility rates across Europe (Billari and Kohler 2004). The influence of these tempo distortions on period fertility will stop once the age when women have children stabilises. Consequently, the usual period fertility indicators are problematic and potentially misleading; this study devotes considerable space to the methodological discussion of fertility indicators and possible alternatives to the conventional total fertility rate. The other main issues of this study—an analysis and projection of childlessness in Europe and the United States and an analysis and discussion of precipitous fertility changes in Central and Eastern Europe—are also linked to the effects of fertility postponement. The next section gives an overview of different chapters and the links between them.

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<sup>1</sup> These calculations are weighted by the population size of given countries and regions in 1978; data on total fertility rates and population size were taken from the Council of Europe (2003). The division of countries into the broader regions is shown in Chapter 3, Table 3.3. Differently from this table, East Germany was considered here as a Central European country.

## 1.2 OUTLINE OF THE STUDY

The main topic of this thesis is **an analysis of fertility postponement in Europe**, its implications for period fertility rates as well as the broader ramifications of this process. Although parenthood is delayed equally by men and women, this comparative cross-country analysis focuses exclusively on women due to limited data availability and practical analytical reasons. The study of the increasing mean age at motherhood is important not only for theoretical and analytical purposes—explaining and mapping differences in the timing of childbearing between countries and diverse social groups—but is also essential for **explaining low and extremely low levels of period fertility** and sudden changes in fertility rates in a number of European countries. This chapter introduces various issues addressed in this study; the summary of the most important findings is provided in the concluding Chapter 9.

**Chapter 2** reviews **theories, explanations and findings on the determinants of postponed childbearing**, in particular with regard to first births. This chapter sets the stage for the subsequent comparative and analytical chapters. It pays attention to the effects of educational attainment, the conflict between employment and parenthood, the influence of unemployment and various forms of uncertainty, the changing character of intimacy and partnership relations, and the influence of contraceptive technology, especially the pill. It aims to highlight the importance of life-course perspective, which aptly connects various dimensions of the otherwise fragmented evidence on delayed parenthood. Furthermore, the life course ‘paradigm’ also helps to examine norms and attitudes relevant to the timing of parenthood.

**Chapter 3** constitutes an empirical counterpart to Chapter 2. It provides a **comparative analysis of fertility postponement in European countries** starting from the early 1970s, as well as occasional comparison with the United States and Japan. The general mapping of cross-country trends and differentials in first birth timing paves the way for the analysis of several related issues, such as the extent of convergence in terms of cross-country differences as well as within-country variation in the age patterns of first births. Indicators derived from the fertility table of first births enable the analysis of fertility ‘recovery’ among women past age 30 from a period perspective. Finally, a simulation of change in first birth patterns clearly exposes the deficiencies of the frequently used period total fertility rates and permits the sketching of a simplified model of fertility postponement and recovery.

Accounting for the effects of fertility postponement on period fertility rates, however, poses a considerable analytical and methodological challenge. In most European countries, increasing age at childbearing has proceeded in parallel with a real decline in the fertility level (*quantum*), and consequently it is very difficult to disentangle the temporary effects of fertility postponement (*tempo-effects*) from the decline in the ‘underlying’ *quantum* of fertility. **A methodological discussion on the measurement of period fertility** is another important topic explored in this thesis. Using detailed data and estimates of period and cohort fertility in

four European countries—the Czech Republic, Italy, the Netherlands, and Sweden—**Chapter 4** explores in detail the issue of tempo effects in period fertility. It provides a brief overview of period fertility indicators, major distortions in these indicators, and selected methodological issues. It reviews the advantages and disadvantages of ‘alternative’ indicators of period fertility, namely the indexes of total fertility based on age and parity-specific birth probabilities and recently proposed period fertility adjustments. Much of the empirical analysis focuses on the comparison of period fertility and the corresponding indicators of completed cohort fertility, especially in the periods of intensive fertility postponement, when the differences between them tend to be largest.

General indicators of fertility disregard birth order. Childbearing and fertility decision-making, however, are sequential processes, where different factors may influence the decision to have a first child than the decision to have a second or third one. Any realistic model of fertility has to take parity into account. This study concentrates in particular on **first birth rates and the related issue of childlessness**. Although there are numerous studies addressing first births and childlessness in individual countries, surprisingly few contributions have attempted to make a comparative cross-country analysis. Using period and cohort fertility data for 16 European countries and the United States, **Chapter 5** briefly reviews the issue of childlessness and provides an analysis and projection of final childlessness among women born between 1940 and 1975. Two basic projection scenarios of lifetime childlessness are presented for women born after 1955.

Although the data available for most European countries do not enable a similarly detailed analysis of higher-parity fertility, it is important to keep track of the overall levels and trends in period fertility. Using the adjusted TFR proposed by Bongaarts and Feeney (1998), **Chapter 6** discusses the issue tempo distortions in the total fertility rates in European countries and regions, focusing especially on the period between 1995 and 2000. It explores hypothesis that the ‘lowest-low fertility,’ i.e., the TFR at or below 1.30, may be interpreted as a temporary consequence of increasing age at motherhood. Besides examining cross-country differences in period fertility quantum and the intensity of tempo distortions in the period TFR, this chapter discusses the possible extent of future fertility ‘recovery,’ as well as potential insights concerning completed cohort fertility and implications for the future rates of population decline.

Most dramatic changes in period fertility have recently taken place in the **post-communist countries of Central and Eastern Europe**. The rapid fertility changes in this region certainly deserve more attention, not only because of their complexity and relative under-representation in the debates on low fertility, but also because they may challenge some of the existing theories of fertility determinants and fertility decision-making. The comparative analysis presented in **Chapter 7** involves not only the above-discussed issues of extremely low levels of period fertility and intensive postponement of childbearing, but also broader changes in fertility patterns, family formation, living arrangements, and birth control

practices. While the intensive decline of total fertility rates seems to indicate a uniform reaction of the former communist societies to ongoing social and economic changes, the presented data reveal that there has been an increasing diversity in fertility patterns across Central and Eastern Europe.

This analysis is closely linked with **Chapter 8**, which features discussion on the most prominent **factors affecting fertility changes in post-communist societies**. This is a rather challenging task considering that these countries were undergoing a rapid transition to the market economy, democracy, and a complex restructuring of society and concomitant cultural changes. This study connects the pre-1990 reproductive regime of relatively early and universal childbearing with the social and economic organisation of state-bureaucratic societies, characterised by lack of alternative opportunities, limited or blocked educational and career pathways, notorious shortage of the labour force, specific incentives supporting early marriage and parenthood, lack of reliable contraception, and the strong position of the family. The usual explanation, linking dramatic fertility and family changes after 1990 with the economic and social crisis, does not sufficiently appreciate the increasing heterogeneity in economic prosperity and social changes across Central and Eastern Europe, as well as the influence of broader social and cultural shifts not related to the ‘crisis’ explanation.

The debate on the main explanations of fertility shifts in post-communist countries has important **implications for the expected future course of fertility**. If social collapse and economic crisis were the main driving forces behind fertility decline, we might expect the recovery of previous fertility patterns once the social and economic situation improves, at least to a certain extent. If, on the other hand, broad social transformation and the related changes of values and attitudes were the main driving forces behind fertility shifts, we might expect these influences to be long-standing and irreversible for the foreseeable future.

The concluding **Chapter 9** summarises the major findings, outlines major insights for formulating medium-term projections of period fertility in European countries, and speculates on future fertility trends in Europe and their wider implications.

### **1.3 RELEVANCE AND LIMITATIONS OF THIS STUDY**

The work on this study was undertaken as part of the project “Towards a dynamic scenario model of economic determinants of European population development,” funded by the Netherlands Organisation for Scientific Research (NWO), project number A 510-03-901. The goal of this project is to improve the understanding of determinants of demographic processes (fertility, mortality, internal and external migration, and the interactions between them) in order to formulate theoretically and empirically informed scenarios of future demographic development in European countries and regions. While this study diverges considerably from an emphasis on the macro-level analysis of economic determinants of fertility change, it does address the most prominent features of current European fertility trends—low and very low

period fertility rates, intensive postponement of first births, and the dramatic transformation of fertility patterns in Central and Eastern Europe. Whenever possible, it gives a detailed country-specific comparison of the analysed trends. In doing so, it tries to utilise a broad array of available data, often coming from diverse sources. Additionally, it provides insights concerning possible future developments and scenarios, summarised in the concluding Chapter 9. With the exception of final childlessness (see Chapter 5), this thesis does not elaborate explicit scenarios of fertility; this task will be undertaken separately in the concluding book of the project.

Whenever this study finds itself in the tricky waters of causality and explanations of given trends or findings, it tries to situate fertility changes within the broader perspective of demographic and societal change. The aim is to provide plausible, logically sound explanations of the developments discussed without adopting too narrow or simplistic a view. Overall, its broader scope and comparative cross-country perspective are the strong points of this study, echoing van de Kaa's (2001: 325) call for more attempts at integration and synthesis in demography.

This study also has many limitations. Although theoretical insights and explanations are frequently provided from the viewpoint of an individual's decision-making and life-course perspective, the analytical parts focus exclusively on the examination of fertility and related trends at the macro level. It is obvious that a proper understanding of individual behaviour can be hardly achieved from an analysis of aggregate-level data alone. However, studying phenomena from the macro perspective has a number of potential advantages as well. Firstly, the aggregate component of population change—such as numbers of births, the intensity of population ageing, numbers of pensioners, etc.—often constitutes the essence of the problem relevant for social policies, government spending, or local planning (Coleman 2002a). Consequently, studying population change at the aggregate level frequently provides information necessary for effective decision-making. Secondly, some indicators commonly derived from various surveys on fertility and family behaviour can often be obtained from population-based vital statistics or population registers. Using these aggregate data, trajectories of cohort fertility, marriage, and divorce can be reconstructed in a more precise and standardised way for most European societies, allowing for broad cross-country comparisons. These points of intersection between traditional demographic analysis and the life-course approach have strong potential for enriching one another. Thirdly, life-history analysis is often constrained considerably by survey design and the type of data available and, as a result, many researchers apply a narrow perspective, studying only the variables available to them and ignoring other potentially important factors. Although cross-country comparisons of aggregate data do not have the potential to uncover causal relationships, this seeming disadvantage allows for bolder, less common conjectures and explanations.

It is important to note that the individual chapters were initially written as autonomous papers, capable of introducing a given problem, analysing it and providing the relevant

conclusions. To create a coherent text, all of the chapters have been modified and explicitly linked to one another. However, a careful reader of the whole thesis will discover ‘unnecessary’ repetitions as well as minor inconsistencies in style and methodology between various chapters. At the same time, a person interested in a particular issue—such as the analysis of final childlessness—can receive a comprehensive perspective on this issue by studying a particular chapter only (in this case Chapter 5), without much need to consult other parts of the thesis.

#### 1.4 METHODOLOGICAL NOTES

At this point, a few preliminary notes on methodology are warranted. Although the importance of both **period and cohort approach** is stressed in this study, most chapters are concerned with studying period fertility trends and differences. As a result, the period approach is used also whenever the distinction between period and cohort perspective is not explicitly specified. There are several reasons for this dominance of the period approach. First of all, any demographic study concerned with recent developments should turn to the period approach for a comparative analysis. Cohort approach is by definition concerned with a longer-term development, as cohort trends and differences are accumulated during relatively long periods of time. In the case of fertility analysis, completed cohort fertility and parity distribution may be reasonably assessed only after some 20-25 years following the start of reproductive age among women born in a given year. Period data are readily available for analytical purposes, whereas cohort data frequently remain incomplete and difficult to reconstruct. To illustrate this advantage of the period approach, consider the case of recent fertility transformations in Central and Eastern Europe. If one had to analyse fertility twists after 1990 from a cohort perspective and consider the birth cohorts which changed their demographic behaviour most rapidly—usually those born in the early to the mid-1970s—one would have to wait at least until the year 2005 to make a preliminary assessment on the impact of recent fertility changes.

When possible and applicable, this study provides insights and estimates concerning cohort fertility. In fact, the cohort approach is often crucial for assessing the importance of the period changes and deficiencies of the ‘synthetic cohort’ approach used in period analysis. Regarding trends in fertility postponement, the period perspective enables us to trace the shift towards later start of childbearing and to map the differences between countries and population groups. At the same time, the cohort perspective cannot readily provide such information, but from a longer-term perspective it constitutes the only reliable way to analyse which portion of presumably ‘delayed’ fertility was really ‘postponed’ and which portion was ‘foregone,’ i.e., never realised. As Chapter 3 (Section 3.4.4) illustrates, fertility ‘catching-up’ may be approached from a period perspective as well, but then again the cohort approach provides the ultimate answer to this problem.

Several parts of this thesis examine fertility change from a cohort perspective. In Chapter 4, completed cohort fertility serves as a benchmark to analyse the performance of various indicators of period fertility. Cohort analysis is prominent in Chapter 5, where the combination of period and cohort data is used to formulate scenarios of final childlessness. Chapter 6 (Section 6.6) raises the question of how much insight into the future cohort fertility may be achieved by studying period fertility data. Finally, cohort fertility changes in the post-communist countries are briefly highlighted in Chapter 8.

This study also pays considerable attention to the **methodology used to analyse period fertility**. Various sections underscore the deficiencies of commonly used ‘incidence’ rates and total fertility rates (see also a note on terminology below) as compared with indicators based on exposure, i.e., occurrence-exposure rates, age-parity specific birth probabilities, and parity-progression ratios. The frequent use of the former indicators is motivated by a lack of data needed to compute more sophisticated measures, by the aim of analysing their disadvantages and limitations and providing a comparison with other period fertility indicators, or simply by the fact that they continue to serve as a common ‘frame of reference’ for analysing period fertility. Most of the analytical chapters, however, utilise exposure-based indicators to some extent and explore various methods of period fertility adjustment which aim to correct the deficiencies of the indicators based on ‘incidence rates.’ Age and parity-specific birth probabilities serve to account for an exposure. A number of summary indicators may be derived from these indicators within the framework of a fertility table (see Chapter 3, Section 3.3.1 for a detailed overview).

Finally, it is necessary to stress that **the terminology concerning age-specific fertility indicators** related to birth order is confusing and inconsistent. For the lack of a better alternative, I use interchangeably the terms ‘incidence rates’ and ‘reduced rates’ to denote age and order-specific fertility rates, which do not account for exposure, i.e., are related to the entire population of women at a given age irrespective of their parity status. These rates are also called ‘frequencies’ and ‘rates of second kind’ (from French *taux de deuxième catégorie*). The term ‘incidence rates’ appears particularly suitable for avoiding confusion with exposure-specific rates, which are often called ‘age-parity specific fertility rates,’ ‘birth intensities,’ or ‘occurrence-exposure rates.’ Out of the two age and parity-specific indicators based on exposure—occurrence-exposure rates and age-parity specific birth probabilities—this study repeatedly utilises birth probabilities, which are directly computed from the vital statistics on births and the data on parity composition of women by age (see Chapter 3, Section 3.3.1 for more details). Although derived in different ways, the exposure-based indicators do not show significant differences when used to construct summary indicators of fertility quantum such as parity-specific indexes of total fertility and parity-progression ratios. Consequently, the findings related to indicators constructed from birth probabilities generally apply to occurrence-exposure rates as well.