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Fertility and new types of households and family formation in Europe

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Introduction

Population issues are of central concern in the search for sustainable human development. They determine to a large extent political decisions concerning economic development, social welfare, health policies, regional and local planning and education. In turn, population dynamics are affected by the demographic impact of political decisions which should be carefully targeted and monitored in order to ensure social stability and balanced social growth. Thus, the understanding of the complex interaction between demographic trends and policy solutions is one of the fundamental preconditions to correctly interpreting social change and finding adequate solutions to new social problems.

The Council of Europe has a long tradition in population studies. The European Population Committee contributes to the understanding of demographic issues in Europe with a variety of publications linked to populations trends. Topics covered include migratory flows, national minorities issues, demographic changes and the labour markets, the ageing of European populations and the demographic consequences of economic transitions. These studies respond to the need for a scientific understanding of present and future population dynamics throughout the continent. They provide the essential background information for the implementation of the Council of Europe's strategy for social cohesion : an integrated policy approach aimed at combating poverty and social exclusion through the promotion of access to social rights in areas such as employment and training, health, social protection, housing, education and social services.

The changing structure of the European family is clearly one of the most fundamental demographic dynamics set to influence the future of European societies and the lives of millions of people. As part of its social cohesion strategy, the Council of Europe has devoted particular attention to this issue, producing a remarkable contribution to our understanding of the most recent trends, thereby contributing to the development of concrete responses to changing patterns of family types and family life. It is with great pleasure that I present the product of this research, offering you the most recent volume in the "Population studies" series on *Fertility and new types of households and family formation in Europe*.

Gabriella Battaini-Dragoni
Director General of Social Cohesion

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Foreword

Aura-Mihaela Zamfirescu, Antonella Pinnelli and Beat Fux

In 1997 the European Population Committee of the Council of Europe included in its work programme a new project called "Fertility and new types of households and family formation in Europe".

A Group of Specialists (PO-S-FF) from 10 Council of Europe member States (see membership in Appendix) was set up to carry out the study with the assistance of two consultants: Professor Hans Joachim Hoffmann-Nowotny, from the Institute of Sociology of the University of Zurich and Professor Antonella Pinnelli from the Department of Demography of the University of Rome "La Sapienza". The work of the Group took place over a period of three years (1997-1999).

The Group of Specialists agreed that the study should comprise two parts, a theoretical part and an empirical one. In fact the aim of the study was twofold: on the one hand it was to put in a suitable theoretical framework the changes in fertility and family behaviours occurring in European countries, in order to make interpretation of trends, interrelations and determinants of fertility possible; on the other hand it was to verify these hypotheses by means of an empirical study on the determinants of fertility, among which changes in family behaviours are very important. Policy oriented conclusions were to be drawn at the end of the study.

The final result of the project appears as two separate studies which do not pretend to be fully complementary to each other, but which nevertheless deserve to be published together.

Professor Hans Joachim Hoffmann-Nowotny and Dr. Beat Fux are the authors of the theoretical part, Professor Antonella Pinnelli is the author of the empirical part. Although both parts were thoroughly discussed and commented upon by the Group of Specialists, the two studies reflect the opinions of their authors and not necessarily those of the Council of Europe.

The following executive summary presents the structure and the main findings of the two parts, highlights the confirmed hypotheses and those which are not substantiated in the empirical part, and puts forward some policy orientations for the future.

Executive summary

Aura-Mihaela Zamfirescu, Antonella Pinnelli and Beat Fux

The theoretical part

Fertility patterns as well as household and family structures have changed significantly since the mid 1960s in most European countries: fertility has reached low, even very low levels, marriage and family formation come later in life, and are more fragile, and consensual unions have increased considerably. These general trends have not gained ground to the same extent in all European countries. Current demographic differences can be the result of various countries simultaneously occupying different stages in the same sequence of development, as the theory of the second demographic transition could suggest. Moreover, economic and political crises and particular historical events have also had an impact on family formation processes, and especially on fertility. Finally, long-term institutional and cultural endowments have persisted and contribute to explain part of the geographical differences.

Three guiding ideas have been followed to set up the described trends in a theoretical framework:

(i) demographic trends which took, and are taking place, are to a large extent the outcome of societal change, the historical process called modernisation. We assume that on the structural side modernisation implies diminishing constraints and an increase in behavioural options. The cultural counterparts are increasing individualism and a certain loss of the traditions which have governed demographic trends for a long period (this is the structure/culture paradigm);

(ii) the micro-sociological complement of the structure/culture paradigm is the resources-restrictions-behaviour approach;

(iii) historical, economical and cultural reasons help to explain the heterogeneity among European countries.

From the point of view of the structure/culture paradigm, the outcome of societal modernisation is dilemmatic: people are confronted with an increase in freedom and the possibility to choose among a variety of options, but are

obliged to select between different possibilities of behaviour and competing orientations in order to self-interpret their situation, and they have to bring their interpretation into accord with societal expectations, individual interests and their own resources.

Modernisation is a universal process. However this does not exclude differences between countries regarding the diffusion of corresponding conditions and therefore the tempo of similar developments. In the Mediterranean area as well as in Central and Eastern Europe, modernisation was hampered either by cultural or by structural restrictions. The more societies are able to reduce factual restrictions, the higher is the probability that people will select corresponding options. The higher the cost of children, the lower will be the demand for children. The higher the level of cash benefits or maternity benefits, the higher will be the demand for children, since these benefits reduce the direct costs and/or the opportunity costs of children.

In order to analyse similar developments in different countries as well as inter-country heterogeneity, four broad European region are considered according to a merely geographical classification: Northern Europe which includes the Scandinavian countries, the United Kingdom and Ireland (the latter being more similar to Southern Europe countries); Central and Eastern European countries that shared nearly half a century of socialist rule; Southern Europe and Western European countries.

Past and future fertility trends can be interpreted and foreseen in the light of this theoretical general framework. We can assume that the historical process towards a concentration of smaller family sizes will continue. Nevertheless dramatic drops in fertility rates caused by economic and political crises are, and will be, only short-term episodes until the normalisation of the situation is achieved. Taking into account four major trends, namely: (1) younger generations leave the parental home later; (2) the number of singles are increasing as a result of marriage postponement and divorce; (3) cohabitation tends to become a more or less permanent alternative to marriage; (4) the status of women is changing, we can hypothesise that changes in family behaviour have an impact on the postponement of marriages and childbearing, not on the number of births. Furthermore, we assume that the negative effect of divorce on fertility will decrease, at least if existing obstacles and constraints are removed, resulting in more equal gender relations. The integration of women in the labour force will have different effects on fertility depending on the facilities to reconcile work and family life. In certain contexts, the persistence of traditional gender norms may reduce the negative impact of higher occupation-related restrictions on fertility.

The empirical part

The empirical part of the study starts by reconstructing the trends since 1970 in fertility and family formation behaviours, by means of aggregate data giving a detailed and accurate documentation on levels and trends for all the European countries for which data are available. Period and cohort fertility, fertility by age and marital status, mean age at maternity, birth order, infertility, fertility expectations, starting sexual life, leaving parental home, cohabitation, living apart together (LAT), marriage, union dissolution, remarriage, lone parents, are the fertility and family behaviours included.

Fertility trends can be considered as a consequence of the changes in fertility by age and marital status (because of postponement of marriage and having children without being married) and of changes in the structure of women by marital status (because of the spreading of cohabitation and divorce and the delaying of marriage). The difference in the percentage of unmarried women is an indicator, which synthesises all the changes in the intensity and the ways of forming and dissolving unions. The variation in fertility is therefore affected by the variations in marital and non-marital fertility, and in the structure of women by marital status. In order to evaluate the contribution of the variation of these components to the variation of fertility between 1970 and 1990, a model of decomposition of the fertility rates is applied – based on the principle of standardisation – to four countries representing the four groups in which Europe has been divided : Sweden, France, Hungary, and Italy.

The results clearly show that 1) delayed nuptiality and its decrease, and the changes in the patterns of union formation and their instability, always have a negative influence on the overall fertility ; 2) the increase of fertility of unmarried women does not compensate for the lower fertility caused by the decrease in married women ; 3) the fall in fertility in France and Italy is also due to the decrease of marital fertility, that is to the changes in preferences of married couples ; 4) the younger age groups (up to 25 or 30 years) are those which determine the large part of the result. This makes it possible to conclude that it is the delaying of marriages, much more than the instability of unions, which has a negative effect on fertility.

The empirical study then analyses the determinants of fertility, first at a macro level, then at a micro level.

The macro level analysis was performed by a series of factorial analyses. The first analysis considers as determinants 18 indicators of modernisation, gender system and fertility and family behaviour in 29 European countries. The analysis shows that modernisation, a more equitable gender system and new fertility and family behaviours are strongly associated and include a higher

fertility, even if below the replacement level. The most representative countries for this model are the Scandinavian countries, the least representative are the Central and Eastern European and Southern European countries.

The second analysis seeks an answer to the question on convergence-divergence among European countries. To do this a temporal dimension was added to the traditional factorial analysis. 14 indicators of modernisation, gender system and fertility and family behaviour for 19 countries at three points in time (1970, 1980 and 1994) were included.

The results of this analysis show that some demographic patterns are diverging (fertility quantum, fertility and marriage timing); others are geographically unchanged (divorce and out-of-wedlock births) even if their levels are different, and there is no tendency towards convergence. As far as modernisation and gender system indicators are concerned, unemployment and tertiary education of women and women's participation in political life are diverging variables, which highlights the importance of the economic crisis (negative) and of women's empowerment (positive) on new fertility and family behaviours.

The third analysis studied the correlation between family policies and the other variables. 27 indicators of modernisation, gender system, family and fertility behaviour and of various measures to reconcile work and family were used. The results show that the most favourable family policies are applied where modernisation is more advanced and the gender system more equitable: it is in this context that the new patterns of reproductive and family behaviour spread.

The results of the three analysis make it possible to reconsider the similarities among countries and the meaning of the geographical groups considered until now. Four groups are clearly visible: Scandinavian countries, Southern European countries, Central and Eastern European countries and ex-USSR, and others. United Kingdom and Austria were closer to Scandinavian countries than to the other Western countries in 1970, but are very similar to Western European countries according the most recent data, given that Scandinavian countries are diverging from the others. Ireland was close to Southern countries in 1970, but its position is changing and is approaching Western European countries. Spain is another country that moderately converges towards Western European countries, but is still close to the Southern European countries when family policies are considered. Central and Eastern European countries are diverging. It should be recalled that similarities and differences are based on family and fertility behaviour, degree of modernisation, gender system and family policies and that the position of the countries is based on two static analyses and one dynamic analysis.

The study of the determinants of fertility at micro level was carried out on data from the Fertility and Family Survey (FFS)[1] by means of life tables and mixture models, a method of Event History Analysis (EHA) that makes it possible to distinguish the effects of the co-variants on quantum and the timing of fertility. Type and number of unions, age, cohort, women's education and work experience, urbanisation and religiosity were considered as co-variants in the same four countries used previously for the model of decomposition of fertility. The quantum and timing of the first, second and third child were considered as dependent variables. Moreover, hazard models were performed to study the influence of changes in the union (from cohabitation into marriage, from union into separation, from separation into a new union) on the timing of the birth of the first, second and third child, and the other co-variants being the same as in the mixture models.

As far as trends are concerned, the results confirm the tendency towards a polarisation of the population into two sectors : family and non-family, as a consequence of a tendency not to have a first child. Once the first child is born, the more recent cohorts go on to have a second child, and also a third one, more frequently than older cohorts.

On the individual level the results confirm the negative influence of new family behaviours on fertility : the hypothesis that change in family behaviour only have an influence on timing and not also on the intensity of fertility is decidedly undermined by the models results. As far as the other co-variants are concerned, the improvement in women's education, living in a big city, not being very religious, all have a negative influence on fertility, while women's employment has a different influence according the country considered : positive in Hungary and Sweden, at least until the birth of the second child, negative in France and Italy. The hypothesis that the persistence of traditional gender norms might reduce this negative impact is denied by the models results. Moreover, the percentage of negative effects – considering all the co-variants – is higher in Italy, then in France, followed by Hungary and Sweden, which shows the influence of the context on individual behaviour.

The results confirm that modernisation, secularisation and improvement of the status of women are important factors which may influence the timing and intensity of fertility. However, the impact of these factors varies across countries. The negative influence on fertility is much stronger in countries

1. FFS is a survey carried out in 23 developed countries in the 1990s under the co-ordination of PAU-UNECE – the Population activity unit of the United Nations economic commission for Europe, based in Geneva.

where institutional support is weaker and, by way of consequence, the individual costs of modern behaviour are higher.

The macro and micro approach perfectly match and show the risk of present trends for fertility.

I. Sociological analysis

Hans Joachim Hoffmann-Nowotny and Beat Fux

1. Preliminary remarks

The aim of this report is a *theoretical* analysis of interdependencies between reproductive behaviour on the one hand, and the dissemination of new household and family types on the other. In view of this aim and owing to a division of labour, we shall not systematically refer to empirical evidence within this report.

Fertility, as well as household and family structures, have changed significantly since the mid 1960s in most European countries: Fertility has reached low, even very low, levels, marriages and families come later in life, and are more fragile. Nevertheless, marriages and families have not become significantly rarer in most European countries. These institutions seem to persist up to the present as the most frequent ways of organising individual biographies, even if divorce rates have increased and stepfamilies are frequent. At least in some countries, remarriage rates have dropped since the early 1990s because the formation of a consensual union after divorce tends to become an alternative to family reconstitution. The number and share of consensual unions have also increased considerably. Separation rates of consensual unions are fairly substantial and the duration of consensual unions is frequently shorter than the duration of unions where people moved directly into marriage (Bennet et al 1988; Hoem & Rennermalm 1985; Hoem & Hoem 1988; Lesthaeghe 1995; Granström 1997). Other studies, however, lead us to assume that premarital cohabitation has only small (Noack and Østby 1996) or no causal impact (Brüderl *et al.* 1997; Hall 1997) on the duration of marriages. These are the general trends that have not, however, gained ground to the same extent in all European countries. In some countries changes seem to be more fundamental than in others. Current demographic divergence is often also a result of various countries simultaneously occupying different stages in the same sequence of development. Economic and political crises and particular historical events (e.g. the fall of the communist regimes) have also had an impact on family formation processes, and especially on fertility. Long-term institutional and cultural endowments have persisted. However, despite these differences the similarities are striking.

Regarding fertility in an historical perspective, it seems to be quite evident that today's low levels appear to be a continuation of a long-term secular

trend (only temporarily broken by the "golden age of marriage" and its "baby boom" lasting from the second half of the forties to the mid-sixties) which may nevertheless be an indication of a "second demographic transition" since the mid-sixties (van de Kaa 1987, 1988).

A theoretical analysis of "how the major developments in the patterns of family formation in Europe during the last decades have affected the demographic characteristics of populations, and in particular fertility" has thus to start from secular historical trends on the one hand and recent changes (reinforcements of these trends) on the other hand.

It is assumed that a comprehensive theory which might enable us to understand and explain these trends in general – and especially the problem of *fertility and new types of household and family formation* – should combine macroscopic and microscopic approaches to the problems in question, and should finally be put to test in a confrontation with pertinent empirical data provided by a comparative empirical study.

2. A theoretical view on the developments of fertility and family formation

The theoretical perspective elaborated in the following is based on three guiding ideas:

A. *Demographic changes* that took and take place are to a large extent the outcome of societal changes. We have become accustomed to label this historical process "modernisation'. In general, we assume that on the structural side the conditions of modernity imply diminishing constraints and an increase in behavioural options. The cultural counterparts are increasing individualism, and a certain loss of the traditions that have governed demographic trends for a long period. The "Structure/Culture Paradigm" (Hoffmann-Nowotny 1980, 1987; Hoffmann-Nowotny/Fux 1991) aims at a conceptual description of the course and development of this historical process in which the central characteristics of social systems and their changes are embraced.

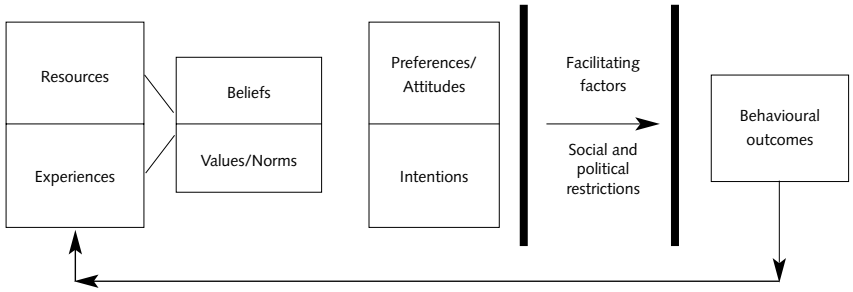
B. In order to understand the relationships between the particular macrosociological conditions of modernity mentioned and individual decisions and behaviour regarding family and procreation, we shall refer to the *resources-restrictions-behaviour approach* (Coleman 1990, Cliquet *et al.* 1992, de Bruijn 1992, Fux 1995) in the sense of a microsociological complement to the Structure/Culture Paradigm.

Individuals, families and social groups dispose of particular sets of resources. With Cliquet, one can differentiate between *biological* resources such as age and sex, *economic* resources such as income and assets, *socio-cultural* resources such as educational status, nationality, political/religious affiliation

etc. and *social-psychological* resources such as socialisation, self-perception, social integration, or locus of control. Together with an individual's or couple's past and current experiences, these microsociological factors determine their situation in life (Lebenslage). Resources are held as interdependently linked with beliefs, values, and norms. Since beliefs, values and norms are unobservable mental constructs, the cultural background has to be operationalized and related to preferences, attitudes, and intentions. Individuals or couples are always confronted with a society that provides facilitators and restrictions that might intervene in the behavioural outcomes. This is not the place to give an exhaustive list of facilitating and/or restricting factors. However, we shall just mention those which are of major importance: economic conditions, social stratification, a country's history and tradition (language, denominational and political structures, timing of state formation and nation building etc.), the development and evolution of a welfare system, bio-technological opportunities etc. Furthermore, facilitators and restrictions are interlinked in many ways. For example, lasting traditionalism might by influenced by a Catholic tradition and might cause a belated development of welfare provisions as well as strong kinship and family orientation. Or, the early secularisation in many Protestant countries governed by social-democratic regimes promoted the early expansion of welfare services and comparatively equal opportunities for men and women.

The following figure aims at visualising this approach.

Figure 1: *The Resources-Restrictions-Behaviour Approach*



C. Furthermore we make an attempt to compare *broad European regions* in order to analyse similar developments in different countries as well as inter-country heterogeneity. Instead of proposing a conceptual map based on theoretical considerations that would take into account the historical and structural backgrounds of countries, we present in this context a mere geographical classification of European regions. Northern Europe consists of the Scandinavian countries, Sweden, Norway, Finland, Denmark and Iceland,

which are characterised by the impact of Protestantism and social-democracy, but also of the United Kingdom and Ireland. Ireland is in many respects more similar to the Southern European peripheries, because of the role that Catholicism plays in this country. Dividing the Western European region by the former "iron curtain" in the East, and by the Alps and the Pyrenees in the South, these countries traditionally show a broad cultural heterogeneity. Some of these countries are furthermore characterised by strong sub-national variations (different languages, denominationally mixed) such as the so-called "consociational democracies" (Belgium, Netherlands, Austria and Switzerland) or Germany. Common denominators of the countries South of the Alps and Pyrenees and West of the Adriatic Sea are their weak economies as well as the Catholic tradition. Greece is also subsumed to the same group. The countries of Central and Eastern Europe share nearly half a century of socialist power. This group of countries allows observation of the impact of different denominations: Lutheran in Estonia and Latvia, Catholic in Poland, Lithuania, and the countries belonging to the former Austrian-Hungarian monarchy, and a complex side by side of Islamic, Orthodox and Catholic countries on the Balkan Peninsula. Since the radical changes in the 1990s, much of this heterogeneity is tending to reappear.

Regarding the above-mentioned *demographic changes* (A), this is not the proper place to discuss to any extent the notion of "modernisation" which is taken here as a starting-point for our considerations. However, it is worthwhile mentioning that "modernisation" means a long-term process starting not later than in the era of enlightenment. Secularisation of world views, democratisation of political participation, rationalisation in economical as well as in individual behaviour, or the spread of economic growth in line with the industrialisation are just the predominant aspects of modernisation. Although in general all European countries participated in this process, it is evident that factors such as the distribution of religious denominations, languages and class structures, the timing of sub-processes like urbanisation, nation-building or state formation facilitated or hampered comparable developments. Instead of discussing the rich sociological literature on modernisation, we simply refer to Durkheim and Tönnies in order to formulate a conceptual paradigm which easily allows operationalisation of corresponding developments.

Early sociologists such as Durkheim and Tönnies have already provided basic concepts for a description of societal modernisation. According to Durkheim (1893/1902), the particular structure of *solidarité mécanique* (mechanical solidarity) integrated individuals tightly into society. It was therefore able to tie people closely into their domestic environments and thus to traditions. In the course of modernisation, mechanical solidarity tended to be replaced by a new type of social integration which he named *solidarité organique*

(organical solidarity), characterised by the differentiation of rather independent societal sub-systems (organs). Durkheim's perspective overlaps to a considerable degree with the theory developed by Tönnies. According to Tönnies (1979: 215) an era of "Gesellschaft" (society) follows an era of *Gemeinschaft* (community). Both concepts, Gesellschaft as well as organical solidarity, suppose a decoupling of traditional ties (i.e. between different kinship members, between generations and partners as well as between parents and children). On the other hand, modernised societies tend to develop towards an over-complex system of highly differentiated and functionally interdependent structures and institutions. The recent discussions on "communitarism" certainly revitalised these concepts.

The "Structure/Culture Paradigm', into which the typologies proposed by Durkheim and Tönnies have been incorporated, distinguishes two central societal dimensions: *Structure* and *Culture. Structure* is defined as a system of positions of societal units (individuals, groups, countries etc.), *culture* meaning a system of symbols (values, norms, institutions etc.). Both dimensions are seen as interdependent. It is also suggested that both dimensions have their own internal dynamics. If analysing the dynamics of tensions and changes resulting from these interdependencies, we can describe the process of modernisation – in particular with regard to the change of family and household types as well as the development of fertility patterns – as follows:

In analytical terms, modernisation is marked firstly by a partial loosening of structural and cultural ties. The consequence is a *rapid*, and often *unbalanced and a-synchronic, structural and cultural change*. The already mentioned trend towards highly differentiated and functionally interdependent structures stimulates the development of various bureaucratic *institutions*. Their cultural counterpart is the rise of *universalistic values and norms*, as expressed by specific social sub-systems orientated towards the *achievement of special aims*. The over-complex structures of modern societies correspond with an increasing *ideological pluralism*, since structural complexity necessarily defies being subordinated to one single guiding principle. Consequently, traditionally binding orientations (e.g. traditions, religion) become weaker. This increasing *volume of options* actors are confronted with, and the *openness* of modern societies, also implies higher chances of *social mobility*. In modernised societies, social positions are, at least in principle, achievable. Undoubtedly, this promotes an *achievement ideology* and a climate of competition. Another implication of the process of modernisation is the multiple and, with that, *partial membership* of individuals in various structures. As a consequence, people tend to become only partially integrated into the respective cultural fields. On the one hand, the reduced social control offers individuals increasing degrees of freedom. On the other hand, they are forced to *individual self-interpretations*. Finally, modernisation

is characterised by a trend towards *equalisation* (which is, not least, supported by national *welfare state* systems), and by the expansion of social *middle-strata*. Culturally, this situation corresponds with the ideology of *democracy*, *equality* and *participation.*

From the view of the "Structure/Culture Paradigm', the outcome of societal modernisation is a *dilemmatic situation*: for one thing people are confronted with an increase in freedom and the possibility to choose among a variety of options. For another thing, individuals are obliged to select between different possibilities of behaving, and competing orientations in order to self-interpret their situation, and they have to bring their interpretation into accord with societal expectations, individual interests and their own resources.

We clearly want to stress here that modernisation does not imply any value judgements (e.g. traditional vs. modern). As already said, the notion is considered a universal process. However, this does not exclude differences between countries regarding the *diffusion* of corresponding conditions and therefore the tempo of similar developments. At first glance, in the European region, modernisation dispersed from North to South. Undoubtedly, the Protestant Scandinavian countries were the forerunners, followed by Western European countries. However, as Ireland illustrates, not all Northern European countries followed the same trajectory. In the Mediterranean area as well as in Eastern Europe, modernisation was hampered either by cultural (e.g. Catholicism, Orthodoxy,) or by structural restrictions (e.g. the socio-economic conditions in the former communist countries).

Regarding the Resources-Restrictions-Behaviour Approach (B), a second theoretical idea to be introduced in the following aims to bridge the gap between the macroscopic perspective of societal modernisation and that of individual decisions and behaviour regarding family formation and fertility. Although individual behaviour, interests, preferences, and intentions cannot be fully explained nor predicted by *rational choice theories*, a generalised model of individual decision-making is necessary that would at least facilitate the discussion of recent family-related trends and developments.

Families and individuals are seen as social units embedded in a network of interdependent relations. As actors they evaluate societal processes and have to refer to them. In this view, family-related behaviour is the result of a complex trade-off (conflict management) between different sub-systems. Actors have to take into account external factors (e.g. the economy, history and traditions, and the distribution of values) as well as the outcome of their earlier activities (evaluation) and their individual resources, experiences and interests. In this sense, individuals and couples can be characterised as rational actors. According to neo-classic economics, the individual is defined as a utility maximizer ('Homo Oeconomicus'). The individual as a homo

oeconomicus "displays a kind of behaviour directed by deliberate and calculative evaluation of alternatives, and the subsequent choice is the best course of action to achieve a clearly defined end" (de Bruijn 1992 : 5). Sociologists designed a much broader concept of rationality ('rationality from the point of view of the actor', cf. Coleman 1990 : 18) by providing a certain contextual body and stressing the procedures of decision-making. In this sense, rationality refers to free choice within the limits of the cognitive capacities and the social environment of an individual or a couple. This concept provides a framework of means and ends concurrently with the procedures that manage attention and generate the subjective perception of this framework. Furthermore, it provides the reasoning processes that allow people to judge possible behaviour, explicitly taking into account the effects of ignorance, uncertainty and decision costs in terms of time, energy and emotional stress.

In other words ; in order to achieve satisfying behaviour, individual actors try to balance their limited resources (with Cliquet we can distinguish between biological, socio-psychological, economic, and socio-cultural resources, Cliquet 1992 : 30ff) and the behavioural outcome. Within such bargaining processes they make their decisions by selecting options from a spectrum of alternatives.

Societal preconditions influence these processes. One can say that the higher the restriction, barrier, or threshold on a certain dimension, the lower the propensity that individuals or couples will choose this option, and vice versa. Thus, the more societies are able to reduce factual restrictions, the higher is the probability that people will select corresponding options, and the occurrence of certain behavioural outcomes. In essence, this argument is a generalisation of the economic theory of fertility that makes the following assumption : the higher the cost of children, the lower will be the demand for children. And, more concretely, the higher the level of cash benefits or maternity benefits, the higher will be the demand for children since these benefits reduce the direct costs and/or the opportunity costs of children.

In order to elaborate our approach further, regarding the *broad European regions* (C), we have made an attempt to cluster countries into groups by referring to a simple geographical classification.

In the Northern European region, the Scandinavian countries form a rather homogeneous cluster with regard to many demographic and family-related developments. Influenced by the tradition of Protestantism, processes such as secularisation and modernisation developed in the Scandinavian countries early. Supported by social-democratic regimes which explicitly intended to provide equal opportunities for all individuals, the spread of ideologies based on democracy, equality and participation (cf. Structure/Culture Paradigm) developed rapidly with comparatively few structural and cultural restrictions.

On the contrary, the governments of the Scandinavian countries actively furthered modernisation by means of redistribution policies and the early development and expansion of the welfare state. Major consequences related to this trajectory are early participation of women in universal education and in the employment sector, openness and tolerance regarding different behaviour (including the acceptance of contraception, abortion and divorce). As a consequence, the process of pluralisation of living arrangements was not hampered and could easily develop, so that in these countries trend-breaks related to fertility have occurred earlier. In such a regime, fertility seems also to react more sensitively to short and medium term period events (Hoem 1996; Hoem and Hoem 1997). However, because of their liberal (United Kingdom) or Catholic traditions (Ireland), there are other Northern European countries showing rather different trajectories.

In many aspects, the Central and Eastern European countries too, show developments that are similar to the Scandinavian trajectory (e.g. female labour-market integration, early development of family policy incentives). Nevertheless, at least three particularities have to be mentioned. Firstly: In the Central and Eastern European countries the propensity of people to marry is much higher and they tend to marry at comparatively earlier ages for traditional reasons (Hajnal 1953, 1965; Rychtarikova 1993). Secondly: The process of industrialisation commenced late and was comparatively weak, which has to do with the long-term history of that region influencing the development of particular class structures etc.). Thirdly: One has to take into account that economic conditions in the former socialist countries were comparatively bad. For a comparatively larger segment of women, employment was an economic necessity as well as being normatively expected. Although in most cases family policy offers were able to compensate for some of the individual restrictions, the combination of work and family obligations was for women more of a dual burden than a real matter of choice. Yet it is perhaps *not solely* a reaction to the economic crisis that following the breakdown of the socialist regimes in most Central and Eastern European countries unemployment rose drastically. Even if total unemployment rates have fallen since 1994 one should not overlook that women in particular risk being excluded from the labour market more frequently. This could be the case under conditions of modernised employment structures (decrease of the agrarian sector, tertiarisation), if the income of a second earner is no longer necessary and/or if part-time arrangements or subsequent employment and family phases gain attractiveness. In conclusion: although the uses of contraceptives, abortions and divorce were societally legitimised as well as frequently practised since the 1950s (Romania follows a particular trajectory in this respect), the coupling between family and marriage was comparatively closer than in the Scandinavian countries. Also the trend towards a pluralisation of

living arrangements seems to be comparatively weaker. Again, one should take into account that there is a marked heterogeneity within the Central and Eastern European countries in this respect (e.g. Hungary).

The Southern European states form a third group. As a common denominator, the tradition of Catholicism (except Greece) and the consequent strong kinship and family ties strengthened in particular the institution of marriage. In many regards, Ireland followed a similar pattern. In these countries family policies are frequently linked with a pro-natalist component (parity-specific allowances); facilities directed towards a reduction of gender inequalities are mostly less developed in this cluster. Furthermore, family and child-related attitudes reach comparatively high-ranking scores. As structural correlates of these attitudes and value orientations, we can observe higher proportions of children with parity 3+, or a higher average household size. By contrast, the proportions of one-person-households and lone-parents are significantly smaller. However, in recent times, at least some of the Southern European countries indicate as well a shrinking proportion of larger families.

A fourth group of countries consists of the Western European countries. In traditionally liberal countries such as the Netherlands and Switzerland, where neither the Roman Catholic tradition nor the civil state was able gain much influence on values and behaviour, one can observe a far-reaching policy of "laisser-faire'. These countries often delegate family-related obligations to individuals or single couples. In terms of family policy, these countries show either a political abstention in this respect, or, at least, no clear political preferences. Tolerance and equality are value-orientations which rank highest in these countries. With regard to some aspects, countries such as France or Belgium show similarities with the Southern European countries; France, however, having had a rather unique demographic history, particularly during the 19th century. Despite these heterogeneities, this group can be characterised by the following indicators: regarding fertility, the trend towards a *polarisation* of behaviour (voluntary childlessness vs. being a parent) is stronger than in all other clusters. The propensity to postpone births is more accentuated. The process of female labour-force participation commenced later and more hesitatingly. Because of the obligation to self-organise the reconciliation of work and the family, these countries more frequently exhibit a bipolar distribution in the age-specific employment rates (baby-break and re-entry). Although the proportions of consensual unions are lower than in the Scandinavian countries, they do increase and influence the process of pluralisation. However, the experience of parenthood more frequently motivates couples to transform their relation into a marital union. Therefore, marriage tends to take on an instrumental function. Often people marry just to clarify the legal status of their partner or child (see also Coleman 1997).

3. The impact of family-related decisions on fertility

Based on these theoretical ideas as a guideline, we shall pass through something like a *virtual biography* in the following section in order to discuss current trends and developments from a prognostic perspective. The aim is to focus on the following question: to what extent do decisions which individuals and couples take in the course of a standard biography determine their future procreative behaviour?

Before discussing these decisions in detail an attempt to define a *general grid* should be made in order to formulate a typology of living arrangements. This will enable us to fit family-related decisions into this grid.

Marriage and the experience of parenthood are undoubtedly very important events in the individual life cycle. Parenthood separates "families" (the proportion of households where individuals or couples live – whether married or not – together with children) from "non-family-households" (voluntary and involuntary childlessness, e.g. singles, childless couples, cohabiting couples without children). Even if "families" show a marked variation over time and space, one has to note that currently less than one out of five women will remain childless. Proportions as well as growth rates are highest in some Western European countries where the thresholds of reconciling work and the family are higher (e.g. Switzerland, Netherlands, or Western Germany, see Dorbritz and Fux 1997: 29ff.). The comparatively high proportion of childless women in Ireland is rooted in other reasons (Kuijsten and Strohmeier 1997).

If increasing childlessness, as well as a polarisation between "families" and "non-family households', influences fertility, this is not necessarily the case for people who refuse marriage. In this respect, we can speak of an uncoupling of procreation and marriage. Again, we first should note that the proportion of marriages varies markedly over time and space. The propensity to marry is strongest within countries where kinship and marriage have more prominent relevance because of the predominance of family and child-oriented values (e.g. the Southern European countries). Approximately the same proportions are to be found within the group of the former socialist countries, even if the occurrence of married mothers in Latvia, Estonia and Eastern Germany is slightly lower. In those Northern and Western European countries, where the non-marriage sector reaches higher proportions, one can observe increasing numbers of people who transform consensual unions into marital unions at the moment they decide to become a parent. This could indicate a modification of the meaning of marriage. Marriage tends to become a means to an end – that of efficiently organising family life (instrumentalisation of the family) – rather than an institution based on terminal values. If reconsidering both, changes related to "families" vs. "non-family

households" and changes related to marital behaviour, we should draw attention to the fact that even in Sweden, until the present, the majority of women at age 30 to 34 live in a marriage-based union with children (Meisaari-Polsa 1997). Many of those theories focusing on individualisation (e.g. Beck 1986) do not appropriately acknowledge this fact.

What are the particular consequences regarding fertility assuming that traditional "families" will not fall below a certain base? Currently, the corresponding proportion varies in the relevant age-groups (30-39) between 60 and 80 per cent, (see Dorbritz and Fux 1997 : 30.) Taking into account that a majority of couples will give birth to at least one child, and controlling for the process of ageing, one can hypothesise that "families" will not fall below the level of about 50 per cent. Under the conditions of societal modernisation, namely the universalisation of values such as education, employment, striving for self-fulfilment and adventure-oriented attitudes, a continuation of the postponement of first births as well as births of higher parity are to be anticipated. This may also be caused by the fact that consensual unions tend to become more and more adequate for balancing the emotions and everyday life of childless couples. One can also assume that in future the interval between average age of marriage and mother's age at first birth will shorten, particularly in the Northern and Central European countries. Depending on future marriage behaviour, the average first marriage age may even overtake the age of first birth. Moreover, due to the presumed continuation in the process of procreation postponement on the one hand and the ongoing gravitation towards families with only one or two children, the mean duration of the fertile lifespan will become shorter. This process is assumed as being relatively independent of the progress in medicine. In consequence, a concentration towards smaller family sizes seems highly predictable.

The situation of those countries that are actually experiencing a rapid economic transition is certainly different. For example, the former GDR clearly illustrates that the period of transition goes in hand with an increase in individual insecurity and a loss of trust in traditional institutions. A dramatic drop in fertility rates is only one of the consequences. Nevertheless, one can argue that the fertility decline caused by economic and political crises is only a short-term episode until normalisation of the situation is achieved.

Under the conditions of a further postponement of first-births and formation of a family, one will notice consequences related to the pre-family phase. We would like to mention first that there is a tendency for the average duration of this life-course segment to increase. Secondly, the phase between leaving the parental home and the birth of a first child has in particular to be characterised as the one in which a kind of pluralisation takes place.

In the following, four major trends will be discussed with regard to their impact on fertility, namely:

(i) the process of leaving the parental home;

(ii) the increase of singles and lone-parents in modern societies;

(iii) recent developments regarding consensual unions;

(iv) the impact of labour-force participation on families with children.

The process of leaving the parental home

At some stage in the life cycle of a nuclear family the younger generation decides to leave the parental home in order to live independently. In the past, the average age of leaving the parental household was closely associated with the average age at marriage of men and women. In contemporary Western societies, particularly among the less educated groups and lower social classes, this may still be the case (Kiernan 1989: 121; de Jong Gierveld/Liefbroer/Beekink 1991). However, since new living arrangements (e.g. unmarried cohabitation) have become more appealing to young adults with the second demographic transition, a decoupling of this link commenced. Currently, the majority of young adults leave the parental home for the purpose of living with a partner, or as singles. This applies to women to a greater extent than men. Up to the present, women also take such a step at a younger age than do men. On average, people who follow further education after secondary school leave the parental home later than young adults who, at the same age, enter an employment.

The average age at which young adults leave the parental home shows considerable fluctuations over time. The decline of traditional and religious authorities, the diffusion of individualism and the increasing equality of women have undoubtedly stimulated people's departure from the parental home at increasingly earlier ages. However, these general factors promoting early departure compete with particular factors that could produce a postponement of leaving home. Economic crises (e.g. in the 1930s and the ensuing Second World War), but also phases with increasing unemployment rates or stagnating developments in the areas of incomes and social security benefits (Keilman 1987; Léridon and Villeneuve-Gokalp 1988), and conditions which are less favourable for starting one's own household (e.g. housing shortages in Central and Eastern European countries) are to be mentioned. Furthermore, a family's economic resources certainly also have an impact on the process of leaving the parental home.

Such counter-factors led to the fact that after a period of earlier moves in the 1960s and 1970s, young adults have tended to stay longer in their parental home in most Western European countries during the 1980s

(Mayer/Schwarz 1989; Commission of the European Communities 1989). This trend has continued in the 1990s. Nevertheless, there is little consensus regarding explanations of this trend. However, the prolongation of (tertiary) education (Blossfeld et al 1995), changes in the parental home (e.g. it offers more physical space to young adults compared to the past, due to declining average family sizes; de Jong Gierveld/Liefbroer/Beekink 1991), and an atmosphere that offers youth greater freedom and privacy (van Leeuwen/Ploegmakers 1987) are undoubtedly factors which have to be taken into account.

We assume that both historical steps, the decline in age at leaving the parental home during the 1960s and 1970s and the increase since the early 1980s mirrors a far-reaching decoupling of sexuality and procreative behaviour. Regarding fertility, this might have an impact on the timing of births. Young adults living independently from their parents, as well as those utilising parental resources during a relatively longer period, may form first unions (consensual unions or marriages) later and they give birth to children later. Nevertheless, there are only few reliable data that would allow justifying this hypothesis. Norwegian sources did not support a corresponding effect. On aggregated levels, this might shorten the duration of the phase with highest fertility in those countries where the thresholds against extramarital fertility are comparatively high. Indirectly it might promote gravitation to smaller family sizes. Nevertheless, a direct impact on fertility quantum is not to be assumed.

The increase of singles and lone-parents in modern societies

In many European countries, the average household size continuously decreased during the past few decades. Particularly the multi-generational households and households with five and more persons tend to become comparatively rare. Higher restrictions (economic transition) in the Central and Eastern European countries, as well as the persistence of strong family and kinship ties can delay or diminish this process. For example, Ireland and the agrarian peripheries in the South of Europe have partly resisted this trend until now. By contrast the proportion of *one – and two-person households* is booming. Even if corresponding comparative household statistics are contaminated by different definitions of basic concepts, such as "household" or "child', and even if this process is also influenced by the ageing of populations, the trend towards smaller families has become a rather universal phenomenon.

Consequently, the proportion of one-person households within the age-span 25 to 49 is growing, particularly in the North and West of Europe, in urban centres, as well as among well-educated professionals and higher social

strata (Kaufmann 1994). Nevertheless, this cannot be taken simply as a benchmark indicating the process of individualisation. A differentiation is needed between *transitional singles* (e.g. people practising this living-arrangement (voluntary or not) only during a restricted period of their biographies, (frequently after leaving home or after the breakdown of a first (unmarried) union on the one hand, and *committed singles* on the other hand. Committed singles can be defined as people refusing any form of stable relationship (Kiernan 1986; Roussel 1986; Schwarz 1988; Meyer and Schulze 1988; Opaschowski 1994).

According to German data, transitional singles form the majority of all persons living in one-person households in younger age-groups (vom Scheidt 1991; Pohl 1994). They can be subdivided into two groups, the first being those who live involuntarily as singles and who often compensate individual loneliness and frustrations with a strong occupational orientation (Opaschowski 1994: 27). A further segment of transitional singles chooses this living-arrangement – either after leaving the parental home or after the breakdown of a first union – as a life-course episode enabling them to flexibly combine their interests in individual independence as well as frequent social contacts and relationships. In both groups – post-adolescent singles as well as voluntary transitional ones (including the pattern of singles living apart together, Hoffmann-Nowotny 1987) – mostly do not categorically refuse marriage and/or parenthood, but, however, contribute to the postponement of marriage and the birth of children.

Among the various types of one-person households, the group of committed singles receive most public recognition although they are – in quantitative terms – of minor importance. Interested in realising values related to individual independence, self-fulfilment and consumption, they categorically reject marriage, children and the family. From a sociological perspective, they most clearly represent the process of individualisation. Committed singles are over-represented among men, or among women after the break-up of their first marriage (Opaschowski 1994: 27).

Obviously, data derived from official household statistics do not allow differentiation between different types of one-person households as well as between singles and cohabiting couples. Generally, it is worth mentioning that the proportion of singles is higher in Northern and Western European countries. The ongoing process of universal education and female labour-force participation may cause an increase in the proportions of one-person households also in the South and the East of Europe. However, a rapid European assimilation in this respect is not to be assumed. Moreover a marked increase in the proportions of permanent singles cannot be observed in the European context.

As concerns *lone-parenthood*, one has to differentiate between the older pattern (i.e. young women who involuntarily become pregnant) and lone-parenthood caused by divorce. In all countries, the proportions of lone-mothers are markedly higher than those of lone-fathers, because custody after divorce is given to women rather than to men in most countries. The proportions of young lone-mothers have been decreasing in most European countries since the 1970s because of the improvement and more frequent use of contraceptives. However, at least in the United Kingdom, an increase of young lone-mothers is to be observed. The increasing number of divorces produces a second type of lone-parenthood. Divorced lone-mothers depend either on alimonies from their former husbands, on an income earned by themselves or on welfare benefits. Therefore, they experience poverty more frequently. Because of obvious restrictions (e.g. low income, difficulties in reconciling work and household duties, loosing the entitlement to alimonies if remarrying in some countries, personal frustrations etc.) divorcees are often hardly motivated to give birth to additional children. If also taking into account that divorce is more frequent in small size families, one can assume that divorce-caused lone-parenthood has a decreasing impact on fertility. However, lone-parenthood is often a transitional living-arrangement. People who remarry and found consecutive families might intend to have another child with their new partner. Remarriage should therefore diminish the above-mentioned drop in fertility. From the perspective of international comparison, only few valid data on the impact of remarriage on procreation exist.

Recent developments regarding consensual unions

For about half a century marriage was the cornerstone of family formation. During the last three decades, however, marriage has lost its traditional meaning as an institution rooted in structural (household economy) or religious traditions. Lifelong duration of marriage is in many countries no longer a matter of course. A shift in the meaning of marriage (trend towards an instrumental interpretation of marriage) does not necessarily contradict the empirical evidence of sustained high marriage rates. Simultaneously, the proportions of *consensual unions* have rapidly increased. This fact is certainly one of the most prominent and also most important developments related to current family formation.

In most European societies, the traditional sequence of behavioural steps in family formation, namely, first getting married and subsequently having children, has become weaker or has even changed. However, there is great inter-country heterogeneity regarding the prevalence, as well as the age-distribution, of consensual unions. Furthermore, different types of consensual unions, such as pre-marital cohabitation, marriage-substituting cohabitation and post-marital cohabitation after experiencing divorce, have

to be differentiated. These types of consensual unions are differently linked to patterns in procreative behaviour. Finally, the increase in the number of consensual unions has led to marked modifications in the meaning of children "born out of wedlock'.

Until now, standardised data needed to systematically document corresponding developments, are still missing. In the following, we can therefore only present some hypotheses based on aggregated data. This situation, however, has improved since information collected by the Family and Fertility Surveys project (FFS), co-ordinated by the United Nations Economic Commission for Europe, has become available (Klijzing/Macura 1996).

The European post-war era was characterised by a pattern of early and widespread marriage. As early as in the 1960s, starting in Sweden and Denmark, young people increasingly began opting for consensual unions as a new living-arrangement. Since then, this process extended to most Western European countries. Within the Southern as well as the Central and Eastern European countries, the proportion of consensual unions grew more slowly and their prevalence is markedly smaller up to the present. A closer analysis of the Central and Eastern European countries shows that the strong influence of Catholicism in the past is still functioning as a threshold against the diffusion of this living form (e.g. Poland, Lithuania, and Hungary). By contrast, in countries with a Lutheran tradition (Estonia, Latvia, and Eastern Germany) the number of consensual unions is currently increasing. During the same period cohabitation spread rapidly into older age-groups.

Moreover, one has to take into account – particularly within the Scandinavian cluster – that cohabitation tends to become a living-arrangement which is frequently a more or less permanent alternative to marriage, while in other countries it is a rather transitory living-arrangement for young couples, preceding marriage and the onset of parenthood. In many countries, cohabitation seems to be relatively incompatible with parenthood. Exceptions are the Scandinavian countries, Estonia, Slovenia, the former GDR, Austria and France. In these countries, the proportion of women living in a consensual union at the time of first birth is comparatively high (Klijzing/Macura 1996). Obviously, there are different reasons stimulating couples to marry if deciding to become parents. Important reasons are a certain traditionalism ("children should be brought up by a married couple"), individual security (marriages are more stable than consensual unions), family related provisions which are in many countries linked to marriage, and civil law favouring married couples in most countries. The relevance of these causes varies between countries.

As concerning the impact of the increase in consensual unions on fertility, one can argue that this development certainly promotes the postponement

of reproductive behaviour. We do not assume that it has a marked impact on fertility quantum.

The increasing divorce rates paved the way for another type of consensual union, namely, the post-marital cohabitation. However, for a substantial explanation of inter-country variation in the prevalence of cohabitation as well as the country-specific trajectories, further analysis, particularly comparative analysis, is needed.

The impact of labour-force participation on families with children

Changes in reproductive behaviour, union formation and dissolution, and the development of new living-arrangements in Europe during the last few decades have been influenced by, and have in turn affected, the status of women in society, their gains in educational attainment and their *participation in the labour force*. In the West, the expansion of the labour-intensive service sector and the rising labour market expectations of increasingly better-educated women, and in Central and Eastern Europe, the state-sponsored industrialisation and gender equalisation in the work-sector, led to increasing labour-force participation rates among women. Though the outcome is similar, important inter-country heterogeneity regarding the pace of similar developments, the increase of part-time employment, life-course particularities (women's dropping out of the labour market after getting married, and/or giving birth to a child), and occupational segregation remains – just to name but a few of the most prominent aspects of diversity. Furthermore, family policy incentives might have some impact on female occupational behaviour in the sense that availability of benefits and facilities allows women either to choose an occupation or to reconcile both, work and family.

Within the Scandinavian area, female labour-force participation increased to the highest level ever observed. Age-specific activity rates are characterised by a typically unimodal distribution (inverted u-shape) which is similar to that of men. A variety of social policies seems to enable women to balance the roles of paid work and housework even during their parental phase. Nevertheless, substantial proportions of employed women do only part-time work. Together with some Western European countries, the proportions are considerably higher than in the former socialist area, or in the South of Europe.

Regarding the process of female labour-force participation, the former socialist countries show an early and more gradual development. Based on the doctrine of gender equality, a concerted governmental effort brought women into the labour force. However, part-time arrangements were less common in these countries. Moreover, as far as micro data can show, women

frequently experienced this situation as a dual burden, even though this burden had been reduced by a variety of child-care and family policy offers.

Particularly the traditionally liberal countries (e.g. the United Kingdom, the Netherlands or Switzerland) show a bimodal age-specific participation pattern. The m-shaped distribution suggests that women more frequently experience a three-phased family cycle. The lack in employment-related provisions (e.g. few child care arrangements) forces women either to drop out of the labour force for the duration of a baby-break of varying length or, at least, to reduce the extent of their occupational work. As a consequence, the proportions of female part-time workers are also significantly higher in this cluster of countries.

Because of more traditional gender norms – but also influenced by a lack of provisions facilitating the conciliation of work and the family – female labour-force participation in the South of Europe as well as in Belgium shows a different pattern. Women more frequently permanently leave their employment after marrying or giving birth to a child. Therefore, the shape of age-specific activity rates is characterised by a unimodal distribution with a peak among younger age-groups and comparatively low activity rates overall even if the children have already left the parental home (two-phases model). In these countries, women also less often opt for part-time arrangements (Commission of the EC 1993: 159ff). As regards the patterns of country-specific developments in female labour-force participation, we can formulate the following hypotheses:

Due to the lower barriers and restrictions (facilitated by measures such as child-care arrangements or parental leave), particularly the Scandinavian and Central and Eastern European countries show an equally distributed increase in the participation rate over the age-range 25-55. In other words, the pressure towards labour-force integration is vertically oriented. None, or only minor, counter-pressure exists. Women in most Southern European countries, by contrast, are confronted with gender norms as well as structural thresholds that are age-specific. They therefore experience stronger pressure against participation particularly in age-groups older than the mean age of first marriage. A family policy which stimulates them to fulfil their role as mother and housewife (child-care leave rather than parental leave) encourages corresponding behaviour. Trying to formalise this structure, we can express the pattern by a strong counter-pressure during later stages in the life-cycle. In opposition to this second pattern, women in most Western European countries (particularly those with a liberal history) experience the highest barriers during their early family phase. The lack of child-care facilities, thus creating more severe difficulties regarding the organisation of

everyday life, leads to a frequent drop-out of the labour force within comparatively early ages followed by a re-entry phase after having brought up one's children.

The impact of female labour force integration on fertility is obviously fairly complex. Generally, we hypothesise that a situation enabling women to freely choose between work and the family, or to reconcile both areas (few restrictions), stimulates procreation. However, it also promotes the gravitation to smaller families as well as a certain postponement of births. In this case, female labour force participation has a positive effect on fertility. In countries, where women are confronted with higher occupation-related restrictions, we assume a strong polarisation effect. Since work and the family are competing areas, women have to decide between the two areas. Those who opt for the work sector show a higher propensity to remain childless. Those opting for the family may either have their children at a higher age or – if starting with procreation early – will have a comparatively large number of children. Polarisation has undoubtedly a negative effect on overall fertility. However, one has to take into account that the persistence of traditional gender norms might reduce this impact. Couples in such societies may be stimulated to reach cognitive consistency and therefore modify their procreative intentions.

4. Concluding remarks: globalisation and its consequences on fertility and the family

In conclusion, we aim to give a tentative answer to the central question, namely: Does the assumed increase and spread of new living arrangements have an impact on the future development of fertility, and what kind of development is more or less probable?

From a macroscopic point of view, the answer to this question is to a great extent dependent on the tempo and the effects of two processes, namely (i) the rise of a "European Society", and (ii) the rise of a "World Society", i.e. the process called "globalisation". However, an increasing similarity of the economies and societies of Europe ('European Society') or even the entire industrial world ('World Society') cannot be taken for granted. "The empirical findings point to moderate global convergence in Western Europe, and, so far, no convergence at all when the East is included. It may be that there are so many recent *bouleversements* in both Southern Europe and especially in the East that their outcome is beyond prediction and the turbulence created has unhelpfully muddied the demographic waters. The expectations for any future regime(s) must be one of constrained variety, more in some areas than others." (Coleman 1997: 31).

In-depth studies of completed fertility trends suggest a partial convergence of reproductive behaviours within the near future (Roussel 1994 : 56f ; Höhn 1997 : 75ff). Nevertheless, a marked variation of total cohort fertility will not fade away.

In order to evaluate the development of fertility, one has to keep in mind that the post-war baby-boom and particularly the rapid fertility decline after about 1965 are only an historical interlude in a secular process. Effected by singular economic prosperity together with a social and political climate that has enabled almost everyone in East and West to marry and to experience parenthood (the so-called "golden age of marriage'), this medium-term development has to be taken as an exception rather than as the normal course. Supposing a continuation of modernisation, we are prone to predict a low fertility level which does not exclude a certain international heterogeneity. Corresponding with societal base-line processes, such as rationalisation and modernisation, this perspective takes into account that in the future a few children – or even one child – are sufficient to fulfil the parental urge for wanting children. Furthermore, by adopting the thesis suggested by Huinink (1995) an increasingly smaller segment of the entire population will be able afford a larger family size. In this sense children tend to become more and more a "luxury good" (Huinink 1995).

Unlike fertility, family life forms in European comparison show a non-convergent diversity in household and family types. According to Kuijsten, these observed differences reflect heterogeneous structural and cultural conditions, with no correlation between basic demographic trends (e.g. fertility) and balance between traditional and new family types. "In the era of the second demographic transition the European family map has grown more diversified rather than more uniform, and ultimate fears of a sort of *McDonaldisation* of European family structures, with people snacking at the take-away relationship store, seem completely unwarranted." (Kuijsten 1996 :140f ; see also Kuijsten *et al.* 1997).

While in the *past* explicit *societal* marriage restrictions existed causing considerable proportions of people to experience celibacy involuntarily, in *future* marriageability and parenthood motivation will depend more on *individual* decisions based on the weighting of resources and restrictions. At the aggregate level, such individual evaluations will undoubtedly stimulate the trend towards a *polarisation* between non-family-households and "families". The conditions of modernity as well as the ongoing process of globalisation may accentuate this process. We will just try to anticipate some correlates of these phenomena and to discuss hypothetical trajectories.

The conditions of modernity and particularly the ideologies of achievement and gender equality might put fertility, as well as traditional family types,

under pressure. Undoubtedly, well-educated women in the upper and middle classes will attempt to profit from their human capital investments. An increasing number of them will either reject motherhood or postpone fewer births into later life-stages. Furthermore, since marriage is competing with different alternative patterns of living arrangements, a revitalisation of the "golden age of marriage" seems to be rather improbable. In sum, the conditions of modernity are at least associated with four trends, namely: (i) the trend towards smaller family sizes, (ii) the postponement of births, (iii) the polarisation of fertility behaviour with an increase in the proportion of childless people and finally (iv) together with the process of pluralisation, marriage rates will further decline and divorce rates will increase. Counter-evidence, as to be found in Sweden ('roller-coaster fertility') can be interpreted as medium-term fluctuation within relatively narrow margins.

Economic conditions and family policies aiming at facilitating the reconciliation of work and family, or at promoting gender equality have had a positive impact on these trends, either influencing the tempo and/or the amplitude of similar developments (Fux 1994; Höhn 1997). The process of globalisation may influence these developments in different ways. One can argue firstly that the ongoing pressure on individual earnings will accentuate the trend according to which children are held to be "luxury goods" (Huinink 1995). Together with an increasing poverty risk for particular living arrangements (e.g. lone-parents, large families), but also for increasing segments of the traditional middle classes, globalisation will reinforce the above-mentioned developments related to fertility and the family. There are few arguments which would suggest that unemployment, or the threat of it, will have a positive impact on procreative behaviour. In addition, one can anticipate that the legitimacy of family policies will become weaker and the implementation of corresponding incentives will be impeded because of scarce finances of governments. Again, the impact will be a reinforcement of current trends.

Despite the similarities concerning long-term fertility developments, one should, however, not overlook the factors producing some inter-country heterogeneity in values and behaviour.

We will briefly discuss some arguments that might cause a certain divergence between countries. Projections forecast the lowest fertility rates for the Southern European countries. At first glance, this seems to contradict the thesis according to which these countries are characterised by a comparatively high esteem for marriage and children as well as by rather unbroken kinship relations. Taking these characteristics into account, one can assume that the low fertility in these countries is effected by the following: comparatively, many women will marry and become mothers; therefore, the proportions of celibacy as well as childlessness will be significantly smaller than

elsewhere in Europe. However, the trend towards one – and two-child families will probably be more pronounced.

Within the Scandinavian countries, long-term continuity in policies aiming at female labour-force participation and gender equality, supported by corresponding family policy offers has had a positive net-effect on procreative behaviour (for details see Höhn 1997). If globalisation causes stagnation, or even a reduction, in governmental support for families, one can assume that fertility rates will tend to slowly decrease and to show only marginal fluctuations. Furthermore, globalisation might stimulate the polarisation between "families" and "non-family-households" in this region. Further consequences may therefore be an increase in voluntary childlessness as well as convergence with behaviour already observable at the present time in the Western European countries experiencing a liberal tradition.

The last mentioned group of countries, (namely the Netherlands or Switzerland) is already characterised by the comparatively pronounced polarisation between the family and the non-family sector in the current situation, and by the only partial integration of women into the labour force (either part-time employment or intermediate baby-phases) as well as by the necessity to self-organise family life because of a far-reaching absence of governmental support for the family. Since couples in these countries are already accustomed to managing family-related affairs, one can assume that future globalisation will have only marginal influence on their behaviour. In particular, we would like to argue that this trajectory has a good chance of becoming the pole of convergence.

For the group of former socialist countries the outstanding problem is to master the economic transition. This process has led to a drastic decline in fertility as well as to women leaving the labour market in all countries. Even if one can assume that some of these developments are only short-term phenomena, a partial convergence can be anticipated. Particularly, the high female occupation rates will certainly not find continuation. We also expect an increase in the proportion of childless people and therefore a reinforced polarisation between the family and the non-family sector. Finally, there are already indicators that aspects which were suppressed during the socialist era are being revitalised. As one can observe, for example, the strong influence of the Catholic vs. the Lutheran doctrine already promotes increasing heterogeneity within this cluster at the present time.

Finally, let us quote David Coleman who wrote recently: "If all countries had the same economy, same child-care, same welfare arrangements etc. (i.e. the same set of restrictions – ed. note), would they have the same birth rate? Can we then answer the question of the future demographic shape of Europe? Perhaps the response should be that given by the late Mr Chou

En-Lai of China when asked in the 1960s for his evaluation of the French Revolution. "Too soon to tell" he replied. Maybe the response must be the same – for the time being." (Coleman 1997:32)

Although attempting to base our speculations on future developments of fertility and the family in Europe on theoretical assumptions, the history of European populations can be taken as a typical example of the fact that there are no demographic laws as such. The process of future developments needs continuous empirical observation which has to be based on social science theories combining macroscopic and microscopic factors that might influence individual decisions and behaviour regarding fertility.

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II. Determinants of fertility in Europe : new family forms, context and individual characteristics

Antonella Pinnelli

1. Introduction

The aim of this study is an empirical analysis of the determinants of fertility in European countries with particular reference to the influence of family behaviour and of contextual and individual characteristics. The main questions which we have posed are :

- What is the basic trend of fertility and of family behaviour ?
- How may changes in family behaviour have influenced fertility trends ?
- Is there any tendency towards convergence or divergence in family and reproductive behaviour ?
- What determines the geographical differences which are observed, even in the presence of such limited rates ?
- What kind of institutional, economic, social and gender context discourages fertility ?
- How does new family behaviour influence the timing and intensity of fertility of individuals, given their own characteristics and that of the societal context in which they live ?

In order to seek the answers to these questions, the Introduction provides a description both of the trends in the demographic phenomena involved in reproduction – and of the interrelations existing between them. There have been some recent analyses of trends in family and reproductive behaviour in developed countries, and in Europe in particular (see, for example, Roussel 1994 ; Coleman 1996 ; Kuijsten 1996). However, we regard an up-to-date *ad hoc* analysis including all of the aspects which we believe important, with a common starting point in time and with reference to a large group of countries, as a useful basis from which to proceed. The use of a selection of analyses available could not simultaneously satisfy all of these requisites.

Section 2 considers the pattern of effective fertility and fertility expectations, with a view to establishing the following : the slight upturn in *fertility* which various countries experienced after the decline of the seventies and the stasis of the eighties is already on the wane in some countries. It is important to establish what the real trends are, beyond the conjunctural oscillations (the

effect of delays and their recuperation). It is therefore necessary to take into account both period and longitudinal data, data of both fact and attitude, and of both intensity and timing, in order to understand the underlying fertility trends.

Section 3 concerns changes in family behaviour. It includes analyses of the patterns of intensity and timing of nuptiality and the dissolution of unions, and also possibly related patterns of behaviour, such as age at start of sexual activity and age at initial independence of the family of origin, cohabition without marriage and LAT (living apart together), remarriage after the end of a first union and living alone with children. In this section we shall seek to answer the following questions: has the intensity and timing of *union formation* become independent of the *start of sexual activity*, or is there still a link between the two phenomena? Does the earlier timing and greater incidence of premarital sexual intercourse render *cohabitation* or marriage less necessary? *Nuptiality* is in decline, but in some countries marriage is being substituted by cohabitation with a partner without marrying, while in others the beginning of unions is being delayed by the *prolongation of residence in the parental home* or by *living alone or with friends*: what is the impact of these different living arrangements on reproductive behaviour? In the first case fertility may change little compared with the situation in the past, when marriage was more frequent, while in the second and third cases reproduction is delayed, and with postponement, people may be forced to renounce having children or decide to have only one, because they have started too late, and either the desire for children is more limited or it cannot be fulfilled. Can we define LAT, the new form of distance union which has become fairly popular in the countries of Europe, as a new form of living arrangement, or is it emerging as a new kind of relationship? There has been an increase in the *instability of unions*, both for marriages and, to an even greater extent, for cohabitation. Is *remarriage* partly compensating for the increase in marital instability? Or are *lone-parent families* increasing as a result of the greater instability of formal and informal unions?

The results confirm the trend towards a greater diversity of family forms and their greater instability and show a general delaying of the beginning of reproductive life and a reduction of the quantum of fertility, already confirmed in the reduction of completed fertility of cohorts, despite the stability of fertility expectations, which remain around the replacement level, even in countries with below-replacement fertility.

European countries can be divided in four main groups: Northern (Scandinavian) countries, Western countries, Southern countries (including Ireland) and Central and Eastern countries (including ex-USSR countries), according to the trends in, and levels of fertility and the main characteristics

of, family behaviour. For a synthesis of the main characteristics of these country groups, let us remember that the Northern countries are those that have had the highest fertility in recent years, even though it has been postponed, and the greatest changes in the pattern of union formation and dissolution. The Southern countries have had the lowest fertility, despite the fact that the patterns of family formation have remained stable. The Western countries have experienced a situation midway between those of the North and those of the South. The Central and Eastern countries and those of the former USSR, which started off with high, early nuptiality and early fertility, higher than in the other countries, have, since the beginning of the nineties, been showing large and rapid changes both in family behaviour and in patterns of fertility : a sharp decline and postponing of marriage, very low and much later fertility and an increase in births outside marriage and divorces.[1]

The next step will be to estimate *the interrelations which exist between family and reproductive behaviour.* For this purpose, in Section 4, we shall use a model of decomposition of the differences of fertility over time which provides an assessment of the impact of the changes in family behaviour on the pattern of fertility. The change in patterns of family behaviour may be summed up in the decline in the percentage of married women. The decline in fertility may be broken down into its component parts, consisting of that part due to the fall in the percentage of married women at each age and that part due to the variation in marital and non-marital fertility by age. The breakdown of temporal differences in the fertility rates of four countries, representative of the groups of countries identified above (Sweden for the North, France for the West, Italy for the South and Hungary for the East) showed always that the decrease in the percentage of married women always causes a decrease in total fertility, which is not compensated by the increase in non-marital fertility. Delaying or renouncing marriage definitely has a strong negative effect on fertility in each country.

Once we have identified the real trends in fertility and the relation between these trends and the patterns of family behaviour, we may begin to think about the possible determinants.

First we shall consider determinants at the macro level. Previous studies have shown that the institutional, social and cultural context, and the gender system, have a strong influence on the patterns of reproductive behaviour (Van de Kaa 1987 ; Pinnelli 1995 ; Lesthaeghe 1995). Section 5 will examine

1. Other researchers arrive at similar groups and give names to them : Mellens (1999) for instance calls the Scandinavian countries maternalistic, the Western countries pragmatic, the Southern countries paternalistic and divides the former communist countries in intermediate and post-totalitarian according the degree of transition to capitalism.

various contextual aspects with reference to the main theoretical approaches regarding the macro determinants of fertility:

- the *institutional support* given to individuals or families with children: support of the cost of children and childcare services, especially creches and kindergartens, according to their availability, quality and cost, may facilitate the bringing up of children and make it easier to reconcile this with the couple's other responsibilities; the availability of care services for the elderly can also be important: if the task of caring for elderly relatives falls upon families it may exhaust their resources for caring at the expense of young children; the current uncertainty over the future of the welfare state may be a factor which is discouraging fertility. The *constraints* posed by particular conditions of the *labour market* (unemployment amongst young people, instability, the growth of uncertainty about the future) and of the *housing market* (rigidity, costs) may create serious difficulties for young people's independence and for the formation of families and reproduction;
- *modernisation*, with development, both in a materialistic and in a post-materialistic sense: a level of fertility around replacement level, i.e. to that indicated by men and women in all research data as the ideal fertility level, seems compatible with development of a post-materialistic nature, paying more attention to quality of life and overall personal fulfilment than to wealth accumulation;
- the *secularisation* of society is favouring new patterns of family and reproductive behaviour;
- the *gender system* is undergoing important changes: women are increasingly present in the education system, the labour market and governmental bodies. This is changing the balance of the costs and benefits of marriage (or cohabitation) and fertility, even though not necessarily in a negative sense: the transition towards a fairer gender system may be neither easy nor rapid, and the direction and intensity of its influence on fertility are not easy to hypothesize.

It may be supposed that these different contexts are associated with reproductive and family behaviour, i.e. with the intensity and timing of unions and with the modalities of their formation, and with the intensity and timing of fertility.

The institutional aspects and their relations to fertility will be analysed in Section 6, and a series of multivariate statistical analyses undertaken to give a quantitative answer to the hypotheses posed will be presented in Section 7. The geographical analyses of the factors possibly linked to fertility and family behaviour show that modernisation, economic development, a more balanced gender system and greater institutional support to the family, working

women, children and old people are interrelated factors associated with both higher fertility and new forms of family behaviour.

The analysis at the macro level provides the general framework of trends in the patterns of reproductive and family behaviour and in the contextual conditions which might influence individual behaviour. We finish the study with a micro-level analysis, establishing whether the new ways of forming a union (informal unions, marriage preceded by living together, serial monogamy, union instability etc.) have an influence on individual fertility behaviour, that is on the timing and intensity of progression to the first, second, third births, in the different contexts we identified above, controlling the effect of the other variables which published research has demonstrated to be significant.

On the basis of a literature review of the "micro level" studies on the influence of the new patterns of family behaviour on fertility in developed countries, we hypothesized that individual reproductive behaviour is negatively influenced by: delay in starting a union or birth of a first (second) child; cohabitation; union instability – while indirect marriage (that is marriage after pre-marital cohabitation) and repartnering might have a very limited or even positive influence, and that the strength of these influences can differ in different contexts (Section 8).

To verify this hypothesis the biographies of the women of reproductive age, collected by the Fertility and Family Survey (FFS) in the four countries we included in the model of decomposition of the fertility trends presented in Section 4 (Italy, France, Hungary and Sweden) were analyzed using event-history analysis. The results are presented in Section 9 and confirm the hypothesis that new family behaviours are strongly associated both with the delay and the decrease of fertility. Modernisation, secularisation, a better women's status too, all have an influence in the same direction, but their impact differs in the different countries: their negative effect is stronger where socio-cultural transformation is more recent and institutional support weaker, and therefore where costs to the individual of modern behaviour are higher.

Section 10 combines the macro and the micro visions: the results of the analyses obtained at the two levels may be integrated without inconsistency, showing the implications for the current trends in fertility and suggesting relevant policy measures.

We shall limit our analyses to the countries of larger demographic dimensions (population in 1970 of at least one million inhabitants), grouping them in such a way as to facilitate the reading of graphs and tables. We have used two main groups: Western Europe and Central and Eastern Europe, the former subdivided into North, West and South, the latter into Central and

Eastern Europe and the former USSR (see table 1 for details). Of all the possible combinations, this seemed the one that guaranteed the most internal homogeneity and the most heterogeneity between the groups, both from a demographic point of view and from an economic/political one, and it was subsequently completely confirmed by the results of the multivariate analyses. In some cases, as in the following section, the two big groups, West and East, will be commented upon separately. 1970 was chosen as a starting point for the temporal analyses. The "baby bust" had already started a few years previously, and the changes in patterns of family behaviour were beginning to be seen only in the countries of Northern Europe.

2. Fertility trends

2.1. Period fertility – West Europe

After the baby boom in the first half of the sixties, which took place at varying degrees in all European countries except those of Central and Eastern Europe, fertility resumed its decline. This decline was pronounced in all countries for the first ten years, with a notable reduction of geographical differences (fig. 1 and table 1). Between 1975 and 1980, the trends diverged again : in the countries of Northern and Western Europe the total fertility rate either remained approximately level or looked as though it might be picking up again, while in the countries of the South it continued to fall rapidly until 1985, and subsequently more slowly. The result of these differing trends has been the reversal of geographical differences : while in 1970 the countries with the highest fertility were those in the South, with a total fertility rate ranging between Greece and Italy's 2.4 and Spain's 2.9, and the countries with the lowest fertility were to be found in North Europe, with rates ranging between Finland's 1.8 and Norway's 2.5. In 1990, on the other hand, the highest levels of the total fertility rate were to be found in the countries of North Europe (2.1 in Sweden) and the lowest levels in the South (1.4 in Italy and Spain). South Europe's fall in fertility continued in the 1990s and amongst Northern European countries, only Sweden showed a visible return towards pre-1990 levels, with the total fertility rate falling to 1.5 children per woman in 1997 (we shall come back later to analyse this change), while in the other Scandinavian countries it remained at around 1.7-1.9. The recent fall in fertility in Sweden is the consequence both of the bringing forward of births which took place in and around 1990, due to the change in legislation regarding paid parental leave (Observatoire Démographique Européen 1996), and of the economic problems which have created difficult conditions for young people in the labour market and have undermined the welfare state, with a progressive reduction of support to families with children (Hoem 1998). In the countries of Western Europe, there has been a limited oscillation in the total fertility rate around the values of the late 1980s, with the

lowest values (1.4) in the former West Germany and the highest (1.7) in France and the UK, with the result that geographical differences have remained more or less the same in 1997 as they were in 1990, and the North-South gradient has been maintained.

Two countries, Ireland and Turkey, have not been discussed in this report since in 1970 they had levels of fertility outside the usual range for the geographical areas to which they belonged: Ireland, with 3.9 children per woman, and Turkey, with 5.7 children per woman. Both countries have undergone a continuous and sharp decline since that date, reaching 1997 levels of 1.9 and 2.5 respectively. These are, nevertheless, still higher than those prevailing in their geographical areas.

2.2. Period fertility – Central and Eastern Europe

We shall refer from now on to the current political geography of the region, which is different from that which existed in the 1970s and almost all of the 1980s. Fortunately, the data have been reconstructed in such a way as to allow for the construction of trends for the purposes of temporal comparisons.

In 1970 the fertility of most of the Central and Eastern countries (13 countries out of the 21 for which we have data) ranged between 2 and 2.4 children per woman. Only two countries had a total fertility rate of less than two (Croatia, with 1.8, and the Czech Republic, with 1.9), and the other countries had a high rate of fertility: three had rates between 2.5 and 2.9 (Bosnia, Romania and Georgia), and Armenia had a rate of 3.2. At the beginning of the period under consideration fertility in this region was therefore higher than that of the other European countries. The subsequent trend was neither homogeneous nor regular: in some countries fertility increased somewhat, and in others it declined. The political and economic crisis which has been affecting the whole area since 1989 has coincided with a general fall in fertility: this has been particularly marked in East Germany, where the total fertility rate has fallen to one child per woman, and in the countries of the former USSR. The range of fertility for the years 1996-97 has shrunk to 1.0-1.6 (East Germany-Moldova), excluding the countries that in 1970 still had very high rates of fertility, such as Azerbaijan, which had a total fertility rate of 4.7 children per woman. This latter country has also nevertheless undergone a very sharp drop in the period under consideration, and the rate was 2.3 children per woman in 1996. Apart from this country, Central and Eastern Europe, taken as a whole, now has very low rates of fertility, close to those of Southern Europe. These countries are therefore also contributing to the change in geography that we have witnessed over the course of the last 25 years.

2.3. Fertility by age

Fertility has a bell-shaped profile by age. The age at peak fertility varies by geographical area and has changed over time. The 20-24 age group was the one in which fertility was at a maximum in 1970 for the countries of the North, Central and Eastern Europe and Austria. In the other countries the peak occurred either in the age group 25-29 otherwise the values for the two age groups were the same (fig. 2). Over the next twenty years the fertility age profile has changed everywhere, both where overall fertility has increased and where it has decreased. Fertility has declined for the younger age groups, but it has declined less, or even increased, for the 25-29 and older age groups in all countries, including some of Central and Eastern Europe (Croatia and Hungary), where the decline in fertility is still taking place in both the younger and the older age groups.

As a result of these shifts, the percentage of births to mothers aged thirty or over now exceeds 40% in various countries, including Sweden, Denmark, Norway, Finland, Netherlands, Switzerland, Italy and Spain.

2.4. Mean age at maternity

The postponement of fertility is confirmed if we examine an indicator of the timing of fertility, such as women's average age at maternity. Then we may observe the following patterns (Council of Europe 1997): in the Scandinavian countries the average age was only just over 26 in 1970, and has been increasing continuously ever since. In the countries of Western Europe it was higher in 1970 than in the Scandinavian countries, ranging from 26 to 28 years, and it has been rising ever since, apart from a brief initial phase of decline. Ireland is an exception as it has maintained a very high average age (29-30) over the whole period. In 1970 in the countries of the South the average age at maternity varied between 27 and 30 years and the initial phase of decline was sharper and longer. In the countries of Central and Eastern Europe the average age at maternity was decidedly lower in 1970 compared with those in other areas, ranging from 24 to 27 years. Its subsequent pattern has displayed little homogeneity, and it has tended to increase in recent years. In the countries of the former USSR age at maternity was higher than in the other Central and Eastern European countries, between 26 and 28 years, but its fall has been more pronounced and only in recent years has it risen again in some countries.

The indicator of mean age at maternity reflects the level and pattern both of the age at birth of the first child, which in turn is associated with age at marriage, and also of the average order of birth. The phases of increase indicate delay in marriage and in the birth of the first child and those of decline are the result of a fall in fertility for the highest orders of birth. Indeed, if we

examine the values for the average age at birth of the first child, these are more concentrated in a limited range because they depend only on the age at the beginning of the union and on the protogenesic interval. In 1970 they demonstrated two types of calendar: one early, in the countries in the North and East, and one late, in the countries in the West and South (with the exception of Turkey, displaying a very early calendar) (fig. 3). This trend shows a distinctive increase from 1970 onwards for the countries of North-Western Europe, from 1975-80 for those of the South, and from 1990 only for some countries of Central and Eastern Europe (East Germany, Croatia, Slovenia and the Federal Republic of Yugoslavia). The few countries of the former USSR for which we have information show an irregular pattern. The geographical differences have therefore been accentuated, but the two areas – of early and late calendars respectively – are less clear-cut than in 1970.

2.5. Birth order

The change over time of the distribution of births according to birth order gives some idea of the transformation of family sizes (table 2): of all those born in 1970 in most European countries, first-born children represented a fairly variable percentage, ranging from less than 30% in some countries (Ireland, Armenia, Azerbaijan) to over 50% in others (Finland, the Czech Republic, Latvia and the Russian Federation). In 13 countries out of 36, the percentage was less than 40%. The percentage of births of the third order and over was also very variable, ranging from under 20% in eight countries to over 40% in four (reaching a maximum value of 66.2% in Azerbaijan). This reflected not only the different prevailing levels of fertility, but also the earlier levels. The situation in 1996-97 is much changed and is more homogeneous: the percentage of births of the first order has increased and only in four countries out of 36 is it lower than 40%; third-order births represent fewer than 20% of all births in most countries and the highest values have disappeared, given that they exceed 30% only in Ireland and Croatia. This tells us that couples that are contributing to current fertility are increasingly couples at the beginning of their reproductive life.

2.6. Childlessness

One of the causes of the decline in fertility has been the increase in the proportion of women who have never had children. The size of this proportion depends on a number of variables: the percentage of women entering into a union (marriage or cohabitation), the percentage of women who have formed a union and wish to have a child, and the percentage of women who wish to have a child and succeed in doing so.

F. Prioux (1993) has reconstructed the pattern of this phenomenon for various European countries using different data sources. The percentage of

childless women first declined, and then increased, starting from women born in the early thirties, then those born in the early forties and then women born in more recent years. The proportions childless vary both temporally and geographically: they are highest, exceeding 18%, in Ireland and Switzerland, and lowest, less than 10%, in West Germany, Norway, Bulgaria, Hungary, Czechoslovakia and Yugoslavia. For the more recent birth cohorts (1955-60) they are almost 20% in Austria and the Netherlands and are even higher in West Germany, Finland, England and Switzerland. In the countries of Central and Eastern Europe, including East Germany, the percentage remains low and substantially stable (table 3).

There are two important reasons for the increase in childlessness: the postponement of reproduction to an age at which it becomes increasingly difficult to have children, and the voluntary renunciation of having children, which is actually quite rare (Toulemon 1995). Indeed, the percentage of childless women declaring not to want children in the future, on the basis of FFS data (table 4), is very low, actually below 3% in over half the countries for which information is available, and even the highest values (5.5% for Germany and 6.9% for Poland) are lower than the lowest real values calculated by Prioux, which were equal to 7.6% for French married women born in 1943. But there is no scientific evidence pointing to an increase in biological sterility over time. We may conclude that it is the delaying of childbearing which is the factor responsible for the increase in childlessness, because it has been shown that as a woman's age increases, the probability of her conceiving and bringing a pregnancy to term decreases (Beets 1995; Mosher *et al.* 1991 and 1993; Menken *et al.* 1986; Beets *et al.* 1993; Léridon 1991; WHO 1991; Raham *et al.* 1993).

2.7. Fertility by marital status

The increase in the percentage of births outside marriage has characterized the period under study in all countries. This increase, which has attracted the attention of demographers because of its generalized nature, has affected different situations. In 1970 over 10% of births outside marriage were observed in Sweden (which had the highest rate, with 18%), Denmark, Estonia, Latvia, Austria and East Germany. At the other end of the scale, the percentage was less than 3% in Belgium, Greece, Ireland, Italy, Netherlands and Spain (fig. 5). Various cultural reasons lie behind these figures, which are similar in countries that are heterogeneous in many respects (for example, it is not just a question of North and South, nor of religion, because countries which are different in these aspects have similar levels). The increase in extramarital childbearing varies greatly: it has been relatively slow in some countries (Italy, Greece, Switzerland), and much faster in others. The Northern countries are those in which the proportion of births outside marriage

has reached the highest levels, with those for Scandinavia, in particular, approaching 50%. There is no clear rule for other countries given that similar countries have greatly differing rates (for example the two Germanys, or the various countries of Central and Eastern Europe).

The increase in the proportion of births outside marriage is the direct consequence of the different ways of forming unions that has emerged in this period. In the initial phase, cohabitation became more frequent either before marriage or instead of marriage, and then it became more frequent to have one child without getting married, or marrying later on.

If we compare the profiles by women's age of the non-marital fertility rates for the years 1970 and 1990 (so chosen to use data on the structure of the population by sex, age and marital status close to the censuses), they show the change in the type of non-marital fertility (fig. 5). Let us consider four countries which are highly representative of the different situations existing in Europe: Sweden, France, Italy and Hungary. Fertility outside marriage has increased for all four, but to greatly varying extents. The increase has been most marked for the 25-39 age groups in Sweden and France, for the 30-39 age groups in Italy and for the 20-29 age groups in Hungary. Below the age of 20 and above the age of 40 non-marital fertility is insignificant in all countries. On the other hand, marital fertility by age has different patterns in each of the four countries: in Sweden and Hungary it has increased (in the 20-39 age groups in Sweden, and in the 15-29 age groups in Hungary), while it has fallen in all age groups in France (with the sole exception of the 25-29 age group) and in Italy. However, the probability of having a child remains much higher for married women than for unmarried women, with the sole exception of women aged 35 and over in France. In conclusion, the increase in non-marital fertility is a phenomenon mainly concerning the older age groups.

2.8. Cohort fertility

Compared with the total fertility rate of the period, the completed fertility of birth cohorts varies to a much smaller degree, and within a more limited range of values, clearly demonstrating that the effect of postponements of births and subsequent "catching up" acts mainly on the value of current fertility. The tendency for the average number of children to fall nevertheless emerges, even though to a lesser extent, but the final level is higher than that of current fertility. For example in many countries in all of the geographical areas, the cohort of 1944 had 2 children on average, with peaks of 2.8 for Macedonia and 2.5 for Romania. The cohorts of 1962 in only three countries (Norway, Poland and Romania) exceeded the threshold of 2 children. In the other countries the average number of children was between 1.6 and 1.9, with a minimum value in Greece of 1.2 (fig. 6). These rates may considerably

underestimate the final fertility of the most recent cohorts, given the increase in the average age of the mother at the birth of the first child. For the countries with a very low current fertility, such as those in Southern or in Central and Eastern Europe, it is, however, possible that the cohorts which are currently putting off marriage may not manage to compensate for the postponement, and that they may be left with a rate of fertility which is much below replacement level. A comparison of the fertility rates by age for the late forties-early fifties cohorts and those whose fertility was still incomplete in the second half of the sixties would appear to support this hypothesis (fig. 7).

2.9. Fertility expectations

The FFS provides us with information on the number of children women aged 20-39 expected in their unions (married or cohabiting). In five of the 11 countries for which information is available the expected fertility is 2.1, while in one (Germany) it is lower, 1.9, and in the others it is higher (Poland and Spain 2.2, France 2.3, and Sweden 2.4). The fertility intentions of women are therefore remarkably close to replacement level, and in some cases even higher. We have no information either about women not in unions, or about the effective realisation of these expectations, given the general delaying of maternity. In any case, these expectations display a much greater homogeneity than that observed in the data on effective fertility, and leads us to suppose that it is often the constraints in the individual national situations on entering into a union and having children, rather than differences in attitude towards procreation, that render the effective rates of fertility different (table 5).

3. Changes in family behaviour

3.1. The start of sexual activity

A divergence between the age pattern at the beginning of sexual activity and the pattern of age at first marriage is the proof of a liberalisation of sexual habits. On the other hand, if the patterns converge, one phenomenon is the consequence of the other. The novelty of the last twenty-five years has been the progressive lowering of the age of sexual initiation, especially for women. A recent study by Bozon *et al.* (1997) conducted on 12 European countries has shown that for the cohorts which began their sexual life in the fifties, the sexual debut took place at least two years later than for the cohorts which began their sexual life in the 80s and 90s. In the fifties and sixties, sexual initiation took place at very different ages in the various European countries and it was considerably earlier in the Scandinavian countries. If we consider the cohorts of women born between 1932 and 1941 in Norway and Denmark, 63% and 71% had their first sexual intercourse at, or below, the age of 20.

In the other countries the corresponding percentage was much lower: 19% for Portugal and the city of Athens, 30-40% in Belgium, France and Netherlands. Subsequently, the percentages increased everywhere: for the cohorts born between 1972 and 1973, the corresponding percentage rose to 80-90% for six of the 12 countries examined in the study, and even in the countries of the South it exceeded 50%. The lowering of the age of sexual initiation, together with the fact that age at marriage initially fell (until the beginning of the seventies), and then rose, suggests that in an initial phase this contributed to the bringing forward of marriages and in a second phase to their delaying, also due to a more efficient use of contraception, demonstrated by the fall in premarital conceptions (Munoz-Perez 1988 and 1991). This confirms the common opinion that sexual habits have changed everywhere, towards a greater liberalisation. Another result of these studies is the reduction in the gender differences in age at sexual initiation. This confirms not only that sexual intercourse is embarked upon earlier, but also that this takes place in a context of more egalitarian gender relations. This has certainly had a negative effect on nuptiality, cancelling one of the reasons for women to aspire to marriage at a young age. The speed of the reduction in age at sexual initiation has fallen recently, and in most of the countries examined in this study the age at the beginning of sexual activity has stabilized, confirming the gap between sexuality and marriage.

3.2. Leaving the parental home

Leaving the parental home in order to go and live alone, with friends or with a partner, is the first step for young people on the road towards an independent life, and it is a necessary step for the fulfilment of plans for life as a couple, and for childbearing. Often this is not a definitive change, but a process that does not exclude the possibility of returning to the family of origin (as in the case of young people who leave home in order to study elsewhere). One phenomenon which is spreading, and is associated with sexual liberalisation and the delaying of marriage, is the lengthening of the time young people spend living in their parents" family, a phenomenon which is common to European countries, increasingly occurring, though at different rates in different areas. One study of six European countries shows that they have different traditions regarding the age at which young people leave their parents" home, but in recent years there has been a sharp increase in the countries of Southern Europe in the percentage of young people aged between 20 and 30 still living with their parents. In 1996, 44% of women aged 25-29 still lived with their parents in Greece, Spain and Italy, while the corresponding percentage for France, Germany and the UK was only 11%. The prolongation of education explains a small part of the common upward trend, but the geographical differences may be explained mainly by the differences in employment opportunities between the three Western countries

and the three countries of the South. The difficulty in finding employment may be an incentive towards the pursuit of further education, in the hope of being able to attain a better labour market position, and parents may invest in the education of their children and help them by continuing to house them. Young people may delay their exit from the family in order to enter into adult society at a more advantageous age, or they may "park themselves" with their family until they find a job. In the three countries of the South this situation reinforces family solidarity, while in the others it favours non-committal living arrangements, from living with friends to the formation of informal unions (Cherlin *et al.* 1997 ; Cordon 1997 ; Vogel 1998).

3.3. Cohabitation

Since the seventies, living together without marrying has become much more frequent in many countries. Before this date not only was the phenomenon relatively rare, but cohabiting couples had special characteristics, including people who could not get married (because awaiting a divorce, or for economic reasons) or who were opposed to marriage for ideological reasons. Since the seventies, living together without marrying has become an alternative way for a couple to live or to test married life, to such an extent that Kiernan (1996) has suggested calling it "nubile cohabitation" or "never married childless union". The relevant data are not available in many countries, but where it exists it reveals an increase in the percentage of unions constituted by unmarried persons, especially in the younger age-groups. In Sweden, for example, where this kind of union first became common and is currently the most common, the percentage of women aged 25-29 living with a partner without being married rose from 23% to 50% of all women in unions between the years 1975 and 1989 (in addition to nubile cohabitation there has also been an increase in post-marital cohabitation : unions subsequent to the break-up of a marriage, which are also alternatives or preludes to a new marriage).

If a woman is in a union at a young age, it is increasingly likely that she will be cohabiting without subsequently marrying, and in many countries the percentage of cohabiting partners is much higher than that of married partners up to the age of 25. After this age marriage becomes the more frequent form of union in all places, including the countries of Scandinavia. This shows that cohabitations often take the form of a transitory living arrangement, substituted by marriage when the union is regarded as more solid or after the birth of a child. Indeed, the percentage of cohabitations converted into marriages after four years is high, and increases with age. Analogously, the percentage of women who are married at the moment of the birth of their first child, even though it may be low in the 25-29 age-group (e.g. about 30% in Sweden, 50% in Austria and 60% in Germany, France and Norway),

grows rapidly with age (Schoenmaeckers *et al.* 1997). Having one's first child while cohabiting, without being married, is a very rare experience in other countries, both where cohabitation is rare and also where it is frequent, as in Netherlands and France (6% and 15% of women in the 30-34 age-group) (Klijzing *et al.* 1997). In the countries in which cohabitation is rare, such as in Central and Eastern Europe and Southern Europe, the alternative is early marriage in the countries of the East and not being in a union in those of the South (Klijzing *et al.* 1997). This is confirmed by the percentage of women who have never lived in a union (either marriage or cohabitation) until the age of 25 : these always constitute the majority in Italy in every age-group, and in Spain up to the 30-34 age-group.

The experience of two cohorts of women born in Norway in 1945 and 1960, measured in 1988, can demonstrate the types of change in the timing of the key events of adult life when patterns of family behaviour change in the ways in which we have described : the women born in 1945 began to have sexual intercourse at nearly 19 years of age. The women in the younger cohort began having intercourse at 17 years of age, and embarked upon their first cohabitation at 23 years of age, and 60% of them cohabited with their current husband before marriage. The older women, on the other hand, first married at the age of 23 years, but only 13% cohabited before marriage. The younger women married at the age of 25 years and delayed marriage and maternity by two years compared with the older women, and a quarter of them were living together without being married to their partners (compared with 3% for the older cohort) at the moment of the birth of their first child (Noak *et al.* 1996).

3.4. Living apart together (LAT)

A stable relationship without living together in the same household is becoming a new living arrangement for couples, instead of being a normal phase preceding cohabitation or marriage. Currently, this living apart together (LAT) is numerically negligible, but may become more important in the future. FFS results show that this kind of partnership status applies to a percentage of women (aged 20-39 years) ranging between a minimum of 2.8% in Poland and 9.5% in Hungary, and a maximum of 20.5% in Italy, while in the other countries it ranges between 12 and 13%. This already leads us to suppose that the frequency of LATs depends on the earlier or later timing of cohabitation or marriage in each country. FFS data show that LAT is a voluntary condition in a substantial proportion of cases (between 28.8% and 69.2%) and it is not the result of force of circumstances. A considerable proportion of these women neither intend to cohabit with, nor to marry, this particular partner in the future, while others have a plan and intend to cohabit or marry, according to the preferences prevailing in the country in

which they live. For example in Hungary, Poland, Italy and Spain more women intend to marry than to cohabit, while the opposite is the case in other countries. The percentage of women with no precise plan regarding cohabitation or marriage is very high in some countries (around 40%). This body of information gives the impression that many of these relationships are still at an initial phase, in which it is normal to have no plan, while others are more stable and ready for a transformation towards greater commitment.

Confirmation of this impression is provided by a very detailed survey on France, from which it emerges that these unions tend not to last long because either they are converted into cohabitation after a few years, with or without marriage, or they come to an end. They are therefore a temporary form of living arrangement, which has become more frequent due to the delaying of formal and informal unions and their greater fragility, the result of which is a greater number of relationships in the course of a life-time (Villeneuve-Gokalp 1997).

3.5. Marriage

In all European countries, except in Central and Eastern Europe, the intensity of nuptiality fell drastically in the 1970s, leading the total first nuptiality rate to fall from levels close to 100% to much lower levels. In 1980, the Scandinavian countries already had levels scarcely exceeding 50% (fig. 8). The decline continued for the other countries until the mid-eighties and then stopped, and in many countries it even picked up again, temporarily, around 1990. In Central and Eastern Europe nuptiality remained high until the political crisis at the beginning of the nineties. From then on there was a real tumble in nuptiality. In 1996 only nine European countries had a total first nuptiality rate of over 60%.

The fall in current nuptiality is due both to the renunciation of marriage and to putting it off to later ages. In 1970 women's average age at first marriage varied between 21 and 25 years, with the lowest values in Central and Eastern Europe (except the Baltic states) and the highest in the Northern countries, Baltic states and Southern Europe (fig. 9). In the years 1996-97 the average age of women at first marriage was lower than 22 years in only two countries of Central and Eastern Europe (Moldova and Slovak Republic), while in as many as eight European countries it was higher than 27, with top ages for Sweden and Denmark (29 and 29.2).

3.6. Union dissolution

In the period under examination unions – both marriages and cohabitations – have become less stable in North-Western Europe. Geographical differences already existed in 1970, with higher rates of divorce (over 20%) in

Sweden and Denmark and in some Central and Eastern European countries. In 1970 divorce had only just become legal in Italy, and it was still illegal in various countries. Subsequently, the increase was pronounced in the Scandinavian countries, where the total divorce rate was almost 50% in 1996, and in the countries of Western Europe, where the total divorce rate varied between 30 and 40%. The increases in the other regions have been much more modest and in Central and Eastern Europe, where very different divorce rates coexist, recent trends are very irregular (fig. 10).

The spread of cohabitation changes the picture of marital instability : indeed, the rate of dissolution of informal unions is generally much greater than that of marriages, especially for the younger age groups. This is shown clearly by the data of the FFS on unions dissolved more than 6 years from their inception (fig. 11).

3.7. Remarriage

Given that mortality is very low, divorce is by far the main cause of the dissolution of marriage. In the countries of the European Union second or subsequent marriages are more frequent in the countries with higher incidence of divorce (22-23% of marriages in the UK and Denmark) and lowest in the countries of South Europe and Ireland (less than 10%) (Ditch *et al.* 1998), but this says little about the real frequency of remarriage, which depends both on the tendency to remarry and on the size of the population at risk.

The frequency of remarriage varies from country to country, but is falling everywhere, albeit at different rates. In the mid-sixties, the proportion of divorced persons who remarried was 60-70% in most European countries, and around 55% in the countries of Scandinavia, but had fallen to about 20% twenty years later. The trend in the rate of remarriage roughly follows the first marriage rate, actually falling even faster, and is therefore unable to attenuate the effects of the increase in the divorce rate. It falls with time from divorce, and with age. After the failure of a marriage, the former spouses will hesitate before remarrying. The increase in cohabitation naturally deprives the rate of remarriage of part of its significance, as a good proportion of the break-ups and recompositions will elude the possibility of correct measurement (Festy 1985 ; Sardon 1986 ; Haskey 1992).

3.8. Lone parents

One of the consequences of greater marital instability is the greater frequency of residual families, consisting in the overwhelming majority of cases of a mother and children. There have been different assessments for the countries of the European Union. One measurement referring to the late eighties provides percentages of around 17% of all families with children

aged under 18 in the UK, 15% in Denmark, 11-13% in France and Germany, 9-11% in Belgium, Ireland, Netherlands and Portugal and 5-6% in Italy and Spain (Roll 1992). Subsequent assessments of lone-parent families with children aged under 6, 15, or 16, years confirm that lone parenthood is less common in the countries of South Europe and that it is also more common when children are young (Ditch *et al.*, 1998). The geographical differences depend both on the frequency of the dissolution of unions and on the frequency of remarriage.

4. Interrelations between family and fertility changes at the macro level

In the period under study there have been important changes both in fertility (by age and marital status) and in marriage and divorce rates, with the consequent change in the population structure of women by marital status: when the marriage rate falls and the divorce rate increases, there is an increase in the proportion of unmarried women. We know that we cannot conclude that women are not in unions, especially as far as the younger age groups are concerned, due to the increase in cohabitation not leading to marriage. Fertility outside marriage has increased as a consequence. We cannot be certain of the consequences of the new patterns of family behaviour on fertility. Indeed, it could be that the delaying of marriage which is being registered everywhere is only influencing the timing of births, but not their number. The fact that births outside marriage are on the increase everywhere may suggest that cohabitation is substituting for marriage without influencing fertility: the additional unmarried women may all be cohabiting, and have the same fertility as their married counterparts, and cohabitation may therefore simply be another way of forming a union and not entail a different pattern of reproductive behaviour. The increase in divorce might also have no influence on fertility, if divorce were taking place once childbearing was complete or it did not prevent the formation of a new union with the subsequent birth of children. On the other hand, each of these changes in patterns of family behaviour might indeed entail a reduction in fertility.

The changes over time in the percentage of women who are not currently married is a cumulative indicator which summarises the effects of all the changes in the intensity and ways of forming and dissolving unions (fig.12). The changes in overall fertility are therefore affected by the changes in both marital and non-marital fertility, as well as the population structure of women by marital status.

In order to evaluate the contribution of these components to overall fertility, we applied a model of decomposition of the rates, based on the principle of standardisation (see appendix). The method is applied both to the general rate and to the age-specific fertility rates because it may be presumed that

the effects of the changes in family behaviour differ according to age : for example the delaying of marriage, if not substituted by cohabitation of equal fertility, should entail a fall in fertility at young ages, while divorce, which usually takes place at later ages, if not immediately followed by a new union of equal fertility, should lead to a fall in fertility at later ages. If the changes in family behaviour only influence the timing of fertility, but not the total number of children, the fall in fertility at young ages should be compensated by the increase in fertility at higher ages. The method is applied to the four countries for which we have already analysed fertility according to marital status : Sweden, Hungary, France and Italy (table 7). These countries were chosen because they are highly representative of the various situations of fertility and of family behaviour in Europe from the point of view of level, timing, temporal trends and the frequency of births outside marriage in the study period.

The analysis was performed over the twenty-year period 1970-1990. It was necessary to terminate in 1990 given the availability of census data on the profile of the population by sex, age and marital status. This does not limit the conclusions that can be drawn from the analysis, because its aim is to understand the relationship between population structure by marital status and changes in family behaviour and fertility. Furthermore, the analysis" conclusions may reasonably be extended to different periods and countries, under analogous conditions. This is therefore an analysis by way of example.

Fertility increased in Sweden between 1970 and 1990, while it declined to increasingly large extents in the other countries. Family behaviour has been transformed to the greatest extent in Sweden, followed closely by France (symptoms of such transformations being : a high frequency of cohabitation ; a high divorce rate ; a very high frequency of births outside marriage ; and postponement of childbearing). In Italy and Hungary there has been little change in family behaviour, marriage has only been substituted by cohabitation to a slight degree, as witnessed by the low proportion of births outside marriage. In these countries childbearing has been postponed to a lesser extent than in France and Sweden. The divorce rate is very low in Italy, but higher – almost as high as in France – in Hungary. The four countries therefore represent a good variety of situations.

Let us examine the results country by country, commenting first upon the data involved in the decomposition of the overall fertility rate (marital and non-marital fertility, structure by civil status, by age) and then upon the results (figs. 5 and 8, table 7).

In Sweden, the fertility of both married and, especially, unmarried women increased markedly between 1970 and 1990 in every age group between the ages of 20 and 44, while the proportion of married women decreased in

every age-group, especially the youngest. The fertility of unmarried women nevertheless remains lower than that of married women at all ages. The rates of overall fertility have fallen amongst the under twenty-fives and increased amongst the older age-groups; overall fertility has increased. The decomposition shows that the change in marital status profile has contributed negatively to the change in general fertility (-103.46), and this is due to the fall in the proportion of married women (-197.19), which has not been compensated for by the positive contribution of the increase in unmarried women (93.74). The overall contribution of the variation in fertility rates is obviously always positive (110.28+36.62), given the increase in both the marital and non-marital fertility rates, and it exceeds the negative effect of the marital status population structure change. If we observe the data by age, the contribution of the rates is positive at all ages, except for ages under 20 and over 44. In conclusion, fertility in 1990 is greater than that in 1970 for ages over 25, because the increase in marital and non-marital fertility and the increase in unmarried women compensates for the effect of the decrease in married women.

In France, too, the fertility of unmarried women has increased, whilst the fertility of married women – mostly those aged under 25 – has fallen. The proportion of women who are married has also fallen in every age group (but not so much as in Sweden). The contribution of the decline in married women is naturally negative (-129.49), as also is that of the fall in the rates of marital fertility (-18.58), while the contributions of the increase in the percentage of unmarried women and in their fertility (46.95 and 9.07) are positive. The latter two positive contributions are not sufficient to outweigh the former two negative effects. If we consider the different age groups, the fertility rates have fallen in each, but especially in the 20-24 age group, due both to the effect of the change in structure and also to the fall in marital fertility, for which the increase in non-marital fertility has been completely unable to compensate.

In Italy, as in France, the fertility of unmarried women has increased and that of married women has fallen, but while the former is, and remains, very low, the second has fallen drastically in every age group. The percentage of married women has fallen in every age group up to the age of 34. As a result, both the variation of population structure by marital status (-72.78), but still more that of the rates (-135.92), have contributed to the lowering of fertility in every age-group. The positive contributions of the increase in the percentage of unmarried women and their fertility seem very small and do not influence the final result (2.88+3.30). The negative contribution of the fall in the rates of marital fertility always exceeds the negative contribution of the fall in married women, except in the 20-24 age group.

In Hungary the situation is similar to that of Sweden, albeit with different levels and timings : the percentage of married women has fallen in every age group, but fertility, both marital and non-marital, has increased up to the age of 39. However, overall fertility has fallen : the negative effect of the fall in the proportion of married women (-89.28) is not compensated by the increase in their fertility (37.64), and the positive effect of the increase in the proportion of unmarried women and their fertility (14.63 and 11.13) is too small to change this result. Overall fertility has fallen particularly sharply in the 20-24 age group, due to the change in marital status population structure, while it increased in the 25-29 age group because the positive effect of the increase in the rates is greater than the negative effect due to the population structure.

The results of the standardisation are very useful because they show that the fall in the proportion of married women always has a negative effect on overall fertility, because the fertility of unmarried women, even in Sweden where it is the highest, is always much lower than that of married women. Overall fertility only increases where both the fertility of married women and that of unmarried women increase a great deal, in order to exceed the negative effect of the fall in the proportion of married women.

We may therefore conclude that : 1) delayed nuptiality and its decrease, and the changes in the ways of forming a union and their stability, which we have synthesized in the fall of the proportion of married women, always have a negative influence on overall fertility ; 2) taken on its own, the increase in the fertility of unmarried women is a long way from compensating for the effect of the decrease in married women : in order to compensate for it a marked increase in fertility is needed among both unmarried and still more among married women, as in Sweden ; 3) the declines in fertility in France, Italy and Hungary have different causes : in France and Italy fertility has fallen due both to the change in the marital status profile of women and to the fall in marital fertility, and there has therefore been a change not only in the timing and in the ways of forming and dissolving families, but also in the preferences of married couples. In Hungary fertility has only fallen because of the reduction in the proportion of married women, for which the increase in marital and non-marital fertility has not been enough to compensate. This suggests that resolving the obstacles to marriage might lead to an increase in overall fertility in all three countries, but in France and Italy it would also be necessary to encourage married couples to have children ; 4) the younger age groups (below 25 or 30 years) are those which predominantly determine the results : the reduction in the proportion of married women in these age groups always depresses overall fertility, which is obviously depressed still further if it is accompanied by a fall in marital fertility. This makes it possible to conclude that it is the delaying of marriages, much more than the instability

of unions (which certainly affects the older age-groups) that has a negative effect on fertility.

Since 1990 the trends have continued, and fertility has fallen in all four countries including Sweden. On the basis of the previous results, we presume that the negative effect of the changes in family behaviour has continued, and that this has certainly been compounded, in the case of Sweden and Hungary, by the negative effect of the fall in marital fertility.

5. A reference framework for the analysis of the determinants of fertility at macro level

We shall take as determinants of fertility and family behaviour the variables suggested by four theoretical approaches which, rather than being mutually exclusive, complement one other.

The structural theories

The large changes in family behaviour in developed countries since the seventies have attracted the attention of demographers, who have interpreted these as a second demographic transition, subject, like all transitions, to a process of diffusion. The causes giving rise to the second demographic transition have been attributed to the process of modernisation (Hoffmann-Nowotny *et al.* 1998), which includes various dimensions : economic development, culture, the prevalence of post-materialist values. It began in the countries of more advanced economic development (Chesnais 1988 ; Lesthaeghe *et al.* 1986 ; van de Kaa 1987), and in places where there has been a shifting of materialistic values to post-materialist , leading to a more self-orientated lifestyle that supposedly contradicts a commitment to traditional family patterns and high fertility (Inglehart 1983).

Ideational theories

A strong link between fertility and family changes is equally implied by the ideational theories which emphasize the unique historical and cultural factors associated with ethnicity, religion and language as causes of fertility and family change (Coale *et al.* 1986 ; Lesthaeghe *et al.* 1986 ; Cleland *et al.* 1985). These help explain the different speeds of diffusion and the persistence of geographical peculiarities and they are not in contradiction with the previous theories. For example, the importance of religion in the value system of the Europeans interviewed in the Eurobarometer study (Commission of the European Communities 1993) is extremely modest compared with other values, for example the family, work, friendships, free time and life as a couple (table 10). Religion is

indicated by less than half of women as something very important, while the other values are regarded as very important by over 80% of women. For men, the importance of religion is even smaller. However, the decision to marry or live together is greatly influenced by religious beliefs, and the geographical differences in the modalities of forming unions in Europe may also be attributed partly to this fact. Indeed, Italy, Greece, Portugal, Ireland and Spain attribute more importance to religion than other countries, albeit to different extents. This helps us to clarify the context of the modalities of family formation, but it contrasts with the levels of fertility : having a child or not evidently depends more on other factors than religious beliefs.

The gender system

Changes in women's conditions and the gender system are forces encouraging family change which are only partly independent from the previous systems (Mason 1985 ; Pinnelli 1999). A gender system is the whole set of socially constructed expectations of male and female behaviour that are found in every known human society. It prescribes a division of labour and responsibilities between women and men and grants different rights and obligations to them, creating a gender stratification with reference to the elements of wealth, power and prestige (Mason 1995). It is logical to think that the changes which have taken place in the gender system in developed countries have influenced fertility and the ways of forming unions. The increase in investment in women in human capital terms, for example, prolonging the time spent in education and increasing expectations of employment and economic independence is certainly delaying entry into first unions and favouring informal unions. More controversial is the influence of the gender system on fertility : where women have more power they can create conditions which are more favourable to the reconciliation of work and family, both rendering the labour market more flexible and creating niches of employment which are more compatible with family responsibilities (work in the services sector or in the public sector for example). They are also more able to obtain better childcare services and share domestic and childcare tasks to a greater extent with their partners. The increase in rates of female employment is therefore not a sufficient indicator of the changes which have taken place in the gender system and, at a macro level, it should be integrated with other indicators on resources and power. Where women have more resources and more political power, they are better able to obtain better living conditions and have a fertility which is closer to replacement level (Pinnelli 1995). It cannot be taken for granted that changes in women's conditions have a negative effect on fertility, at least at a macro level.

Institutional theories

The role of institutions in the transformation of family and reproductive behaviour is recognized as being very important, and may determine their beginning and the rate of change (Caldwell 1982 ; McNicoll 1980 ; Smith 1989) : these may include the housing market, the labour market, the welfare state and anything else which can be done to encourage or discourage the independence of young people and women, the formation of families and the bringing up of children. State intervention in support of families with children and working mothers, may mitigate the difficulties while particular squeezes in the labour and housing markets may make it more difficult to form a family and have the desired number of children (Pinnelli 1995). Crises in the institutions may, on the other hand, have negative effects on the possibility of forming families and on fertility (Vogel 1998).

While there is agreement on the fact that the transformations – institutional, structural, ideational and in the gender system – of which we have spoken have favoured the diffusion of different forms of union and their greater fragility, it is not so clear what level of fertility belongs to this picture. If it is true that the low current fertility is a continuation of a long-term secular trend (Hoffmann-Nowotny *et al.* 1998), only temporarily broken by conjuctural oscillations, the issue is to properly understand the factors encouraging or discouraging fertility : the level at which it stabilizes below replacement level, whether very low or slightly low, will have different consequences for the future of the population. It is therefore necessary for us to deepen our knowledge of the links between family and reproductive behaviour and the factors that are fundamental to changes in these behaviours in order to understand such trends and consider policy implications.

At this phase in our study we are not, however, interested in how the passage from macro-social changes to individual patterns of behaviour takes place.

Before moving on to an elaboration of these points on a quantitative basis using a series of multivariate statistical analyses, let us conduct a more profound analysis based on literature involving housing, the labour market and family policies and their impact on fertility. These aspects are less well-known, and indicators are more difficult to obtain.

6. Institutional factors which determine or influence fertility

6.1. Housing and labour market

The situation of the *housing market* is a strong constraint on the formation and development of families. The availability of suitably sized housing at affordable prices is very important for the setting up of a family, and in many countries it has become more difficult to rent an apartment. In Greece, for

example, the percentage of home-owners has increased to be as high as 80% (Council of Europe 1990). A 1990 study by Eurobarometer, conducted on 14 European countries, shows that most families own the house in which they live (63.3%), a further 15.4% live in public housing, while a very small percentage live in privately-rented accommodation (Commission des Communautés Européennes 1993). Murphy and Sullivan (1985) have demonstrated, for the UK, that the age at marriage of couples beginning their family life in their own privately-owned house is higher than that of other couples. It is easy to imagine that this result could be extended to other countries. The rigidity of the housing market may therefore be another factor which, through delaying partnership formation, reduces fertility.

Another obstacle to the formation of families and, as a result, to fertility is the *labour market* situation. The eighties and the first half of the nineties were very difficult years from this point of view. In Central and Eastern Europe there still are huge underlying problems of economic restructuring and political instability, and the initial phase of transition towards a market economy has been accompanied by a rapid growth in unemployment in the whole area. In addition, even though there are already signs of an improvement in the economic situation in many cases, the total number employed has fallen and unemployment has reached high levels everywhere. The prospects of a generalised economic recovery in Central and Eastern Europe in the immediate future seem gloomy, because the restructuring and reorganisation of the big state enterprises has only just begun, and will probably lead to further job losses. The situation is worse in the ex-USSR and the more Eastern European countries.

The other European countries have undergone a period of economic restructuring and the employment situation is still not good. The prospects of the creation of new permanent jobs in the medium and short term are grim. Unemployment was, and still is, the main economic problem to be tackled, especially long-term unemployment. Apart from the unemployed, there are many outside the labour market because they have become discouraged, or because they have left their jobs prematurely in order to take early retirement. In most countries many of the jobs created in the eighties and nineties were part-time. This has favoured the entry of women into the labour market, including those with children (Commission of the European Communities, 1993).

The labour market is not so rigid in all European countries, but an analysis of the possible causes of the particularly difficult conditions of the labour market in Europe compared with North America, where the labour market is judged to be more dynamic and flexible, suggests that measures which increase the flexibility of labour markets of Europe would benefit young

people and offer them employment, allowing them to pursue an independent living (Nickell 1997).

6.2. Family policies

In the Western European countries there are great differences in the goals and contents of the policies directly or indirectly designed to support the family and these reflect not only the different models of the welfare state, but also different views on the family. It is possible to distinguish three main models of the welfare state: 1) liberal, 2) conservative, and 3) social-democratic (Esping-Anderson 1996). In each of these models there is an implicit reference to a predominant type of family according to the greater or lesser strength of the male breadwinner regime, determined by the gender division of paid work and women and children's dependence on the adult male worker (Zanatta 1998).

The liberal model is based on minimum intervention on the part of the state. The welfare state consists mainly of programs of assistance for disadvantaged groups, aid is means-tested and it is expected that families in normal conditions should themselves provide for the care and needs of their dependent members. Because this model is based upon a strong male breadwinner regime, women are responsible for the tasks of care and child-rearing and their work is of marginal importance, in both the country's economy and the family's. This model is present mainly in English-speaking countries.

The second model, the conservative one, bases social protection on a system of compulsory insurance associated with employment status. The family is regarded as the most suitable institution for the satisfaction of its members" needs and the state places itself in a subsidiary position in its regard, and discourages the participation of women in paid work. The state therefore transfers benefits to the family but does not provide many social services. The strong male breadwinner regime also prevails in this model, which is widespread in slightly different manifestations in the countries of Central and Southern Europe. For example in France it is evolving towards a system of greater gender equality, greater provision of services and an explicit family policy with measures in support of natality which are both universal and means-tested. On the other hand, in Germany, Italy and Spain it has remained more or less unchanged: economic transfers depend on earnings, and the leave-granting system and the lack of pre-school childcare services are tending to encourage women's return to the domestic sphere after the birth of a child.

In the third model, the social-democratic one, the welfare state intervenes to substitute for the provisions of the free market and tends to guarantee access to the same services for the whole population. The concept of the family

which lies behind this kind of welfare state is the weak male breadwinner regime, and women's social protection is based on their being part of the labour market, rather than on their eventual status as mothers. Policies are therefore aimed more at the individual than at the family. Those who need it look to the State, not the family, for support, and there they will find it. The goals of state intervention are: full employment for both men and women, labour market flexibility, a generous system of childcare leave and a full provision of pre-school childcare services. But the crisis in public finance is jeopardizing this model, and public spending has undergone drastic cuts in the nineties, the effects of which are being felt primarily in the living standards of families and working women.

Policies for reconciling work and family are very important in assessing the compatibility of family and working commitments: i.e. flexibility of working hours (mainly through part-time work), the system of (maternity, paternity or parental) leave and the availability of pre-school childcare services. As far as the countries of the European Union are concerned, this encourages the member states to take measures in order to reconcile family responsibilities with those of work, both for women and men. It is suggested that men must become more involved in the care of children but the level of adherence to these family policy guidelines varies greatly from one country to another.

A rough distinction may be made between three groups of countries. The first group includes those that pursue a policy of integration with a view to combining family and working life. This group includes the Scandinavian countries that, in accordance with the general framework of their welfare policy, intervene actively in order to help parents reconcile their working activity with their family life on the basis of gender fairness and respect for children's rights. In these countries leave is generous, and is granted both to the father and to the mother, working hours are flexible, part-time work is common (for women) and women manage to be present in the labour market even when they have small children. The widespread availability of publicly financed pre-school childcare services occupies an important position within this strategy of integration. France and Belgium also form part of the group of countries that aim towards integration, but with less significant measures than those taken by the Scandinavian countries.

The second group of countries applies a strategy of segregation, i.e. a clear-cut separation between work for the market and work for the family, which come one after the other, temporally speaking. The reconciliation of work and the family takes place mainly through the concession of long periods of paid or partly paid leave, effectively taken up only by mothers insofar as there are no incentives for the fathers to do so. The presence of children

affects women's participation in the labour market, also due to the fact that the supply of pre-school childcare services is limited. Germany, Austria, Netherlands and Luxembourg fall into this group.

The third group of countries is non-interventionist, in harmony with the liberal philosophy underlying most family policies. It regards the problem of reconciling work and family as a private concern, to be dealt with by the persons involved, in agreement with their employers. This group includes the UK, which has long opposed the approval of legislation by the European Union on paid leave and the organisation of working hours, insofar as it regards this as unwarranted interference in family life and the free play of the market. Only the minimum of leave is granted, there is no parental leave, public pre-school childcare facilities are scarce and private ones are expensive. The labour market is fairly flexible and allows for part-time work, but the model of women's participation in the labour market is one of alternation between periods of working activity and periods of family activity, according to the needs of the life cycle. The rates of activity are high, but women's positions remain mostly unqualified and precarious. The countries of the Mediterranean are also a part of this third group : here, the labour market is very rigid and rates of female activity are not high, public pre-school childcare services are in short supply, private ones are expensive and parental leave is poorly paid (in Italy) or not paid at all and with no social guarantees (Greece and Spain). In more recent years a great contradiction has emerged between the strong male breadwinner regime presupposed by family policies in these countries and the fast-changing reality of women's greater participation in the labour market (Zanatta 1998).

Since the end of the Second World War, in Central and Eastern Europe there was a strong integration of women into the labour market, sustained by an ideology of equality between the sexes. Government policies encouraged women to remain in the labour market even after having children, and families were offered extensive social support such as maternity leave, extended childcare leave and subsidized creches. The result was that women's rates of activity were very high, with a pattern by age similar to that of males, and women were assigned to all types of industrial work. The division of work between the sexes at the workplace was more equal than in market economies, and working hours were similar for both sexes. Family networks helped to reconcile the long working hours with childcare. But women's living conditions were, in reality, very harsh, as demonstrated by the data on the use of time, and they deteriorated with the progressive weakening of the family network, in which grandmothers used to play a fundamental part, due to the decline of co-residence and the prolongation of work beyond the age of retirement (Bodrova *et al.* 1984 ; Herlemann 1987).

A potential source of help for young couples with children could be the family, i.e. grandmothers, for the main part. But the prolongation of life expectancy means that the generation of young grandmothers is also responsible for the *care of the family's older members*, and the delaying of maternity limits the possibilities of helping for women who become grandmothers at a late age. Childcare and the care for the elderly enter into competition, and the existence of services for each age group may alleviate the burden of care on women. The placing of the dependent elderly in institutions is no longer regarded as the ideal solution, and home-based services are becoming a widespread alternative, allowing for the prolongation of the elderly person's life in the family or as an independent unit, on the one hand alleviating the burden of the women caring for them, and on the other, stressing their responsibility. The data available do not show a clear-cut geographical pattern for the proportion of over-65s in institutions: the largest is in the Netherlands, with 10%. Values of a little over 5% may be observed in the Scandinavian countries and in the UK and they are much lower in Mediterranean countries. A much clearer picture emerges on examining the geographical spread of the proportion of the elderly making use of home-based assistance, which is highest in the Scandinavian countries and in the UK and lowest in the countries of the South (table 10). Some countries are also tackling the problem by granting leave from work for the care of a sick adult. Sweden grants up to 60 days leave in the case of serious illness, while Finland and Belgium allow for absence from work for even longer periods within a framework of multiple-use formulae for career interruption, while in other countries it is possible to take leave for various reasons, which may include caring for an elderly relative. Some form of economic compensation for those caring for an elderly relative is beginning to be contemplated. While this does bestow visibility on the work of care which women have up until now performed in an invisible manner, and compensates it, on the other hand it anchors them firmly in this role. There is a marked tendency for public assistance in the care for the elderly to go in the direction of increasing the competition between children and the elderly in the demand for care in the family and, indirectly, to stress women's role as providers of care (European Commission, 1998).

Some studies have sought to measure the extent to which states *support the cost of having children*, in order to acquire a more objective assessment. Bradshaw *et al*. (1993) have developed a method for assessing the structure and value of a package of cash benefits, taxes, services and charges that contribute towards meeting the cost of a child. It also assesses the incentive structures facing married women engaged in housework, lone parents and social assistance schemes in OECD countries. The method consists of simulating the impact of national family policies on model families. The model

families are chosen according to family type, family earnings, number and ages of the children, housing costs, the treatment of local taxes, health costs, school costs and benefits and type and costs of pre-school childcare. On the basis of the indicators thus constructed, a great variability has emerged in the extent to which countries support the cost of having children in European countries. A rough distinction may, however, be made between three groups of countries: Luxembourg, France, Belgium and Germany with the most generous provision, Denmark, Finland, Sweden, Austria and the United Kingdom with middling provision and Ireland, Portugal, Netherlands, Spain, Italy, and Greece with low levels of provision (Ditch *et al.* 1998).

6.3. The impact of family policies on fertility

Some studies have attempted to assess the impact of family policies on fertility. The composition of the groups of countries with similar levels of state *support for the cost of children* shows the weak association between the generosity of state support and the level of fertility, given that each of the groups contain countries with different levels of fertility. In a previous study, the same research group attempted to relate the relative level of the child benefit package in 1992 in 18 countries to a variety of demographic, economic and socio-political factors, finding no association between fertility rates and the level of support for the cost of a child. The researchers found a positive association between child support costs and GDP, and social expenditure and taxation, but no association between the child benefit package and the earnings of men and women, female participation rates or other political and ideational variables (Bradshaw *et al.* 1993).

In comparing legislations providing for family allowances in European countries between the early 1970 and the 1980s, Ekert (1986) noted that countries which had pursued active family policies saw their fertility rates fall less steeply than those where no adjustment had been made. The generous package of family allowances offered in France was credited with explaining about 10% of births during this period. Gauthier (1991) has used multivariate analyses of OECD countries to argue that the effect of family benefits on fertility is minimal, even when such benefits are massive. Policies explicitly aimed at increasing the birth-rate were implemented towards the end of the sixties in Central and Eastern Europe in order to sustain fertility which, in government opinion, had been in excessive decline. Limitation of the right to terminate pregnancy led to extremely visible effects, albeit for a brief period, on the pattern of fertility rates of the various countries. It is difficult to assess what has remained of the old system of family and fertility support since the fall of Communism. The demographic data clearly shows that a crisis is underway, with a fall in nuptiality and fertility, and in many cases an increase in mortality (the life expectancy of the male population fell in 1990 in Poland

and in 1992 in Bulgaria, Romania, Hungary and in many countries of the former USSR (Guibert-Lantoine *et al.* 1997)). The transition to the market economy has provoked an economic crisis from which families are not immune. This shows that current family policies are incapable of insulating the effects of economic crises for fertility.

Some comparative studies have examined possible *linkages between policies such as the public provision of pre-school childcare, paid maternity and childcare leave and the fertility rates of working mothers:* again the findings indicate that the impact of policies is far from being uniform and different findings emerge from comparisons of other combinations of countries (Hantrais 1997). On the other hand, studies involving econometric modelling, based on aggregate data for seven countries in the period 1971-83 (Ekert 1986) and eleven countries in the period 1970-83 (Blanchet *et al.* 1994), found a positive relation between family benefits and fertility. But a study based on long time-series and a greater number of countries (22) found that cash benefits and maternity leave have a positive but very limited effect on the level of fertility: a 25% increase in family allowances would result in a fertility level which is about 0.6% higher in the short run and about 4% in the long-run, while maternity leave did not appear to be significantly related to fertility (Gauthier *et al.* 1997).

A comparative study of nine European countries shows, among other things, couples' *attitudes towards the various family policy measures*. The measures proposed cover more or less the whole range of initiatives that a state may undertake in order to facilitate the life of families with children: maternity leave, tax deduction, day-care facilities, family allowances, the flexibility of working hours, the cutting of school-related costs and subsidies to improve the housing situation. If we consider the answers of persons aged 20-39, the level of agreement approval of such measures is very high on each issue in all countries, only in very few cases falling below 60%, with minimal differences between countries. But the same people who stated that they were in favour of these family policy measures very rarely answered yes to the question of whether their introduction had persuaded them to have a child (Moors *et al.* 1995) (tables 8-9). In conclusion it would seem that family policies are regarded as a means of making life more comfortable, but not as an incentive towards modifying people's expectations of fertility, let alone fertility behaviour. This may help to explain the uncertain results that have been found in the studies on the relationship between family policies and fertility.

6.4. Conclusions

This review of the literature has highlighted a strong heterogeneity between European countries of the institutional factors which may have influenced the patterns of family and reproductive behaviour in the last 25 years. Even if it

has been possible to observe some continuity, because countries which are similar in one respect differ in another, the link between institutional factors and family behaviour has been clearly highlighted by the fact that a particular view of the family is implicitly or explicitly declared through state intervention and thus encouraged. Less clear is its influence on fertility : there is clear evidence of the influence of the housing market and the labour market on fertility, through the delay in forming unions and the intensity and nature of women's employment. There remains some doubt, on the other hand, of the influence of family policies on fertility intentions and behaviour. Using the multivariate analysis which we shall present in Section 7.3, we shall seek to move beyond this still-fragmented view in order to provide an overall view of the relationships between the given institutional factors and family and reproductive behaviour, inserting them into the broader framework of social and ideational transformations and changes in the gender system.

7. Multidimensional analyses on the relationship between context and fertility and family behaviour

7.1. Introduction

In this part of the study we shall present a series of multivariate statistical analyses at macro level with a view to clarifying the associations that exist between the different aspects considered previously. This is necessary because the variables concerned, as we have seen, are numerous and it is not easy to derive from them a vision of the whole without losing detail and depth. Indeed, we have seen that the analyses presented in Section 5 produce different aggregations of countries, depending on the aspects under consideration. The availability of data is not the same for all of the aspects and countries so we shall undertake three different analyses :

1) a static analysis of the most recently available data for 29 countries : on modernisation ; gender system ; fertility ; and family behaviour ;
2) a dynamic analysis on the convergences or divergences between 19 countries, from 1970 to 1994, on those same subjects ;
3) a static analysis of the most recently available data of 14 countries, in which information on the welfare state and family policies are also added.

7.2. Modernisation, gender, fertility, and family behaviour in Europe

The first analysis concerns the majority of European countries, in all areas. The method which we shall use is that of principal component factorial analysis which does not have the aim of measuring links of cause and effect, i.e. it is not an asymmetrical analysis, but it has a descriptive aim and suggests relations by making all the variables play the same role (Lébart *et al.* 1977).

This choice is opportune because many of the variables involved in the analysis are inter-connected, representing various aspects of the same phenomenon, and it would be arbitrary to choose any one in preference to another for a causal analysis.

The variables considered refer to three types of subject: 1) modernisation, 2) the gender system, and 3) reproductive and family behaviour.

1) *Modernisation:* the second demographic transition, which includes the changes which we have observed in ways of forming and dissolving unions, and in fertility, may be regarded as an aspect of a process of modernisation in developed countries. It is linked to post-industrial development and to post-materialist values which start to prevail in the wealthiest countries when culture and quality of life become very important values. The indicators chosen in order to test this hypothesis are: GDP as an indicator of wealth, telephones as an indicator of communication, life expectancy as an indicator of quality of life, women's education up to the third level, as an indicator of culture, unemployment as an indicator of labour market conditions and economic difficulties, newspapers sold as an indicator of exposure to the mass media and hence to post-materialist values in each country.

2) *The gender system* according to the definition given above: some of the variables refer to women's participation in political decision-making, and thus, it is supposed, to the wielding of power. They are the percentage of seats in parliament occupied by women, the percentage of female ministers and the year in which the first woman was elected to Parliament. Other variables refer to women's participation in the labour market: the rate of activity, the index of segregation in the labour market (segregation is not necessarily a disadvantage if female workers are well paid and enjoy good working conditions, indeed, on the contrary, it may indicate that women workers have managed to carve out a slice of the market in which there are better conditions for them (Anker 1998)), the percentage of women employed in the services sector and civil service (we know that much of the recent increase in female activity is due to the expansion of these sectors, which allows for better working conditions for women) and the percentage of women enrolled in third-level education, which is an indicator of investment of human capital in women. Finally, average age at marriage indicates the existence of a gender imbalance within the family regarding the above-mentioned factors. This is because the older a woman is at marriage, the lower is the age difference between the spouses and the more equal the couple is in all other aspects. These variables represent the most important aspects of the gender system (Pinnelli 1999). The characteristics of women's participation in the labour market and male unemployment may also be regarded as indicators of the

institutional arrangements which, by influencing the labour market, render the formation and development of families easy or difficult.

3) *Reproductive and family behaviour:* the following were chosen as indicators of the various patterns of current behaviour in European countries. For reproductive behaviour: the total fertility rate, the percentage of births outside marriage and average age at birth of first child, thus representing not only the current level of fertility, but also the postponement of childbearing and the disassociation between childbearing and marriage. These three indicators therefore summarise the basic aspects of recent changes in reproductive behaviour. In order to represent family behaviour we chose: the total rate of first-nuptiality, average age at first marriage and the total divorce rate, which synthesize intensity and timing of marriage and intensity of dissolutions.

We do not, however, have any variables for the direct representation of the ideational dimension at a macro level. The geographical variable represents this aspect in part, through language, religion and history. Some demographic variables may be seen indirectly as indicators of secularisation (for example, the divorce rate and the percentage of births outside marriage).

Data refer to different years of the first half of the nineties. Demographic data are all for 1994. The results of the factor analysis may be observed on the graph of the principal plane, in which the variables are represented through their coefficients of correlation with the first and second principal components (see Appendix for more details on the method). This shows an area of concentration of a large number of variables strongly correlated with the first factor (fig.13)[1]. These concern not only aspects of modernisation, i.e. wealth, communications, health and culture, but also aspects of the gender system: education, representation in parliament, work in the services sector and in the public sector and segregation. Together with these variables are collated those concerning family and reproductive behaviour: higher percentage of births outside marriage and older ages at marriage and at birth of first child. This confirms the hypothesis of a linkage between the three aspects under consideration. The countries present in this area of the plane

1. In the upper part of figure 13 the axes are factorial axes, i.e. linear combinations of the variables included in the analysis, and their meaning depends on the variables which have the highest coefficients of correlation with them. The coordinates of the variables are the coefficients of correlation with the two axes, and therefore have values which go from -1 to +1. In the barycentre there is the value 0. The area of the plane in which a variable is located is that in which the variable takes on the highest values. The opposite area is that in which it takes on the lowest values. If a variable is close to the barycentre, it means that it is fairly homogeneous from a geographical point of view, or that its geography is different from that shown up on the factorial plane. The lower part of figure 13 shows the countries (the statistical units), on a plane which has the same meaning as the previous one, by means of the factor scores. The position of a country on the plane indicates which variables have the higher values (those located in that area of the plane) and which ones have lower values (those located in the opposite area).

are those of Scandinavia and, to a lesser extent, those of Western Europe. On the opposite side are the countries of Central and Eastern Europe, on the one hand, which are all close together, and on the other, those of the South, which are more dispersed, with Italy and Spain much nearer the Western countries. Of all the variables, the ones that remain independent of this picture are: the rate of female activity, because it is high both in the Scandinavian and in Central and Eastern Europe, and unemployment and nuptiality, which are quite close to the barycentre as there are geographical variations which do not agree with those of the other variables.

7.3. Convergences or divergences between and within countries in patterns of family and reproductive behaviour

The second multivariate analysis is intended to answer the question of whether there is any convergence towards a single model of family and reproductive behaviour in European countries.

The problem was tackled using a methodology with makes it possible to observe changes in the geography of the phenomena over time (the multiway factor analysis), adding a third dimension to the classical factor analysis, in this case that of time (see Appendix for details). On the factorial plane, it is possible to map the variables and trace their trajectory over time, and this can be done in an analogous fashion on the plane onto which the countries are projected. Thus we shall not only know what kind of behaviour prevails in a geographical area, but also whether it converges toward the average pattern of behaviour or whether it diverges from it. (Lavit 1985; Lavit *et al.* 1994).

The variables used are similar to those used in the previous analysis, with some changes (which do not change the meaning of the analysis), due essentially to the advisability of reducing the number of variables and the different availability of temporal data. We have added the percentage of the population living in urban areas and the possession of televisions and eliminated the expectation of life and telephones among the indicators of modernisation and eliminated the index of segregation, the percentage of woman ministers, the percentage of women employed in the services sector and civil service and the year in which the first woman was elected to Parliament from the gender variables.

The countries included in the analysis still have a broad geographical scope, but those of the former Soviet Republics are excluded due to the lack of temporal data.

The periods examined are those around the years 1970, 1980 and 1994.

The results are in agreement with those of the previous analysis, and confirm that in a more modern situation the gender system displays positive characteristics

and family and reproductive behaviour is typical of the second demographic transition (fig.14).[1] We shall indicate the modern area as area a). The lower part of figure 14 in which the countries are represented shows that the Scandinavian countries, followed by those in Western Europe, have the most modern characteristics.

The countries with less modern characteristics fall into two areas, one concerning Central and Eastern Europe, which we shall label as b), where early fertility and marriage prevail. The other, which we shall label c), concerns the countries of South Europe, where late fertility and nuptiality were at highest levels up until 1980.

The factorial plane shows that unemployment, having been a virtually unknown phenomenon in Central and Eastern Europe in the seventies and eighties, is now beginning to emerge due to the politico-economic crisis. On the other hand, women's participation in political power was only consistent with the countries of Central and Eastern Europe in 1970, but became a characteristic of the countries of the North in the nineties. In contrast, the rate of female activity, which has remained at the highest levels in both Central and Eastern Europe and Scandinavia is not therefore linked to other positive aspects of women's conditions.

The length of the lines which unite the three temporal points and the direction of the arrows for each variable and each country show what converges, what diverges and what remains substantially unchanged in the geography of the modernisation, gender system and family and reproductive behaviour of the European countries. It is evident that some, but not all, patterns of demographic behaviour are diverging. In particular, divorce and extra-marital births have increased everywhere, but without changing the geography of the phenomenon. On the other hand, the geography of fertility and timing of fertility and marriage has changed. Large changes in the geography of other variables are limited to unemployment, as we have said, and to the

1. The multiway factor analysis presented in fig. 14 is a factorial analysis including a third dimension: time, and the figure can be interpreted as fig. 13. The upper part of figure 14 also shows the trajectory of the variables with regard to the third dimension of the analysis, uniting the three points of each variable (one for each period of time taken into consideration). The direction and length of the segment joining the points of the trajectory reflects the variation in the geography of the variable in the periods. The direction of the arrow goes in the direction of time, from the earliest period (around 1970) to the most recent (around 1994). If the direction is towards the barycentre, the geographical differences tend to disappear. If it is away from the barycentre, the differences tend to become accentuated. The lower part of figure 14 shows the countries (the statistical units), on a plane which has the same meaning as the previous one, by means of the factor scores. The position of a country on the plane indicates which of the country's variables have with higher values (those located in that area of the plane) and which ones have lower values (those located in the opposite area).The direction and length of the segment joining the three points of the trajectory of each country is interpreted in the same way as in the upper part of fig.14.

participation of women in parliament. There are no tendencies towards convergence.

We have noted that this analysis does not – and cannot – provide any evidence on the cause and effect between changes in modernisation, gender and family and reproductive behaviour, but does make it possible to see which transformations are occurring in the same direction : it seems that we may conclude that a higher level of modernisation and good women's conditions, together with a greater involvement of women in the wielding of political power, go in the same direction as a higher rate of fertility and a later life-cycle schedule. Seen in the light of these results, the low fertility in Central and Eastern Europe and the South seems to be linked with the lack of modernisation as well as the politico-economic difficulties mentioned above.

7.4. Family policies and the possibility of reconciling paid work with family work as factors influencing reproductive and family behaviour

The multivariate analysis in this section uses only data from the nineties for variables on family policies adopted and measures which make it easier to reconcile work and family. Such data are available only for a few countries. Indeed, it must be stressed that it is an extremely difficult and complex task to compare the family policies of various countries.

The variables studied consist of : the child benefit package before and after housing cost ; public childcare 0-3 years ; the total duration of maternity plus parental leave ; and the extent to which maternity and parental leave are paid. Other variables are the percentage of respondents who are in favour of public support for mothers with young children who are continuing work, the percentage of women in part-time jobs (all these variables are taken from Hantrais 1997, most of which are derived from the University of York study conducted by Bradshaw *et al.*) and the percentage of old people benefiting from home-based assistance (European Commission, 1998). To these variables are added those of modernisation and those concerning the gender system and reproductive and family behaviour already used in the first analysis. It is possible to perform this analysis for 14 European countries only. Those of Central and Eastern Europe are excluded.

The results show that the most favourable family policies are the most widespread where modernisation is more advanced and the gender system more equitable (fig.15) (see note 3). In particular, measures tending to involve fathers more in the care of their children are more widespread where women have more voice in government. As we already know, it is in this context that the new patterns of reproductive and family behaviour spread. The distribution of countries on the factorial plane adds nothing to what the distribution of the variables might lead us to expect. It confirms

the situation for the countries of South Europe, where fertility is now at a minimum, as one in which state support of the family is scarce, and that of the Scandinavian countries where such support is the highest. In concluding our analysis of the results, we may note that, of all the various family policy measures, the only one which is outside this quadrant is maternity leave pay, which highlights the fact that the overall duration of maternity leave plus parental leave and incentives for parental leave are more important than whether or not maternity leave is fully paid. Opinions on the support of working mothers, which is close to the barycentre, shows that even if a favourable attitude is more frequent in the most favoured countries, the geographical differences in opinions are much smaller than the differences in the real situations.

8. From the macro to the micro analysis

As stated in the introduction, the analysis at a macro level identifies the trends in the patterns of reproductive and family behaviour and in the contextual conditions which might influence individual behaviour. We pass now to a micro-level analysis, to establish whether the new ways of forming a union (informal unions, marriage preceded by living together, serial monogamy, union instability, etc.) have an influence on individual fertility behaviour, that is, on the timing and intensity of progressing from a union to the first, second, third births, in the different contexts we identified above, controlling for the effect of other relevant variables.

The micro level studies on the influence of the new patterns of family behaviour on fertility in developed countries have highlighted that the various types of family behaviour which have spread rapidly over the last thirty years have tended to depress fertility. In the first place, the effect of postponing the beginning of reproductive life has been shown to be negative : the effect of delaying births on the final level of childlessness has been demonstrated by Martinelle (1993) who also shows that there is a higher level of childlessness among women with advanced education. Later means fewer. This result has been confirmed by other studies, including that coordinated by Blossfeld (1995) on nine developed countries (see also section 2.6 on infertility for references).

The progressive substitution of marriage with living together has led some authors to think that these are two interchangeable forms of union. On the contrary, it would seem that cohabitation is not the same thing as marriage : for the United States, Clarkberg *et al.* (1995) have shown that marriage and cohabitation are associated with important differences in work patterns, earnings, treatment of money, use of leisure time, social relations with the extended family, the division of household labour and fertility. The negative

influence of cohabitation on fertility is demonstrated in many studies (Balakrishnam 1989 ; Bracher *et al.* 1990 ; Carlson 1990 ; Elzer 1987 ; de Graaf 1990 ; Haskey *et al.* 1989). For example, Léridon (1990) has shown, for France, that cohabitation not followed by marriage reduces fertility a great deal. This study was on the 1941-55 cohorts, for which cohabitation was a rare, if not pioneering, form of behaviour. When cohabitation becomes a more widespread form of behaviour we might expect a reduced difference in fertility with marriage, but in reality other, more recent studies have shown the persistence of the difference. Lesthaeghe *et al.* (1994) have shown that cohabitants are much more likely to remain childless than married couples, for both women and men aged 30-50 in Germany, Belgium, France and the Netherlands. The fertility of female cohabitants (and also of women not in a union, though this is a more obvious result which few studies go to the trouble of establishing) is lower than that of married women in the Netherlands (Manting *et al.* 1995). Entry into motherhood occurs more often and sooner in marriage than in cohabitation in the USA according to the results of the 1987-88 NFSH (Manning 1995). In Finland couples who have lived longer without marriage tend to have fewer children than the directly married (Lindgren *et al.* 1993). The negative effect of cohabitation would therefore appear to have been demonstrated. However, there may be differences in the socio-cultural significance of cohabitation in different groups, and its consequences on fertility may therefore vary in their extent : for example, in the USA the fertility rate within cohabitation more closely approximates that within legal marriage among black women than white women (Loomis *et al.* 1994).

But the lower fertility of cohabitants may be affected by the fact that when they decide to have – or are expecting – a baby, they get married : Toulemon (1996) finds that, for France, news that a baby is on the way greatly increases the probability of marriage (by 11 times) for French women aged under 35 and born between 1944 and 1968, observed in 1994. Other studies confirm that the decision to convert cohabitation into marriage is often linked to the decision to have children (Elzer 1987 ; Léridon *et al.* 1990, Manting 1991). The influence of past cohabitation on entry into motherhood could be limited and the differences in fertility between direct marriage and indirect marriage modest, as found by Hoem *et al.* (1984), or more substantial, as found by Léridon (1990) for France : the fact of having lived together prior to marriage reduces fertility at the age of 35 compared with women who did not cohabit before marriage.

We may suppose that separation and divorce have negative effects on fertility – which has been confirmed by research. Di Giulio *et al.* (1999) have shown that the disruption of one's union reduces overall fertility in Belgium, Germany, Italy and Hungary (FFS data). Lesthaeghe *et al.* (1994) have

shown that separated or divorced persons have a much higher probability than married persons of remaining childless, for both women and men aged 30-50 in Germany, Belgium, France and the Netherlands.

The influence of separation and divorce depends very much on the frequency of repartnering : indeed, divorce only slightly reduces fertility if a new union is formed, but more so if this does not happen (Léridon 1990). It would seem that the impact of repartnering differs according to gender in Sweden : it increases the number of offspring for males, but not for females (Forsberg *et al.* 1995).

Different studies have advanced the hypothesis of an intergenerational influence on new patterns of family behaviour, showing that the fact of having had an experience of divorce and perhaps of another union has a notable influence on women's attitudes towards premarital sex, cohabitation, marriage, childbearing and divorce, and thus also influences the children's attitudes. The divorce of parents, followed by their subsequent remarriage, has a strong positive effect on children's approval of premarital sex and cohabitation and on their acceptance of divorce. Maternal divorces that are not followed by remarriage have a strong negative influence on children's attitudes toward marriage, although maternal remarriage seems to mitigate this effect. Maternal divorce, when not followed by remarriage, substantially reduces children's preferred family size, whereas divorce followed by remarriage has no effect on attitudes to childbearing. Although an important element of the effects of mother's marital experience on children's attitudes operates through the mother's attitudes, a substantial part affects the children directly (parental socialisation is not the only mechanism at work). In addition, these attitudes have important behavioural implications : both approval of cohabitation and acceptance of divorce are strong predictors of premarital cohabitation behaviour. Di Giulio *et al.* (1999) have shown that early home leaving (perhaps caused by disagreements in the parental family or parental divorce/separation) reduces fertility in Belgium, Germany, Italy and Hungary. The breadth of these influences should motivate continued investigation into the mechanism producing these intergenerational effects (Axinn *et al.*1996, see also its bibliography). Moreover, childbearing preferences of young women and their mothers affect their choice between cohabitation and marriage, so that wanting many children increases the likelihood of choosing marriage (Barber *et al.* 1998).

Given these results, we can assume that delay in starting a union or having a first (second) child, cohabitation, and union instability, all tend to reduce individual fertility, while indirect marriage and repartnering might have a very limited influence, or even increase fertility.

To verify this hypothesis, we will use different methods of event history analysis on FFS data for the same countries we included in the model of decomposition of the fertility trends (Section 4), that is: Italy, France, Hungary and Sweden, representing the four groups of European countries.

9. Family behaviour as a determinant of fertility

9.1. Fertility in Italy, France, Hungary and Sweden

The technique of life tables was adopted to ensure the correct analysis of the retrospective data collected, which were right censored because the interviewees were all of reproductive age. The transitions from zero to one child, one to two and two to three will be observed (Maller *et al.* 1994) according to the duration of the period at risk (the beginning of the union to the birth of the first child; birth of the first to birth of the second child; birth of the second to birth of the third child). The group analysed is that of women who have had at least one union (marriage or cohabitation) or at least one child (or two children), belonging to the cohorts 1952-70. Their biographies have all been censored at October 1992 in order to render the samples of the four countries homogeneous. Table 12 includes the number of women exposed in each interval according to type and number of unions. Table 13 contains some synthetic measures: the probability of not having had the first, second or third child at 18, 36 and 60 months from the beginning of exposure.

The differences between the four countries are already evident at the birth of the first child, the arrival of which is widespread and early in Italy and Hungary, where about half of women have already had their first child by 18 months from the beginning of the union, and where only 17% in Italy, and 13% in Hungary, have not yet had one after five years. In France and Sweden the arrival of the first child is later, and 32% of women in France and 48% in Sweden still have not had a child after five years.

The majority of women who have had a first child go on to have a second: this transition is more common in Sweden (only 26% has not so progressed after five years), followed by Hungary (34%), then France (39%) and Italy (41%). Having had a second child, almost half of the women in Sweden and France go on to have a third. The proportion is much smaller in Italy: only 22% – and smaller in Hungary, where it is 19%. The difference in the pace of family building in the four countries is evident. In Italy and Hungary, it is usual to have a first child shortly after the start of the union, but it is rare to have more than two children. In France and Sweden, union formation and fertility are less closely related, and not every couple has a child shortly after beginning their partnership, but once they have a child, many then go on to have a second and a third.

9.2. The arrival of the first, second and third child according to type and number of unions

In order to observe how the timing of children of different orders varies, by type of family, in the four countries considered, we constructed Kaplan-Meier survival curves which show the fraction of women remaining without a first, second and third child, according to the type and number of unions at the start of each interval (table 14). We employed log-rank tests to determine whether the observed differences are statistically significant at the .05 level. The modalities are direct marriage and cohabitation for the first interval, to which are added, in the subsequent intervals : indirect marriage (that is pre-marital cohabitation followed by marriage) ; not being in a union at the birth of a child ; having lived in one union only ; having lived in more than one union ; never having lived in a union. For the countries in which living arrangements other than marriage are rare, these modalities are grouped into a single category : other. The life tables make it possible to observe the elimination of women from the groups : without children ; with one child ; and with two children. This being due to the birth of : the first ; second ; and third child, respectively, according to the duration, in months, from the start of exposure to risk in each interval (table 14 and fig. 16). The survival probabilities show that it is women who cohabit who end up most often (and longest) without children.

The arrival of the second child is also more common and sooner after the first for married women than for cohabiting women, both in the two countries in which the prevalence of cohabitation is quite high (i.e. in France and Sweden) and in Hungary and Italy, where it is rarer. However the differences between cohabitation and marriage are much less when considering the birth of the second child than the first, and in Italy, where unions other than marriage have been grouped together, are not statistically significant. As far as the type of marriage is concerned, women marrying "indirectly" in Sweden – which is very common at the birth of the first child – have the second child more quickly and in larger proportions than married women. The reason is likely to be that the arrival of the second child slightly accelerates the transformation of the cohabitation into marriage ; on the other hand, in the other two countries (France and Hungary), where indirect marriage is less common, indirect marriages have fewer second children and less quickly after the first, but the differences are not great.

The fact of having had more than one union at the time of first birth does not make a significant difference. Having had the first child outside a union decreases the probability of having a second child within five years of the birth of the first, but this decrease is large only in Sweden.

As far as the third child is concerned, only in Italy and Hungary are the differences statistically significant between the different types and number of unions. Living together without being married (the few cases of women not in a union at the beginning of exposure are grouped with cohabitants) for both Italy and Hungary, and indirect marriage for Hungary, increases the probability of having another child. Having had more than one union increases the probability of having another child and anticipates its arrival in Sweden and Hungary, but does not make a difference in France. (We did not construct life tables for Italy for the third child due to the very limited number of cases different from "only one union" at the birth of the second child in this country).

In conclusion, living together without being married lowers the probability of a first birth and, to a lesser extent, of a second birth and postpones both events. Women not in a union at their first birth have a much lower likelihood of having further children, while the two forms of marriage (direct and indirect marriage), and the number of unions, give mixed results of modest size.

9.3. The characteristics of the women in the Fertility and Family surveys (FFS)

Having verified a relationship between the type and number of unions and fertility, we then considered all the possible determinants, that is, the characteristics of the women including :

- age at beginning of exposure to the risk of having a first, second, third birth ;
- type of union (direct marriage or cohabitation for the first birth, and also indirect marriage or outside a union for other births) ;
- number of unions (only for the intervals between children [never in a union ; only one ; more than one.] in order to take account of separation and repartnering) ;
- women's education ;
- women's employment before the beginning of each interval (data available for comparative analyses did not allow the inclusion of other more refined indicators of women's work commitment) ;
- urbanisation of place of residence at the time of survey (as contextual indicator of modernisation) ;
- religiousness (not available in France) ;
- birth cohort, in order to monitor the secular trend (in Sweden only some birth cohorts were included, every five years) ;

The women in the four countries were in very different circumstances (table 15) : about 80% of women entered their first union before the age of 23, with the exception of Italian women, (56% only) ; for Italian women, and

to a slightly lesser extent for Hungarian women, their first union was almost always a marriage (91.7% and 82.7% respectively). The situation of French women is very different, and that of Swedish women even more so, most of whose first unions was a cohabitation (only 33.9% and 7.5% respectively married first). On marriage or cohabitation, almost all women had already been employed (76-85%), though this was less common in Italy than in other countries (63.5%). The level of education varied greatly between the four countries: half the Italian and Hungarian women had a low level of education, whereas the proportion was nearly 40% for French women and only 12.5% for Swedish women. Over one third of Swedish women had a high level of education, compared with only 9.5% of Italian women.[1] The countries do not differ greatly as regards the degree of urbanisation of the women's place of residence; there was little variation either by birth cohort. In contrast religiousness varied greatly: half of Italian women were very religious, compared with 13.6 and 8.5% for Hungarian and Swedish women (there is no information about French women).

The same characteristics were examined at the time of the birth of the first and the second child. Women start their childbearing only a few years after the start of their union; only in Hungary was over 60% aged under 23 at the birth of their first child. In the other countries, the proportion of women having their first child before age 23 is lower (ranging from 41.1% in Italy to 37.3% in Sweden). Various models of behaviour thus emerge: in Italy women married at older ages and waited before having their first child, whereas in Hungary they married early and had their first child early; in France they started their first union early with a cohabitation, but postponed their first child; this pattern of behaviour was even more pronounced in Sweden. In all the countries except Italy, the proportion of women who had married directly was highest at the birth of their first child (which means that those whose first union was a marriage more often had a child). It has been mentioned that a part of the explanations is the proportion of cohabitations being converted into marriage at first birth. The proportion of women who had been employed between the start of their union and their first birth was larger than the proportion employed during the previous interval, apart from Italy, where it was slightly lower. The proportion of women with a low level of education, and of those living in smaller towns is higher in all countries, indicating that women in these situations are more likely to have a child.

Considering the characteristics of women at the second birth, the second child generally occurs late in Italy, and especially in Sweden, and soon in

1. Some of these differences could depend on the diversity of the education systems in the various countries, which the ISCED classification was unable to render comparable.

France, and especially in Hungary, where only one third of second children are born to women aged over 26. Compared with that at the first birth, the proportion of direct marriages is higher for women at their second birth and the percentage of women cohabiting is lower: the proportion of cohabitants is 36.4% in Sweden and 18.7% in France, and under 3% in Italy and Hungary. The proportion of unions other than marriage was already negligible at the time of their first birth. The proportion of women who had only one union is lower, except in Italy. The proportion of women who were not employed between the birth of the first and the second child is higher (except in France) than of women living in small towns and than of very religious women (except in Hungary, where it is lower).

In general we have a classic case of differential fertility, in which the transition to the first child and the subsequent progressions of birth order are more frequent in more traditional contexts.

9.4. Determinants of the quantum and timing of fertility

Through the application of mixture models (Farewell 1982), we can measure the effect of each co-variate measured at the beginning of the period of exposure, controlling for the influence of all the others, on the quantum of fertility – that is, on the final frequency of the events "birth of the first, second, third child" (parameter a) – and on the timing, that is, on the time after the last event (start of a union or previous birth) (parameter b). A positive value for "a" represents an increase in the likelihood of having a child of a given order, while a positive value for "b" represents a decrease in the time it takes, while the opposite is true for negative values (see appendix for details on method). We added to the explanatory variables the interval between second and third child for models analysing the birth of the third child. The results are presented in tables 16 and 17; in table 17 the variables of religiousness and the duration between first and second child are added.

Type of union

Being in a union other than marriage usually has a negative effect on fertility, both on its quantum and, even more so, on its timing (table 16). But this depends both on the type of union and on the birth order. If the first union was a cohabitation, rather than a marriage, the effects are always negative and significant, both on the quantum and on the timing of the first birth (only in France its effect on quantum is not significant). First union being a cohabitation rather than a marriage is thus confirmed as a choice which encourages infertility and postpones the first birth, even after controlling for other variables which might possibly be of influence. For women who have already had a first child, there is greater variation in their possible union histories; at the first birth the situation may have changed since the start of

the first union; cohabitations may have been converted into marriage and this group may also include women who had their first child outside a partnership. Moreover, the women may have lived in other unions (serial monogamy); consequently another variable has been used to indicate whether there was only one union, or more than one. If the couple had a first child during cohabitation, it is less likely than a married couple to have a second child, and it will have it later. If it had two children without getting married, the probability of having a third is always actually higher than that of married couples, even if its arrival is postponed. It is clear that this is a case of special, long-consolidated cohabitations, different from those without children.

If the woman had a child outside a union, the probability of her having another is always smaller than the corresponding probability for married women, and the timing of that subsequent birth is later. On the other hand, in the case of women marrying "indirectly", the positive effects outweigh the negative ones and are significant in several cases. Having lived in more than one union results in both negative and positive effects for the quantum and/or timing of the second birth, but only the positive effects are significant (in particular on the quantum in France and on the timing in Sweden), while the effects on the quantum and timing of the third child are almost all positive, which is consistent with the hypothesis of repartnering being associated with further births.

Age

The effects of age are, in most cases, negative (33 out of 48 effects), but they differ according to the interval being considered (the number of negative effects increases with the order of birth), and according to the country: in Italy the probability of deciding not to have a child or postponing a child increases with age for all birth orders. A similar situation occurs in Hungary, always for the quantum of fertility and almost always for the timing. In France, on the other hand, the situation is completely different for the first child: the probability of having one is larger and the timing is shorter if the union begins after the age of 23. In Sweden, this positive effect also extends to the second child, and the negative effect remains only for the third. We could explain this difference in results by remembering that in Italy and Hungary it is more usual to enter into a union specifically to have children, and the postponement of a union or the first birth represents an attitude, less favourable to having children, which is different from the norm. In France and Sweden, on the other hand, young people enter into unions without any immediate plans for having children, so that entering a union is postponed. The timing of the first birth subsequently tends to be accelerated – as is also the case with the second birth in Sweden.

The birth cohort

The birth cohort effect should become visible in any secular trend. In fact there does not appear to be a clear trend from cohort to cohort. We must remember that the analysis is based on reproductive histories, and therefore measures past fertility. Since the surveys were conducted at the beginning of the nineties, they cannot measure recent trends such as the fall of fertility in Hungary and Sweden. As far as the quantum of fertility is concerned, half the effects are negative for the first child, only one out of ten for the second, and two out of seven for the third. For the timing effects, six out of ten for the first birth, eight out of ten for the second, and every single one for the third birth, are negative.

In conclusion, according to the trends shown by the most recent birth cohorts, couples are increasingly thinking twice about having children compared with the past. In contrast, once they have had a child, they are increasingly having a second or a third, even if these births are postponed longer than before. Postponement is certainly the most evident trait for all orders of birth : nine out of eleven effects which are significant substantiate this finding.

Education

In the majority of cases, the possession of a medium or high level of education favours the decision not to have a child or to postpone having one : 34 out of 48 effects are negative. Only in Sweden are there fewer negative effects than in other countries. The effects are almost all negative for the first child, but fewer for the second and fewer still for the third. Moreover, the effects are more often those of postponement rather than of the decision not to have a child. Finally, a medium level of education is more likely to have negative effects,, which especially have an impact on the quantum of fertility, thus leading more often to the decision not to have children, while a high level of education is more likely to have negative effects which impact on the timing, but it is less often an impediment to eventual childbearing.

Employment

Generally there is a negative effect on the quantum and timing of fertility for women who have been employed before the interval (17 effects are negative out of a total of 24 effects, and 9 of them are significant, divided equally between the quantum and timing). The situation is very different in Italy and France, where the effects are all negative, compared with Hungary and Sweden, where they are only negative for the third child (and, for Sweden, in addition to the effect for the second child). This result is very interesting : in Hungary and Sweden female employment is more prevalent, and enjoys more support from the different institutions in terms of services, working

conditions and informal networks (see section 7) : this makes it possible for women to work without foregoing to have children. On the contrary, it makes it possible for women not only to have a first child but also, in many cases, a second. In Italy and France, on the other hand, fewer women are employed because the greater rigidity of the labour market, and the scarcity of institutional or informal support means that women have to choose more often than in the other two countries between employment and maternity, so not only do fewer women work, but those who do work also have lower fertility.

The level of urbanisation

The level of urbanisation almost always has a negative effect on the quantum and timing of the first birth – and also of those of the next two orders, even if the number of effects which are significant are small.

Religiousness

Information on religiousness is available in every country except France, and, in the present analysis, it has been inserted as an extra variable in the previous models (table 17). Not being very religious generally has a negative effect on the quantum and timing of fertility, and the effects are significant only on the timing in Italy and the quantum in Hungary. Not being very religious also has a negative effect on the arrival of subsequent children, but the effects are significant only in Italy.

Length of the interval between first and second child

For the models analysing the third birth, the duration between the first and the second child was added as a co-variant (table 17) : a long duration has a negative effect on the quantum (always, and significantly), and not always on the timing. In the models which include these last two variables the effects of the other variables do not change substantially compared with the previous models, neither in the direction of the effect nor in its significance, but the value of the coefficients changes slightly.

9.5. Changes in the union as determinants of the timing of births

Finally, we applied hazard models (Cox *et al.* 1984) to the same dependent variables, in order to observe the influence of the change in family status (methodological details are supplied in the appendix).

The use of hazard models makes it possible to add some time-dependent variables concerning the history of unions to the co-variants, and thus observe how the progression from cohabitation to marriage, the dissolving of a union, or the formation of a new union during the period of exposure,

influences family building. Comparison of the results of mixture models and hazard models as far as the variables common to the two types of models are concerned does not substantially modify the picture which has already emerged, so we shall limit our comment solely to the results concerning the time-varying variables. For all three intervals, the time-varying variables clearly show that while the transformation of cohabitation to marriage has a positive effect, separation, on the other hand, always has a significant negative effect on childbearing of any order (table 18). A second change, which might be a new union or a separation, depending on the previous state, also has a negative effect in the case of separation and a positive one in the case of a new union. The only exception to this result is in Hungary for the third interval, where separation has a significant positive effect on the third birth.

9.6. Conclusions

The micro analyses which we have illustrated used different models to evaluate the influence of the new patterns of family behaviour on fertility.

Not being in a union at the birth of a child always has a negative effect on subsequent fertility. Life tables analysis has clearly shown that *cohabitation* is linked with low fertility, postpones first births, makes subsequent children a little less probable, and also somewhat delayed. Mixture models and hazard models have confirmed this result very clearly as regards the first and second child. The differences between married couples and cohabitants are small regarding the third birth : other factors being equal, cohabiting couples with two children have very different characteristics from those with no children.

Many cohabitations are converted into marriages *(indirect marriages)* and this transformation favours fertility. This is demonstrated 1) from the life table analysis, but only for Sweden and for the second child, 2) from the mixture models, which yield more positive than negative effects for indirect marriage, and 3) from hazard models, which always show a positive effect for the conversion of cohabitation into marriage. This reinforces the view that in many cases cohabitation is a transitional stage, which is precipitated or accelerated into marriage by the decision to have a child. Those people choosing to continue cohabitating after the birth of children have different attitudes, as Clarkberg *et al.* (1995) have demonstrated.

The *instability of unions* has a clear negative effect on having children of first, second and third birth orders, while the *formation of a new union* encourages fertility. This can be seen clearly from the effect of time-varying variables : the transition from living together to marriage or a new union favours fertility at all intervals, while separation discourages it. This does not mean that women who experienced more than one union have more children than women who have only been in one, but beginning a new union,

other circumstances being equal, results in women being more likely to plan for having children.

The *postponement of unions and of having children*, as we have seen, does not have the same consequences in all countries, but has a negative effect on the quantum and timing of the birth of the first child and of the subsequent children in Italy and Hungary, while the negative effect is limited to the second and third child in France and only to the third child in Sweden. In Italy and Hungary, starting fertility later means losing the opportunity or desire to have children, while it encourages "catching up" in the other two countries, but this recuperation is limited to the first, or at the most the first two, children. We have already explained this result by linking it to the different meanings of being in a union in the two countries with more traditional family models, Italy and Hungary, in which children are a natural consequence of being in a union, compared with the two more "modern" ones, in which the goal of the first union is certainly not that of having children straightaway. A long interval between the first and second child reduces the probability of going on to have a third, and delays its occurrence, confirming the negative effect on fertility of any type of postponement.

The results concerning the co-variants indicate the influence of the characteristics of women and their environment on fertility. The effects of the *cohorts* are not strong compared with those of the other co-variates, but they nevertheless demonstrate important trends: a tendency to postpone births, increasingly strong with higher birth order, and also, in half the cases, a tendency not to have a child at all. Once the first child has been born, the more recent cohorts have a greater tendency than the older cohorts to have a second child, and also a third. This confirms the trend towards the polarisation of the population into two sectors: family and non-family, already highlighted by Hoffmann-Nowotny and Fux.

The improvement of women's conditions has negative effects on fertility: an average level of *education* discourages fertility and delays it, a high level mainly just delays it. Women's *employment*, as we have seen, affects fertility in different countries differently: negatively in Italy and France, positively in Hungary and Sweden for the first and second children. Employment also has a negative effect in Hungary and Sweden for the third child. This shows the limits to the compatibility of employment and family, as is also shown in countries in which women's employment has been prevalent for longer and where it is better supported by the labour market and by the services or by informal support. *Living in larger towns* and *not being very religious*, finally, have a negative influence on the probability of having children and on the timing of their arrival.

The *four countries* which we have taken as representative of the areas into which Europe may be divided, do not all behave in the same way when it comes to family and reproductive behaviour: we have seen the different influence of employment in Hungary and Sweden compared with Italy and France, the smaller influence of women's education on fertility in Sweden, and the negative influence of the postponement of forming unions in Italy and Hungary, while this is positive, on the other hand, in France and Sweden. We have found reasonable explanations for each of these differences. In order to have an overall view of the different influences of the co-variants on the frequency and timing of fertility, we may look at the total number of negative effects for each country in the mixture models: in this case we see that in Italy 79% of the effects were negative, in France 68%, in Hungary 62% and in Sweden 61%. This result confirms the findings of other studies, i.e. that the strength and sometimes the direction of the relationships can change in different contexts. For Hungary there were fewer negative effects than for Italy and France, which was due to the positive influence of women's employment and of indirect marriage. Sweden has fewer negative effects, not only due to the different influence of women's conditions (not only employment, but also education) and the positive influence of indirect marriage, but also due to the positive influence of the birth cohort.

10. Relating macro and micro results to policy formulation

At the beginning of this study we posed some questions: what is the basic trend of fertility and of family behaviour? How may changes in family behaviour have influenced fertility trends? Is there any tendency towards convergence or divergence in family and reproductive behaviour? What determines the geographical differences that are observed, even in the presence of such limited fertility rates? What kind of institutional, economic, social and gender contexts discourage fertility? How do new family behaviours influence the timing and intensity of individuals" fertility, given their own characteristics and that of the context where they live?

The results of the macro analysis (Sections 2 and 3) show both a general postponement of childbearing, and a reduction in the intensity of fertility. The latter is already confirmed in the reduction of the completed fertility of birth cohorts, despite the stability of fertility expectations, which remain around replacement level, even in countries with a lower than replacement current fertility. The results of the micro analysis (Section 9) confirm the tendency for fertility to fall and for births to be postponed, which at an individual level translates into a greater probability of not entering into the family sector, affecting half of the cohorts studied. It also affects the postponement of having not only the first child but subsequent children too, which affects almost all cohorts and increases with the order of birth.

The analysis of the temporal differences in the fertility rates (Section 4) clearly shows that changes in family behaviour, the delaying of marriage, the diversification of the forms of union and the prolongation of life in the parental home certainly have negative consequences for fertility in all countries. The micro analysis (Section 9.2) confirms the negative influence on fertility of new patterns of family behaviour, overall: starting in a cohabitating union does not usually bring with it plans to have a child, unlike marriage, (both direct marriage and also marriage preceded by pre-marital cohabitation). The end of a union interrupts plans to have children, which are renewed if a new union is formed, but time works against fertility, due to the lost time and postponements, both because of beginning the union later and because unions are interrupted more than formerly. In addition, not all separations are followed by new unions; other interests, commitments and values may detract women from having children. Delaying the birth of the first child is a sure cause of lower fertility.

The hypothesis that changes in family behaviour only influence the timing and not also the intensity of fertility, posed by Hoffmann-Nowotny and Fux, is not confirmed by our results. The weakening of the norms upholding marriage has negative effects on fertility: the alternative forms of union are more fragile than marriages, and often take the form of temporary living arrangements which are either dissolved or transformed into marriage. Both trends tend to delay having children. However, the preference for cohabitation or marriage does not seem to be deep-rooted in couples" minds. Two examples have shown how easy it is for couples to change their minds if this is desirable from an economic point of view: Sweden and Austria experienced an exceptional rise in nuptiality in correspondence with changes in the law favouring married persons over cohabitees. These two episodes, which were temporary, suggest that cohabiting couples were not very aware of their economic disadvantage, which they only realised following some exceptional event. They also suggest that cohabiting couples do not have a very strong ideological attachment to their living arrangement, and that economical factors play an important role in decisions regarding living arrangements.

The comparison between different countries by means of multivariate analyses (Section 7) has shown that modernisation, greater institutional support and a fairer gender system encourage both changes in family behaviour and, to a lesser extent, fertility. In more traditional countries also, the family remains traditional and fertility is lower. Moreover, there have been more divergences than convergences in the demographic and social situations of European countries in the last 25 years, and the distances between the four groups of countries in which Europe would appear to be divided do not show any signs of diminishing.

With respect to the changes in family and reproductive behaviour over the last twenty-five years, many authors have underlined the difficulty of finding a single, coherent explanation for the variety of combinations of traditional and modern patterns. Some authors argue that we must recognize a diversity of explanations (Boh *et al.* 1989 ; Hopflinger 1985, Kuijsten 1996). In particular, it has been found to be very difficult to reconcile the very low fertility of Southern Europe with the stability of its family models, insofar as the former is perceived as a manifestation of modernisation while the latter is regarded as traditional (Delgado 1995 ; Sgritta 1988).

The framework of a more modern society, at an advanced stage of economic development, in which post-materialist values are common and more value is placed on individual self-fulfilment, and in which the gender system is fairer, may contain not only the diversification of forms of union and their greater instability, but also a fertility closer to replacement level, which is the level of fertility indicated as expected or ideal by most people in opinion surveys. In this framework, very low fertility may be the result of difficulties that are so great as to impede marriage (or other forms of union) and fertility. This is clearly suggested by the multivariate analyses (Section 7), which invariably show that greater modernisation is associated with new patterns of family behaviour that may be compatible with higher fertility rates. Advanced modernisation may also include a state family support system and labour market flexibility to reconcile family and work (cf. "References" : Mellens, Léridon, van de Kaa).

In an age of greater freedom of choice, there is a great risk that individualism and egoism will prevail. But the difficulty facing the individual in making permanent commitments for the future (and having a child is one) corresponds to a social and political climate. Such reasons might persist and continue to have a delaying and/or depressing influence on fertility, even if the current materialistic obstacles and constraints were to disappear.

There is some scope for policy intervention : to remove obstacles and constraints related to the individual decision-making process regarding union formation and fertility. We have indicated the rigidity of the labour and housing markets, the lack of services for children and for the elderly and the inadequacy of leave systems in Section 6. In general, there is the need to support the family in a role which is, and let us not forget it, of general interest for the future, both from a demographic point of view and from that of the welfare of the population. To be effective, policies must be more coherent and consistent as well as more far-sighted, because the future is a responsibility of both the individual and the collective.

The economic crisis and the crisis of the welfare state – the former impeding the passage of young people into adult life (employment, life as a couple,

children), the latter reducing support to families with children and to working mothers – are a serious threat to the future of fertility. The experience of the countries of Southern Europe, where families still play supportive roles which elsewhere have been incorporated into the welfare state, shows that this discourages rather than encourages fertility through prolonging the life of the family of origin and delaying the younger generation from forming a family.

In fact the strength of the negative influences on individual behaviour is greater where social and cultural transformations are more recent, especially in Italy, where determinants of possible reduction of fertility such as the postponement of the start of a union to higher education and scarcity of religious sentiment, have a strong influence. The macro analysis suggested that in the countries of Southern Europe, represented in the micro analysis by Italy, there was an overall situation of less modernisation, a less advanced women's condition and less institutional support for families compared to that in other countries in Western Europe and in Northern Europe in particular (Section 7). In these conditions, "modern" patterns of behaviour have higher individual costs. And modern patterns of behaviour may include not only patterns of family behaviour but also studying, working and not being religious. In countries of more advanced modernisation, improved women's conditions and greater institutional support, which the macro analysis has identified in the countries of Scandinavia, represented in the micro analysis by Sweden, the "modern" patterns of behaviour are more compatible with higher fertility, but sometimes it is difficult to have the third child and sometimes also the second. A particular situation is that of Hungary, which may be indicative for other Central and Eastern European countries. The macro analysis has clearly demonstrated a very strong demographic crisis from 1990 onwards (Sections 2 and 3), which obviously could not be reflected in the micro analysis, which works on a retrospective survey undertaken in 1992-93. The macro analysis has shown different patterns for Hungary compared with the rest of Europe, as well as having a strong participation of women in the labour market. In order for this high rate of labour force participation to be possible, there must necessarily be support from the institutions or from the informal network (otherwise fertility would be incompatible with work, which is not shown by mixture models). Moreover, before 1990, policies were aimed at greater social equality compared with the other countries of Europe. This explains why, at a micro level (Section 9.4), the situation of Hungary is closer to that of Sweden, as far as the influence of the characteristics of individuals is concerned, than to that of the other two countries. This is so, despite the greater difference in modern family patterns of the two countries. A new survey will be needed on the fertility in the countries of Central and Eastern Europe and the former USSR, not so much as to evaluate trends, because these certainly have repercussions on the reproductive histories of the 90s, but more to

observe precisely whether fertility differentials are broadening as a reflection of the diversification of social conditions.

In general it may be concluded from our analysis that socio-economic conditions as well as the institutional framework of countries are closely linked to individual decision-making processes regarding the family and fertility, and hence will influence future developments. In this regard, policies may be considered, which are supportive to families by removing obstacles and constraints, including those policies which are aimed at the reconciliation of family life and other social functions (work, education). These policies may result in a higher degree of freedom of choice for individuals and couples, and might also favour the option of starting family life at an earlier stage. The future of Europe's fertility depends to a large measure on the structure and organisation of family life. As affirmed by Hall (1995), future changes in Europe's population will arise from changes in the structure and organisation of the family and particularly how the tensions between women's (as well as men's) various roles and the family can be resolved.

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Glossary

Cohort. A group of people sharing a common demographic experience who is observed through time. For example, the cohort of women of 1940 would be the women born in that year, the cohort of marriages of 1965 would be the marriages celebrated in that year.

Crude rates. Crude rates measure the relative frequency of a particular event (e.g. births, marriages, divorces), within the population as a whole in a specific period of time. They are usually obtained by dividing the number of events during a given year by the average population. The ratios are expressed per 1000.

Infertility. Infertility includes both physiological and voluntary infertility.

Specific rates. Specific rates measure the relative frequency of a particular event within a subgroup of population (e.g. age-specific fertility rates) as opposed to crude rates, which apply to the population as a whole.

Total divorce rate. The probability of divorce for a married person if she were to pass though her marriage years conforming to the duration-specific divorce rates of a given year. The rates refers to a synthetic marriage cohort. It is computed by the summation of divorce rates by duration of marriage observed in a given year.

Total fertility rate. The average number of children that would be born alive to a woman during her lifetime if she were to pass through her childbearing years conforming to the age-specific fertility rates of a given year. The rate refers to a synthetic female cohort. It is computed by the summation of the age-specific fertility rates observed in a given year. The total fertility rate is also used to indicate replacement level fertility : in the more developed countries, a rate of 2.1 is considered to be replacement level.

Total first marriage rate. The probability of first marriage for a person if she were to pass through her lifetime conforming to the age-specific first marriage rates of a given year. The rate refers to a synthetic male or female cohort. It is computed by the summation of age-specific first marriage rates (generally up to age 49) observed in a given year. The indicator can exceed one in a year of strong progression of the number of marriages, although no person can contract more than one first marriage.

Table 1 – Total fertility rate 1970, 1980, 1990 and 1997 or most recent year

Countries	TFR				
	1970	*1980*	*1990*	*1997*	
Northern Europe					
Denmark	1.95	1.55	1.67	1.75	*
Finland	1.83	1.63	1.78	1.74	
Norway	…	1.72	1.93	1.86	
Sweden	1.94	1.68	2.14	1.53	
Western Europe					
Austria	2.29	1.65	1.45	1.36	
Belgium	2.25	1.69	1.62	1.55	(1995)
France	2.47	1.94	1.78	1.71	
Germany	…	…	…	1.32	*
Ex-Federal Rep. of Germany	2.02	1.45	1.45	1.39	*
Ireland	3.87	3.23	2.12	1.92	
Netherlands	2.57	1.60	1.62	1.54	
Switzerland	2.10	1.55	1.59	1.48	
United Kingdom	2.45	1.89	1.83	1.71	
Southern Europe					
Greece	2.43	2.23	1.43	1.32	
Italy	2.43	1.68	1.36	1.22	
Portugal	2.76	2.19	1.57	1.46	
Spain	2.86	2.21	1.36	1.15	
Turkey	5.68	4.36	2.99	2.48	

Central and Eastern Europe					
Bosnia-Herzegovina	2.67	1.88	1.70		
Bulgaria	2.18	2.05	1.81	1.09	
Croatia	1.80	1.92	1.63	1.69	
Czech Republic	1.93	2.07	1.89	1.17	
Ex-German Dem. Rep.	2.19	1.94	1.52	0.95	*
Hungary	1.97	1.92	1.84	1.38	
Poland	2.20	2.28	2.04	1.51	
Romania	2.89	2.45	1.83	1.32	
Slovak Republic	2.40	2.32	2.09	1.47	*
Slovenia	2.10	2.11	1.46	1.25	
Yugoslavia	2.28	2.26	2.08	1.80	*
Ex-USSR					
Estonia	2.16	2.02	2.05	1.24	
Latvia	2.01	1.90	2.02	1.11	
Lithuania	2.40	2.00	2.00	1.39	
Republic of Moldova	…	2.39	2.39	1.60	*
Russian Federation	2.01	1.90	1.89	1.28	*
Ukraine	2.09	1.95	1.89	1.40	(1995)
Armenia	3.17	2.34	2.63	1.60	*
Azerbaijan	4.66	3.32	2.80	2.30	*
Belarus	2.33	2.00	1.91	1.23	
Georgia	2.68	2.21	2.20	1.79	(1992)

Source: data provided by Council of Europe.
* 1996

Table 2 – Percentage of all births, by birth order, 1970 and 1997

	1970			1997		
Countries	*First*	*Second*	*Third or higher*	*First*	*Second*	*Third or higher*
Northern Europe						
Denmark	36.9	34.0	29.1	46.2	35.2	18.6 *(1996)*
Finland	50.7	28.8	20.5	40.0	34.1	25.9
Norway	40.2	31.6	28.2	41.2	33.3	25.5
Sweden	44.6	37.0	18.4 *(1974)*	41.0	36.8	22.2
Western Europe						
Austria	36.7	30.9	32.4	40.4	38.4	21.2
Belgium	43.1	28.4	28.5	47.1	33.5	19.4 *(1993)*
France	42.4	27.7	29.9	44.0	34.9	21.1 *(1995)*
Germany				46.2	36.7	17.1 *(1996)*
Ex-Federal Rep. of Germany	41.9	31.8	26.3	46.4	36.6	17.0 *(1996)*
Ireland	27.2	21.5	51.3	36.5	30.1	33.4 *(1995)*
Netherlands	39.0	33.5	30.5	45.3	36.1	18.6 *(1996)*
Switzerland	42.5	33.7	23.8	44.4	38.1	17.5
United Kingdom	38.3	32.8	28.9	38.9	36.9	24.2 *(1996)*
Southern Europe						
Greece	41.5	38.1	20.4	46.1	37.3	16.6
Italy	38.6	31.2	30.2	49.7	37.3	13.0 *(1995)*
Portugal	35.3	24.0	40.7	52.6	33.3	14.1
Spain	37.9	30.1	32.0 *(1975)*	51.2	36.5	12.3 *(1995)*
Turkey	-	-	-	-	-	-

Central and Eastern Europe						
Bulgaria	45.9	36.5	17.6	58.2	30.6	11.2
Croatia	47.3	32.3	20.4	35.0	30.3	34.7
Czech Republic	50.7	34.8	14.5	47.2	38.1	14.7
Hungary	49.3	33.7	17.0	44.4	32.7	22.9
Poland	42.6	28.3	29.1	43.8	30.7	25.5
Slovakia	39.2	30.9	29.9	43.2	32.8	24.0
Slovenia	47.6	33.4	19.0	47.7	37.7	14.6
Yugoslavia	41.2	29.2	29.6	44.0	33.0	23.0 *(1996)*
Ex-German Dem. Rep.	44.1	31.5	24.4	43.6	38.4	18.0 *(1996)*
Ex-USSR						
Estonia	49.4	35.7	14.9	49.5	32.4	18.1
Latvia	52.2	33.4	14.4	51.6	30.6	17.8
Lithuania	45.4	32.3	22.3	48.2	35.4	16.4
Republic of Moldova	37.9	25.3	36.8	49.1	32.5	18.4
Russian Federation	51.0	28.7	20.3	58.5	29.4	12.1
Ukraine	49.3	33.7	17.0	56.3	31.8	11.9 *(1993)*
Armenia	29.2	23.5	47.3	40.5	35.1	24.4 *(1996)*
Azerbaijan	18.2	15.6	66.2	38.7	32.9	28.4 *(1996)*
Belarus	43.3	31.4	25.3	58.3	30.1	11.6
Georgia	36.6	31.1	32.3	49.8	33.6	16.6 *(1992)*

Source: Council of Europe, 1998.

Table 3 – Percentage of women childless by age 40, selected European countries, birth cohorts from 1930 (per 100 women)

Birth cohort	Eng. & Wales		Aus.	Bel.		Den.	Fin.	Fra.		W. Germ.		Ire.	Ita.
	all	*leg.*		*all*	*leg.*		*leg.*	*all*	*leg.*	*all*	*leg.*		
1930	13.8	16.0	17.2	16.8				13.0	12.7				
1931	14.4	16.4	16.4	16.3				12.4	12.3				
1932	14.4	15.8	15.5	15.9				12.3	11.8				
1933	13.0	14.4	15.0	15.4				11.7	11.6				
1934	11.5	13.8	14.7	15.0				11.2	11.1				
1935	11.4	14.0	14.8	14.8	13.5		15.9	10.5	10.3	9.2	18.1		15.5
1936	11.5	14.4	14.4	14.5	13.6		15.6	10.1	9.9	9.9	17.9		15.4
1937	11.6	14.4	14.0	14.0	13.0		15.5	9.4	9.4	9.8	17.2		14.5
1938	11.2	14.3	14.0	13.8	13.2		15.3	9.4	9.1	10.4	17.1		13.8
1939	11.3	14.5	14.1	13.5	13.1		14.9	9.4	9.0	10.2	16.6		14.1
1940	11.1	14.3	14.3	13.1	12.1		15.2	8.3	8.0	10.6	16.8	19.8	12.6
1941	10.6	14.9	14.6	13.1	12.0		16.3	8.3	8.1	11.1	17.0	20.7	12.4
1942	11.3	14.7	14.5	13.2	12.3		16.3	8.9	8.6	12.1	18.1	20.1	12.6
1943	11.6	14.6	15.0	12.9	12.1		16.6	8.2	7.6	12.5	18.2	18.0	10.9
1944	10.7	14.8	15.0	13.0	12.4		16.6	8.2	8.0	12.8	18.4	16.5	11.4
1945	10.2	15.7	15.1	12.8	12.3	8.9	16.5	8.1	8.3	12.7	18.8	17.3	11.6
1946	9.6	15.8	14.4	13.1	12.6	8.1	15.5	8.5	8.2	11.8	18.7	16.8	10.4
1947	12.9	16.8	14.8	13.1	13.0	9.2	15.7	9.2	9.6	12.4	18.2	13.5	10.6
1948	12.2	18.5	15.0	12.8	13.2	9.4	16.1	8.2	10.0	13.2	18.8	13.9	11.0
1949	13.0	19.5	15.2	13.6	13.7	9.4	17.1	8.6	10.5	13.7	19.4	13.9	11.2
1950	14.0	20.6	15.4	13.4	13.7	10.8	17.4	8.3	11.1	14.8	20.7	12.2	11.4
1951	15.0		16.1	13.9	14.2	11.0	17.8	8.0		15.9	22.0	14.3	11.1
1952	15.0		16.9	14.3	15.3	12.2	18.3	7.9		17.4	23.2	12.5	11.2
1953	16.0		17.6	14.3	15.3	12.4	18.4	8.1		18.6	24.5	13.2	11.8
1954	16.0		18.3	14.7	16.2	13.2	18.5	8.4		20.3	26.0	13.4	12.5
1955	16.0		19.7	15.2	16.5	13.7	19.1	8.3		20.3	25.9	13.1	13.0
1956	17.0				17.0	13.9	19.7	8.2		20.9		12.7	
1957	17.0				17.3	14.2	20.6	8.4		22.1		14.2	
1958	17.0					15.0	21.2	8.8		22.9		14.5	
1959	17.0							9.8					
1960	18.0							10.2					

Source : Prioux 1993.
Notes :
The lifetime fertility of cohorts born after 1950 has been completed by assuming the continuation of current age-specific fertility rates.
Two sets of data for the same country derive from different sources.
leg.: complement of cumulated first order marital births.

Ita.	Net.	Nor.	Por.	Por.	Spa.	Swe.	Swe.	Swi.	Bul.	Hun.	Pol.	Cze.	Yug.
					leg.				leg.				
	15.4					14.7							
	13.0					14.0							
	14.8					13.9							
	12.4				14.2	13.5		21.4					
	12.7			14.1		13.4		20.5					
	11.7	9.6				13.4		18.6					
	11.7	9.5				13.5		17.0				7.8	
	10.3	9.4				13.3		15.8		8.7		7.6	
	12.1	9.2			12.0	13.0		14.7		9.3		8.0	
	11.6	8.9		11.6		13.2		13.9		9.3		7.9	
13.6	11.9	9.5				13.2		13.9		9.3		7.9	8.9
10.7	10.0	9.0				13.0		14.7		8.8		8.4	8.6
14.7	11.1	9.4				13.1		16.1		9.6		8.7	8.2
11.9	10.3	9.7			11.0	13.2		16.7		8.8		8.7	7.9
11.0	10.5	9.5		10.2		12.8		16.7		9.3		8.5	7.8
11.9	11.7	9.2				12.9		17.6	7.3	10.0	10.9	9.2	8.5
10.3	11.7	9.1				12.8		17.5	8.6	9.4	11.0	8.7	9.5
10.1	12.8	9.4				12.7		17.4	10.4	9.2	10.4	8.1	9.3
11.5	12.9	9.6			10.0	13.1		18.0	8.3	9.2	10.0	8.2	8.9
11.0	14.0	9.9		9.8		13.1		18.6	6.7	9.1	9.6	8.2	8.4
12.2	14.7	10.0	11.0			13.9	10.8	19.8	6.9	9.6	9.5	7.7	8.1
12.3	15.5	10.4	9.9			14.3	11.2	21.2	8.6	8.7	9.6	7.6	7.6
12.6	16.0	11.0	10.8			14.6	11.8		8.7	9.4	9.5	7.5	8.1
12.7	16.8	11.7	10.3		9.5	15.1	11.9		6.1	9.5	11.5	7.9	8.4
14.0	17.1	12.7	11.2	9.6		15.8	12.6		6.9	8.9	10.8	7.8	8.7
14.0	17.8	13.5	9.7			15.8	12.6		6.6	8.7	11.4	7.7	8.7
14.9	18.0		8.5			16.1	12.9		4.8	8.2	10.9	8.0	8.2
	18.7		10.5			16.6	12.9		3.7	7.6	10.7	7.8	8.4
	19.5		9.5			16.6	13.0		3.4	7.8	10.3	8.1	8.2
							13.2		4.0	7.9	9.8	8.0	8.1
							12.9		5.2	8.7	9.9	8.2	8.2

Table 4 – Percentage of women 20-39 years old that do not have and do not want to have children

Country	*year*	*%*
Italy	1995-96	2.2
Austria	1995-96	4.3
Germany	1992	5.5
Hungary	1992-93	1.8
Poland	1991	6.9
Lithuania	1994-95	2.8
Latvia	1995	2.3
Belgium	1991	4.6
Sweden	1992-93	5.1
France	1994	1.7
Spain	1994	1.1

Source: our elaboration on FFS data.

Table 5 – Average expected number of children, women in unions, 20-39 years old

Country	*year*	*expected number of children*
Austria	1995-96	2.1
Belgium	1991	2.1
France	1994	2.3
Germany	1992	1.9
Hungary	1992-93	2.1
Italy	1995-96	2.1
Latvia	1995	2.1
Lithuania	1994-95	2.1
Poland	1991	2.2
Spain	1994	2.2

Source: our elaboration on FFs data files.

Table 6 – Partnership status, women 20-39 years old

	Austria *(1995-96)*	Finland *(1989-90)*	Belgium *(1991)*	Germany *(1992)*	Hungary *(1992-93)*	Italy *(1995-96)*	Latvia *(1995)*	Poland *(1991)*	Spain *(1994)*
% of women who are:									
married	52.2	50.9	69.9	54.1	70.4	54.2	58.5	73.5	59.3
cohabitant	16.2	16.7	7.6	10.0	5.2	2.2	8.2	0.1	4.4
LAT	13.7	12.8	13.3	13.2	9.5	20.5	14.4	2.8	13.2
not in union	18.0	19.6	9.3	22.7	14.9	23.1	18.9	23.5	23.1
% of women currently LAT who:									
want LAT	52.7	43.9	–	69.2	48.8	43.4	–	-	29.8
have to LAT	34.3	47.8	-	30.8	32.1	36.2	–	-	49.5
% of women currently LAT who intend to:									
cohabit in two years time									
yes	56.6	50.7	34.0	30.3	16.1	11.0	12.9	-	18.7
don't know	–	15.6	14.9	45.1	35.1	8.6	32.3	-	20.8
marry in two years time									
yes	20.3	12.0	51.6	10.8	32.8	40.7	13.8	-	34.5
don't know	–	40.9	8.3	42.0	28.8	14.1	37.5	-	23.5
never marry or cohabit	46.2	28.5	38.5	22.2	21.4	38.0	42.2	-	26.4

Source: our elaboration on FFS data.

Table 7 – Decomposition of the difference of fertility between 1970 and 1990 according to effects due to structure and rates

Sweden							
age		**structure**			**rates**		**total**
	(a)	(b)	(a+b)	(c)	(d)	(c+d)	(a+b+c+d)
	married	not married	total	marital	not marital	total	
15-19	-3.53	0.12	-3.41	-1.40	-11.74	-13.14	-16.55
20-24	-64.05	16.99	-47.05	8.60	11.33	19.93	-27.12
25-29	-83.33	42.96	-40.37	45.83	21.43	67.26	26.89
30-34	-35.36	24.43	-10.92	43.02	11.10	54.12	43.20
35-39	-9.53	7.83	-1.70	13.80	3.95	17.75	16.05
40-44	-1.35	1.32	-0.03	0.65	0.58	1.23	1.20
45-49	-0.05	0.08	0.03	-0.22	-0.02	-0.25	-0.22
total	*-197.19*	*93.74*	*-103.46*	*110.28*	*36.62*	*146.90*	*43.45*

Italy							
age		**structure**			**rates**		**total**
	(a)	(b)	(a+b)	(c)	(d)	(c+d)	(a+b+c+d)
	married	not married	total	marital	not marital	total	
15-19	-4.92	0.09	-4.83	-9.87	0.90	-8.96	-13.80
20-24	-42.42	0.88	-41.54	-30.67	-0.67	-31.34	-72.87
25-29	-25.24	1.53	-23.70	-31.70	0.10	-31.69	-55.39
30-34	-3.74	0.77	-2.96	-26.80	1.44	-25.37	-28.33
35-39	0.31	-0.14	0.17	-25.94	1.29	-24.65	-24.48
40-44	0.32	-0.24	0.08	-12.91	0.32	-12.59	-12.51
45-49	0.03	-0.02	0.01	-1.33	0.00	-1.33	-1.32
total	*-75.66*	*2.88*	*-72.78*	*-139.22*	*3.30*	*-135.92*	*-208.70*

Source: our elaboration.

France

age	structure			rates			total
	(a) married	(b) not married	(a+b) total	(c) marital	(d) not marital	(c+d) total	(a+b+c+d)
15-19	-7.09	0.23	-6.85	-11.65	0.62	-11.04	-17.89
20-24	-57.52	11.66	-45.85	-45.78	9.35	-36.42	-82.28
25-29	-45.97	19.23	-26.75	6.45	9.55	16.00	-10.75
30-34	-14.72	11.09	-3.63	-5.99	6.41	0.42	-3.21
35-39	-3.65	3.98	0.33	-12.58	2.66	-9.93	-9.60
40-44	-0.51	0.73	0.22	-6.58	0.43	-6.15	-5.93
45-49	-0.02	0.02	0.00	-0.63	-0.00	-0.63	-0.63
total	*-129.49*	*46.95*	*-82.53*	*-18.58*	*9.07*	*-47.75*	*-130.28*

Hungary

age	structure			rates			total
	(a) married	(b) not married	(a+b) total	(c) marital	(d) not marital	(c+d) total	(a+b+c+d)
15-19	-15.49	0.74	-14.75	3.06	5.21	8.27	-6.48
20-24	-36.44	3.99	-32.46	11.73	3.67	15.40	-17.05
25-29	-22.17	4.11	-18.06	23.35	1.93	25.28	7.22
30-34	-10.31	3.27	-7.04	0.75	0.37	1.12	-5.92
35-39	-4.11	2.00	-2.11	0.05	0.03	0.09	-2.02
40-44	-0.73	0.50	-0.24	-1.12	-0.08	-1.20	-1.43
45-49	-0.02	0.02	0.00	-0.18	-0.01	-0.18	-0.19
total	*-89.28*	*14.63*	*-74.65*	*37.64*	*11.13*	*48.77*	*-25.88*

Table 8 – The percentage having a positive attitude towards family policies measures[a] (respondents aged 20-39)

Total men and women	Austria	Belgium[b]	Czechoslovakia	Germany	Hungary[c]	Italy	Netherlands	Spain	Switzerland
Improved maternity leave arrangements for working mothers who are having a baby	64	50	96	91	-	89	72	93	88
Lower income tax for people with dependent children	91	53	93	93	97	89	65	95	94
Better day-care facilities for children younger than 3 years old	81	44	71	85	-	95	67	95	68
Better day-care facilities for children 3 to 5 years old	92	-	86	91	-	-	-	96	75
An allowance for families with children dependent on the family income	86	-	94	90	78	85	61	91	85
An allowance at the birth of each child	66	28	94	86	-	65	36	89	73
An allowance for mothers or fathers who do not take a job because they want to take care of the children while they are young	79	69	92	88	79	69	33	71	71
A substantial rise in child allowance by (7% of GNP) per child per month	73	66	90	88	-	80	52	88	75
Child-care facilities for school-going children before and after school and during school holidays	65	63	78	84	-	78	49	91	59
Flexible working hours for working parents with young children	91	42	95	91	97	89	68	90	81
More and better opportunities for parents with children to work part-time	92	64	92	92	96	-	78	89	87
A substantial decrease in the costs of education	-	-	75	-	-	-	73	-	77
Better housing for people with children	94	45	91	95	99	88	50	95	92

Source: Moors et al., *1995.*
Notes:
a) Not all measures were included in the questionnaire by all countries. Some of the measures referred to have actually been implemented in some countries; others are being considered by the respective governments.
b) In Belgium, the attitude was asked in connection with an increase in VAT by 1 percent.
c) Refers only to women married in 1990-91.

Table 9 – The percentage agreeing with statements on the consequences of the introduction of family policy measures (respondents aged 20-39)

	Austria	Belgium	Czechoslovakia	Germany	Hungary[a]	Italy	Netherlands	Spain[b]	Switzerland
Men and women who favoured policies and "agreed" with the stated consequence									
It would make easier for me to have the number of children I intend to have	52	68	77	48	93	52	41	52	55
It would enable me to have my next child sooner	27	27	39	30	-	23	13	5	31
I would reconsider the possibility of having another child	39	20	40	35	-	30	24	14	36
I would probably decide to have another child	34	6	36	22	48	25	9	-	48
I definitely do not want another child	24	31	20	29	24	18	12	52	16
These measures should be a normal part of life's necessities in any case[c]	-	43	92	77	-	81	72	-	91

Source: Moors et al., *1995.*
Notes:
a) Refers only to women married in 1990-91.
b) Percentages for Spain result from a reconstruction on the basis of a differently formulated question.
c) In Belgium the item was: These measures are necessary to live comfortably in any case.

Table 10 – Services for old people (65 years and over)

Country	*Percentage of old people in institution*	*Percentage of old people using home-based services of care*
Austria	4.7	3.0
Belgium	4.0	6.0
Denmark	5.7	17.0
Finland	7.2	24.0
France	3.0	7.0
Germany	5.0	3.0
Greece	0.5	
Iceland	high	high
Ireland	5.0	3.0
Italy	2.0	1.3
Netherlands	10.0	8.0
Norway	7.1	14.0
Portugal	5.0	1.5
Spain	2.8	1.0
Sweden	5.4	13.0
United Kingdom	5.1	13.0

Source : Commission européenne 1998.

Table 11 – Values in European countries

B	DK	WD	D	OD	GR	E	F	IRL	I	L	NL	P	UK	CE 12
FA (94.4)	FA (98)	FA (93)	FA (93.4)	W (95.6)	FA (99.4)	FA (97.4)	FA (94.4)	FA (97.1)	FA (98.9)	FA (95.9)	FR (93.6)	FA (99)	FA (96.9)	FA (95.7)
W (88.2)	FR (97.6)	FR (88.3)	FR (87.8)	FA (95.2)	LC (97.5)	W (96.7)	LC (93.5)	FR (93.9)	W (98.8)	W (88.2)	F (90.6)	W (97.3)	FR (93.1)	W (90.2)
LC (85.2)	F (96)	F (85.2)	W (87)	LC (86.7)	W (95)	FR (86.5)	W (93.3)	W (86.7)	LC (93.5)	F (86.8)	W (89)	FR (94.1)	F (83.1)	FR (88.3)
F (78.8)	W (92.7)	W (84.7)	F (85.2)	FR (85.9)	FR (93.4)	F (83.4)	FR (85.5)	F (81.3)	FR (85.3)	LC (86.3)	FA (87.1)	LC (93.5)	W (77.6)	F (84.3)
FR (77.1)	LC (73.1)	LC (80.3)	LC (81.6)	F (85.1)	F (90.8)	LC (79.2)	F (82.3)	R (67)	F (83.7)	FR (85.4)	LC (81.8)	F (88)	LC (71.7)	LC (84.2)
R (28.9)	P (56.2)	P (34.7)	P (35.6)	P (38.9)	R (86.7)	R (42.8)	P (28.4)	LC (62.5)	R (62)	R (37.8)	P (39.9)	R (67.9)	P (34.4)	R (39.3)
P (18.6)	R (28.4)	R (31.5)	R (27.7)	R (13.5)	P (61.1)	P (25.8)	R (25.9)	P (28.6)	P (41.7)	P (33.7)	R (33.1)	P (40.4)	R (33.1)	P (35)

Source: Commission des Communautés européennes 1993.
Legend : FA – family, W – work, FR – friends, F – free time, LC – life of couple, R – religion, P – politics.

Table 12 – Number of women according to number and type of union at the start of each interval

	first union				first child				second child			
	Italy	*France*	*Hungary*	*Sweden*	*Italy*	*France*	*Hungary*	*Sweden*	*Italy*	*France*	*Hungary*	*Sweden*
Direct marriage	1882	565	2206	171	1209	442	1516	95	666	296	985	80
Cohabitation	170	1101	461	2114	25	220	49	536	8	114	29	307
Indirect marriage				54	278	160	375	28	175	107	434	
Out of union					42	92	90	77	5	24	21	22
Never in union					39	61	65	41	1	1	2	
One union					12	58	69	193	9	79	98	188
More than one union				1279	913	1681	849	697	529	1042	655	
total	*2052*	*1666*	*2667*	*2285*	*1330*	*1032*	*1815*	*1083*	*707*	*609*	*1142*	*843*

Source: our elaboration on FFS data.

Table 13 – Probabilities of not having a first, second, third child at the duration 18, 36, 60 months

	1st child				2nd child				3rd child			
	Italy	*France*	*Hungary*	*Sweden*	*Italy*	*France*	*Hungary*	*Sweden*	*Italy*	*France*	*Hungary*	*Sweden*
18 months	0.511	0.635	0.452	0.832	0.815	0.809	0.761	0.724	0.946	0.870	0.933	0.904
36 months	0.282	0.492	0.226	0.662	0.610	0.559	0.505	0.421	0.874	0.729	0.864	0.747
60 months	0.167	0.315	0.131	0.475	0.405	0.391	0.337	0.261	0.781	0.575	0.806	0.597

Source: our elaboration on FFS data.

Table 14 – Probabilities of not having a first, second, third child, according to type and number of unions at the duration 36 and 60 months

	1st child				2nd child				3rd child			
	Italy	*France*	*Hungary*	*Sweden*	*Italy*	*France*	*Hungary*	*Sweden*	*Italy*	*France*	*Hungary*	*Sweden*
Type of union	+	+	+	+	ns	+	+	+	+	ns	+	ns
Direct marriage												
36 months	0.258	0.280	0.184	0.333	0.605	0.507	0.497	0.346	0.877	0.719	0.891	0.706
60 months	0.146	0.154	0.100	0.202	0.400	0.318	0.322	0.237	0.787	0.556	0.836	0.534
Indirect marriage												
36 months						0.517	0.538	0.314		0.736	0.689	0.731
60 months						0.345	0.431	0.176		0.608	0.639	0.568
Cohabitation												
36 months	0.550	0.606	0.433	0.689		0.633	0.492	0.450				
60 months	0.401	0.403	0.287	0.497		0.467	0.371	0.270				
Out of union												
36 months						0.713	0.594	0.749				
60 months						0.647	0.414	0.561				
Other												
36 months					0.654				0.834	0.734	0.737	0.776
60 months					0.445				0.692	0.564	0.622	0.648

Number of unions	ns	ns	ns	+	ns	+	+
Never in union							
36 months		0.650	0.526	0.673			
60 months		0.572	0.339	0.479			
One union							
36 months	0.610	0.546	0.503	0.408	0.729	0.870	0.766
60 months	0.402	0.375	0.333	0.250	0.568	0.813	0.613
More than one union							
36 months		0.683	0.539	0.430			
60 months		0.417	0.472	0.264			
Other							
36 months	0.612				0.734	0.787	0.670
60 months	0.473				0.639	0.722	0.530

Source: our elaboration on FFS data.
\+ statistically significant ($p<0.05$).
ns not statistically significant.

Table 15 – Women's characteristics at the start of each interval: union start; first birth; second birth (percentages)

	union start				first birth				second birth			
	Italy	*France*	*Hungary*	*Sweden*	*Italy*	*France*	*Hungary*	*Sweden*	*Italy*	*France*	*Hungary*	*Sweden*
Age												
<23	56.0	79.6	83.2	81.5	41.1	48.1	63.2	37.3	16.7	19.2	29.9	10.0
23-26	35.5	17.6	14.1	14.8	32.9	31.5	26.0	27.8	32.8	34.8	37.5	31.2
>26	8.5	2.8	2.7	3.7	26.1	20.4	10.8	34.9	50.5	46.0	32.6	58.8
Union												
Never in union					2.9	5.9	3.6	3.8	0.1	0.2	0.2	
One union					96.2	88.5	92.6	78.4	98.6	86.9	91.2	77.7
More than one union					0.9	5.6	3.8	17.8	1.3	13.0	8.6	22.3
Type of union												
Direct marriage	91.7	33.9	82.7	7.5	90.9	42.8	83.5	8.8	94.2	48.6	86.3	9.5
Indirect marriage					4.1	26.9	8.8	34.6	4.0	28.7	9.4	51.5
Cohabitation	8.3	66.1	17.3	92.5	1.9	21.3	2.7	49.5	1.1	18.7	2.5	36.4
Out of union					3.2	8.9	5.0	7.1	0.7	3.9	1.8	2.6
Work												
No	36.5	19.4	14.7	23.6	48.3	16.6	8.8	12.7	56.9	12.3	10.8	20.3
Yes	63.5	80.6	85.3	76.4	51.7	83.4	91.2	87.3	43.1	87.7	89.2	79.7
Education												
Low	51.3	39.2	48.2	12.5	54.9	47.4	49.6	14.3	62.0	52.1	52.7	15.2
Medium	39.2	41.3	37.9	52.9	36.1	38.5	36.5	47.2	29.7	34.6	35.1	47.9
High	9.5	19.5	13.9	34.6	9.0	14.1	13.9	38.5	8.3	13.3	12.2	36.9

Urbanisation												
Low	33.4	35.2	40.1	43.2	33.4	39.1	41.1	47.7	33.9	42.2	42.8	50.2
Medium	44.4	20.1	30.7	33.4	44.5	19.5	31.3	33.1	45.3	20.2	32.7	32.5
High	22.1	44.7	29.2	23.5	22.1	41.4	27.5	19.1	20.8	37.6	24.5	17.3
Religiousness												
Very much	49.5		13.6	8.5	52.7		15.0	10.0	55.9		14.7	10.4
Not very much	34.3		34.6	25.6	32.3		35.0	29.4	32.0		35.4	30.2
Not at all	16.2		51.7	65.8	15.0		50.0	60.7	12.2		49.9	59.3
Birth cohort[1]												
1952-1954	19.1	15.2	21.0	25.8	22.4	19.4	22.6	35.3	29.0	23.6	26.2	42.1
1955-1957	18.8	18.2	19.3		21.7	22.6	20.9		24.3	27.8	24.3	
1958-1960	18.4	18.4	15.9	27.2	20.0	21.7	16.9	33.9	19.6	24.2	19.0	36.6
1961-1963	17.8	15.5	14.0	25.2	17.3	15.7	14.8	22.9	16.5	12.9	15.3	18.6
1963-1970	26.0	32.7	29.8	21.8	18.6	20.7	24.7	7..9	10.6	11.4	15.2	2.7
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*

Source: our elaboration on FFS data.
1. 1954,1959,1964,1969 for Sweden.

Table 16 – Results of the mixture models: effects of the variables on the quantum (a) and timing (b) of the first, second and third birth

Italy						
	1st interval		**2nd interval**		**3rd interval**	
Variables	*a*	*b*	*a*	*b*	*a*	*b*
Age <22	0	0	0	0	0	0
Age 23-26	-0.4794	-0.1112	-0.1914	**-0.172**	-0.5035	-0.2499
Age >26	-0.2736	-0.1103	-0.0023	**-0.304**	**-0.851**	-0.0695
Cohort 1952-1954	0	0	0	0		
Cohort 1955-1957	-0.2415	-0.0926	-0.1906	-0.0334	0.3474	**-0.352**
Cohort 1958-1960	-0.0488	**-0.206**	0.3035	**-0.224**	0.3348	**-0.588**
Cohort 1961-1963	0.7223	**-0.315**	0.5071	-0.1414		
Education Low	0	0	0	0	0	0
Education Medium	-0.4118	**-0.315**	-0.2834	-0.1528	-0.2405	0.09746
Education High	-0.8374	**-0.534**	0.199	-0.1553	0.1487	-0.1019
Employed	-0.5038	**-0.292**	**-0.706**	**-0.329**	**-0.422**	-0.157
Direct marriage	0	0	0	0	0	0
Other type of union	**-1.183**	**-0.546**	0.1068	0.0305	**1.894**	-0.4506
One union			0	0		
Other			-0.605	0.06249		
Urbanisation high	0.2207	-0.0426	0.07608	-0.0361	**-0.362**	-0.0422
Intercept	3.463	-2.77	1.755	-4.038	0.5727	-4.524
b2		0.2963		0.7816		0.9642
b3		-0.0731		1.008		1.384
b4		0.4842		1.9		1.702

Note: significant effects (with the posterior distribution not containing 0 between 2.5° and 97.5° percentage points) in bold.

France						
	1st interval		**2nd interval**		**3rd interval**	
Variables	*a*	*b*	*a*	*b*	*a*	*b*
Age <22	0	0	0	0	0	0
Age 23-26	0.035	0.011	**-0.680**	-0.001	**-0.930**	**-0.359**
Age >26	**0.260**	0.055	-0.746	-0.003	**-1.231**	**-0.717**
Cohort 1952-1954	0	0	0	0	0	0
Cohort 1955-1957	0.220	0.119	0.046	0.113	-0.059	**-0.405**
Cohort 1958-1960	-0.581	0.049	0.263	-0.050	0.398	-0.187
Cohort 1961-1963	0.154	-0.078	0.360	**-0.386**		
Education Low	0	0	0	0	0	0
Education Medium	-0.267	**-0.288**	**-0.405**	**-0.208**	-0.403	-0.255
Education High	**-1.145**	**-0.665**	0.230	-0.132	0.117	0.385
Employed	**-1.479**	-0.074	**-0.987**	-0.255	**-1.305**	-0.205
Direct marriage	0	0	0	0	0	0
Indirect marriage			-0.210	0.034	-0.055	-0.116
Cohabitation	-0.547	**-0.523**	-0.472	-0.247	0.648	-0.319
Out of union			-0.700	**-0.997**		
One union			0	0	0	0
Never in union			0.476	0.548		
More than one union			**1.783**	-0.152	-0.260	0.110
Urbanisation high	-0.164	-0.064	**-0.407**	-0.043	0.242	-0.099
Intercept	5.458	-3.193	3.690	-3.889	1.827	-3.424
b2		0.246		0.759		0.658
b3		0.092		0.881		0.757
b4		0.540		1.417		1.218

Note: significant effects (with the posterior distribution not containing 0 between 2.5° and 97.5° percentage points) in bold.

Hungary						
	1st interval		**2nd interval**		**3rd interval**	
Variables	*a*	*b*	*a*	*b*	*a*	*b*
Age <22	0	0	0	0	0	0
Age 23-26	**-0.666**	-0.088	**-0.588**	-0.126	**-0.827**	0.096
Age >26	**-1.742**	**0.371**	**-0.892**	0.035	**-1.056**	-0.277
Cohort 1952-1954	0	0	0	0	0	0
Cohort 1955-1957	0.391	-0.007	0.107	-0.003	-0.289	-0.029
Cohort 1958-1960	-0.164	0.042	0.185	-0.048	0.331	-0.029
Cohort 1961-1963	0.117	0.056	0.290	-0.063		
Education Low	0	0	0	0	0	0
Education Medium	-0.123	**-0.364**	**-0.341**	**-0.130**	**-0.452**	-0.113
Education High	0.491	**-0.589**	0.184	-0.074	0.452	-0.491
Employed	0.318	0.063	0.074	0.014	-0.425	-0.360
Direct marriage	0	0	0	0	0	0
Indirect marriage			**-0.724**	**0.282**	**1.120**	0.284
Cohabitation	**-0.660**	**-0.579**	0.434	-0.210	**2.158**	-0.276
Out of union			-0.526	**-0.647**		
One union			0	0	0	0
Never in union			0.414	0.389		
More than one union			-0.285	0.102	0.062	0.176
Urbanisation high	-0.101	**-0.093**	**-0.208**	-0.048	-0.059	0.059
Intercept	3.264	-2.848	2.114	-3.947	0.020	-4.194
b2		0.278		0.701		0.274
b3		0.084		0.806		0.694
b4		0.997		1.341		1.416

Note: significant effects (with the posterior distribution not containing 0 between 2.5° and 97.5° percentage points) in bold.

Sweden						
	1st interval		**2nd interval**		**3rd interval**	
Variables	*a*	*b*	*a*	*b*	*a*	*b*
Age <22	0	0	0	0	0	0
Age 23-26	0.281	0.155	0.191	**0.221**	-0.002	**-0.396**
Age >26	0.740	**0.734**	2.283	**0.250**	-0.054	-0.370
Cohort 1954	0	0	0	0	0	0
Cohort 1959	-0.256	**-0.200**	0.301	**0.221**	**1.542**	**-0.372**
Education Low	0	0	0	0	0	0
Education Medium	0.079	-0.149	-0.416	0.116	**-0.678**	0.127
Education High	-0.094	**-0.472**	-0.522	0.180	0.111	-0.016
Employed	0.212	0.091	-0.017	**0.301**	-0.180	**-0.297**
Direct marriage	0	0	0	0	0	0
Indirect marriage			0.286	-0.191	0.059	0.036
Cohabitation	**-1.173**	**-0.864**	-0.124	**-0.495**	0.280	-0.287
Out of union			-1.033	**-1.402**		
One union			0	0	0	0
Never in union			0.339	0.522		
More than one union			-0.609	**0.242**	0.279	0.273
Urbanisation high	**-0.506**	-0.054	-0.178	-0.077	-0.263	-0.156
Intercept	3.900	-3.407	2.623	-4.755	0.990	-4.115
b2		0.535		1.280		0.948
b3		0.958		1.142		1.115
b4		1.854		1.439		2.061

Source: our elaboration on FFS data.
Note: significant effects (with the posterior distribution not containing 0 between 2.5° and 97.5° percentage points) in bold.

Table 17 – Results of the mixture models: effects of the variables on the quantum (a) and timing (b) of the first, second and third birth. Models with additional variables

Italy						
	1st interval		**2nd interval**		**3rd interval**	
Variables	*a*	*b*	*a*	*b*	*a*	*b*
Age <22	0	0	0	0	0	0
Age 23-26	-0.488	-0.119	-0.241	**-0.184**	-0.242	-0.076
Age >26	0.119	-0.117	-0.066	**-0.308**	-0.286	0.364
Cohort 1952-1954	0	0	0	0	0	0
Cohort 1955-1957	-0.228	-0.103	-0.207	-0.041	0.378	**-0.402**
Cohort 1958-1960	-0.037	**-0.219**	0.261	**-0.230**	0.307	**-0.650**
Cohort 1961-1963	0.631	**-0.322**	0.488	-0.161		
Education Low	0	0	0	0	0	0
Education Medium	-0.414	**-0.294**	-0.260	-0.152	-0.150	-0.048
Education High	-0.838	**-0.476**	0.192	-0.156	-0.093	-0.052
Employed	-0.527	**-0.278**	**-0.698**	**-0.310**	**-0.507**	0.066
Direct marriage	0	0	0	0	0	0
Other type of union	-1.079	**-0.453**	0.243	0.085	**2.228**	-0.509
One union			0	0		
Other			-0.621	0.017		
Urbanisation high	0.244	-0.043	0.103	-0.028	-0.314	-0.033
Very religious	0	0	0	0	0	0
Not very religious	-0.299	-0.026	**-0.394**	-0.145	**-0.866**	-0.058
Not religious at all	-0.593	**-0.283**	**-0.882**	-0.215	**-1.050**	**-0.892**
Interval 1st-2nd child						
<25 months					0	0
25-40 months					-0.119	0.120
>40 months					-0.933	0.285
Intercept	3.659	-2.736	2.012	-3.978	0.856	-4.643
b2		0.306		0.781		1.024
b3		-0.052		1.005		1.513
b4		0.512		1.907		1.868

Note: significant effects (with the posterior distribution not containing 0 between 2.5° and 97.5° percentage points) in bold.

France		
	3rd interval	
Variables	*a*	*b*
Age <22	0	0
Age 23-26	-0.613	-0.299
Age >26	-0.773	**-0.682**
Cohort 1952-1954	0	0
Cohort 1955-1957	-0.117	**-0.369**
Cohort 1958-1960	0.450	-0.184
Education Low	0	0
Education Medium	-0.472	-0.190
Education High	-0.203	0.520
Employed	**-1.224**	-0.202
Direct marriage	0	0
Indirect marriage	-0.175	-0.120
Other type	0.785	-0.364
One union	0	0
More than one union	-0.113	0.162
Urbanisation high	0.237	-0.077
Interval 1st-2nd child		
<25 months	0	0
25-40 months	**-1.078**	0.196
>40 smonths	**-0.735**	-0.314
Intercept	2.066	-3.503
b2		0.683
b3		0.812
b4		1.384

Note: significant effects (with the posterior distribution not containing 0 between 2.5° and 97.5° percentage points) in bold.

Hungary						
	1st interval		**2nd interval**		**3rd interval**	
Variables	*a*	*b*	*a*	*b*	*a*	*b*
Age <22	0	0	0	0	0	0
Age 23-26	**-0.666**	-0.087	**-0.590**	-0.132	**-0.472**	0.139
Age >26	**-1.840**	**0.400**	**-0.888**	0.034	-0.503	-0.262
Cohort 1952-1954	0	0	0	0	0	0
Cohort 1955-1957	0.397	-0.003	0.113	0.003	-0.246	-0.013
Cohort 1958-1960	-0.155	0.045	0.196	-0.050	0.419	0.019
Cohort 1961-1963	0.093	0.062	0.297	-0.060		
Education Low	0	0	0	0	0	0
Education Medium	-0.138	**-0.359**	**-0.336**	**-0.135**	-0.531	-0.096
Education High	0.433	**-0.581**	0.186	-0.081	**0.245**	-0.460
Employed	0.293	0.069	0.117	-0.003	-0.403	-0.389
Direct marriage	0	0	0	0	0	0
Indirect marriage			**-0.7278**	**0.2841**	**1.063**	0.3259
Cohabitation	**-0.654**	**-0.575**	0.473	-0.212	**2.416**	-0.283
Out of union			-0.629	**-0.629**		
One union			0	0	0	0
Never in union			0.540	0.369		
More than one union			-0.293	0.094	0.219	0.138
Urbanisation high	-0.064	**-0.098**	**-0.201**	-0.041	-0.098	0.066
Very religious	0	0	0	0	0	0
Not very religious	**-1.023**	0.016	-0.060	-0.102	0.205	-0.204
Not religious at all	**-1.129**	0.037	-0.077	-0.114	0.498	-0.263
Interval 1st-2nd child						
<25 months					0	0
25-40 months					**-0.760**	-0.311
>40 months					**-0.874**	-0.193
Intercept	4.219	-2.876	2.118	-3.855	-0.152	-3.953
b2		0.279		0.704		0.293
b3		0.090		0.808		0.708
b4		0.999		1.346		1.421

Note: significant effects (with the posterior distribution not containing 0 between 2.5° and 97.5° percentage points) in bold.

Sweden						
	1st interval		**2nd interval**		**3rd interval**	
Variables	*a*	*b*	*a*	*b*	*a*	*b*
Age <22	0	0	0	0	0	0
Age 23-26	0.263	0.154	0.188	**0.220**	0.026	**-0.372**
Age >26	-0.365	**0.752**	0.790	**0.250**	0.012	-0.387
Cohort 1954	0	0	0	0	0	0
Cohort 1959	-0.231	**-0.213**	0.322	**0.214**	**1.231**	**-0.295**
Education Low	0	0	0	0	0	0
Education Medium	0.075	-0.165	-0.397	0.117	**-0.730**	0.230
Education High	-0.094	**-0.496**	-0.499	0.185	0.122	-0.014
Employed	0.214	0.098	0.008	**0.297**	0.026	**-0.308**
Direct marriage	0	0	0	0	0	0
Indirect marriage			0.585	-0.178	0.446	0.018
Cohabitation	**-1.066**	**-0.822**	0.203	**-0.480**	0.797	-0.321
Out of union			-0.689	**-1.403**		
One union			0	0	0	0
Never in union			0.316	0.535		
More than one union			-0.649	**0.259**	0.411	0.233
Urbanisation high	**-0.486**	-0.054	-0.153	-0.079	-0.273	-0.104
Very religious	0	0	0	0	0	0
Not very religious	0.241	-0.175	-0.571	-0.116	-0.723	-0.063
Not religious at all	-0.005	-0.165	-0.857	-0.081	-0.846	-0.089
Interval 1st-2nd child						
<25 months					0	0
25-40 months					-0.463	-0.285
>40 months					**-0.892**	0.260
Intercept	3.699	-3.278	2.977	-4.680	1.554	-4.179
b2		0.537		1.278		0.982
b3		0.959		1.145		1.180
b4		1.856		1.449		2.121

Source: our elaboration on FFS data.
Note: significant effects (with the posterior distribution not containing 0 between 2.5° and 97.5° percentage points) in bold.

Table 18 – Results of the hazard models: effects of the variables on the timing of the first, second and third birth. Models including time-dependent variables

First interval: union-birth first child					
	Italy	France	Hungary	Sweden	U.S.A.
Variables					
Age <19					0
Age <22	0	0	0	0	**-0.17**
Age 23-26	**-0.19**	0.07	**-0.15**	0.06	**-0.36**
Age >26	**-0.18**	**0.28**	-0.12	**0.38**	**-0.34**
Cohort 1952-1954	0	0	0	(1954) 0	0
Cohort 1955-1957	0.02	**0.14**	**0.10**	(1959) -0.04	-0.01
Cohort 1958-1960	-0.03	-0.08	0.01	(1964) -0.07	0.05
Cohort 1961-1963	-0.09	0.02	**0.11**	(1969) -0.13	0.08
Cohort 1964-1970					0.08
Education Low	0	0	0	0	0
Education Medium	**-0.35**	**-0.27**	**-0.32**	-0.12	**-0.31**
Education Medium-High					**-0.37**
Education High	**-0.43**	**-0.76**	**-0.39**	**-0.42**	**-0.67**
Employed	**-0.35**	**-0.21**	**0.13**	**0.16**	**-0.20**
Marriage	0	0	0	0	0
Cohabitation	**-1.25**	**-0.95**	**-0.88**	**-1.07**	**-0.86**
Change in the union:					
No change	0	0	0	0	0
Marriage	**1.57**	**1.09**	**0.81**	**1.06**	**0.87**
Separation / divorce	**-0.49**	**-0.66**	**-1.43**	**-1.47**	**-1.10**
Second change in the union:					
No change	0	0	0	0	0
New union			**1.66**	**1.87**	**1.14**
Separation/divorce			**-0.53**	**-0.97**	**-0.76**
Any change (France)	0.06				
Urbanisation Low	0	0	0	0	0
Urbanisation Medium	0.08	0.06	0.03	-0.03	
Urbanisation High	0.04	-0.06	**-0.19**	**-0.36**	0.02

Note: significant estimates at the p-value>=90% in bold.

Second interval: birth first child-birth second child					
	Italy	France	Hungary	Sweden	U.S.A.
Variables					
Age <19					0
Age <21	0	0	0	0	0.07
Age 22-24	**-0.16**	**-0.17**	**-0.18**	0.07	0.03
Age 25-27	**-0.24**	**-0.21**	**-0.34**	0.06	-0.10
Age >27	**-0.43**	**-0.41**	**-0.34**	**0.22**	**-0.33**
Cohort 1952-1954	0	0	0	(1954) 0	0
Cohort 1955-1957	-0.09	0.08	0.03	(1959) **0.26**	0.04
Cohort 1958-1960	-0.04	0.07	0.06	(1964) **0.51**	0.00
Cohort 1961-1963	0.03	0.06	0.07	(1969) **0.34**	0.03
Cohort 1964-1970					0.09
Education Low	0	0	0	0	0
Education Medium	**-0.18**	**-0.29**	**-0.17**	-0.07	**-0.18**
Education Medium-High					**-0.22**
Education High	0.02	-0.09	0.00	0.06	-0.09
Employed	**-0.44**	**-0.40**	0.05	0.11	-0.09
One union	0	0	0	0	0
Never in union		0.46	0.06	-0.03	0.02
More than one union		**0.46**	0.33	**0.23**	0.00
Other (Italy)	**0.73**				
Direct marriage	0	0	0	0	0
Indirect marriage		-0.03	**-0.16**	-0.00	**-0.08**
Cohabitation		**-0.40**	0.09	**-0.25**	-0.39
Out of union	**-0.77**	**-1.19**	**-0.99**	**-1.12**	**-0.72**
Change in the union:					
No change	0	0	0	0	0
Marriage		-0.09	0.30	**0.29**	**0.29**
Separation/divorce	-0.37	-1.36	-1.09	-1.10	-0.94
Second change in the union		**1.01**	**1.03**	**0.50**	**0.26**
Urbanisation Low	0	0	0	0	0
Urbanisation Medium	-0.00	**-0.18**	-0.06	**-0.19**	
Urbanisation High	-0.01	**-0.21**	**-0.19**	**-0.26**	0.02

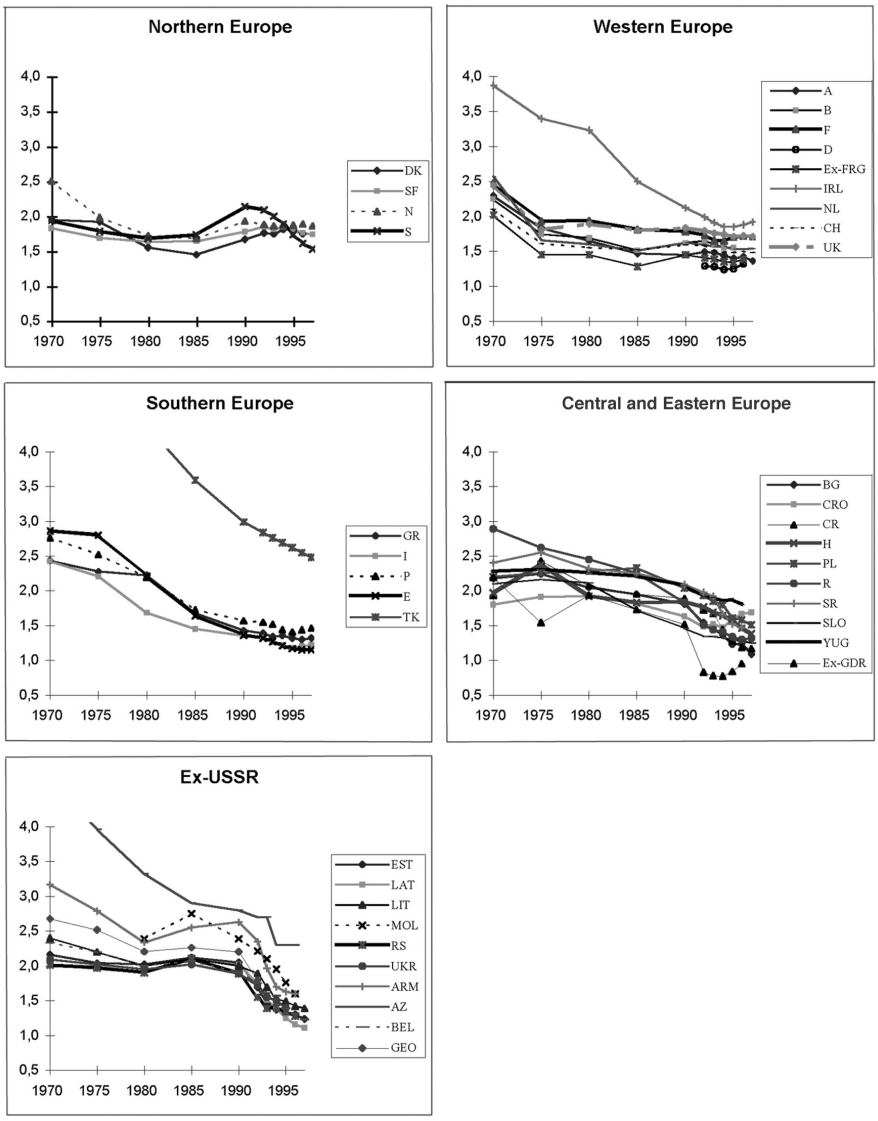
Note: significant estimates at the p-value>=90% in bold.

Third interval: birth second child-birth third child						
	Italy	France	Hungary		Sweden	U.S.A.
Variables						
Age <23	0	0	0		0	0
Age 24-25	**-0.39**	**-0.63**	**-0.74**		**-0.26**	**-0.20**
Age 26-28	**-0.71**	**-0.91**	**-0.73**		**-0.44**	**-0.44**
Age >28	**-0.72**	**-0.95**	**-1.15**		**-0.36**	**-0.68**
Cohort 1952-1954	0	0	0	(1954)	0	0
Cohort 1955-1957	0.13	-0.08	**-0.32**	(1959)	**0.25**	0.11
Cohort 1958-1960	-0.00	0.19	0.04	(1964)	**0.33**	**0.17**
Cohort 1961-1963	0.13	0.22	0.20	(1969)	-0.06	**0.28**
Cohort 1964-1970						**0.37**
Education Low	0	0	0		0	0
Education Medium	-0.03	**-0.32**	**-0.39**		-0.16	**-0.28**
Education Medium-High						**-0.34**
Education High	0.03	0.25	0.29		0.02	**-0.21**
Employed	**-0.36**	**-0.65**	**-0.55**		**-0.16**	**-0.10**
One union	0	0	0		0	0
More than one union		-0.16	**0.59**		**0.50**	**-0.17**
Direct marriage	0	0	0		0	0
Indirect marriage		-0.03			0.08	-0.03
Cohabitation		0.19			-0.19	0.06
Other (Italy, U.S.A.)	**0.51**		**0.80**			**-0.27**
Change in the union:						
No change	0	0	0		0	0
New union					0.35	0.37
Separation / divorce		-0.19	**0.42**		-0.01	-0.06
Urbanisation Low	0	0	0		0	0
Urbanisation Medium	-0.20	0.09	-0.15		-0.14	
Urbanisation High	**-0.50**	**0.21**	0.01		**-0.35**	0.09

Note: significant estimates at the p-value>=90% in bold.

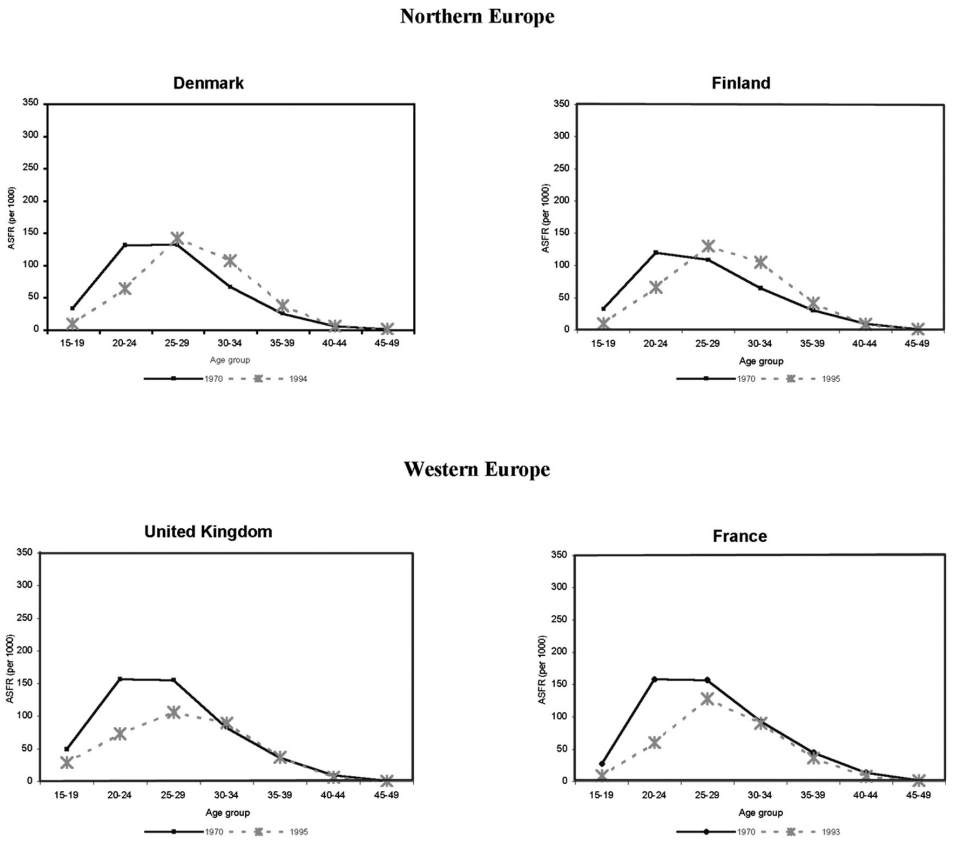
Figures

Figure 1 – Total fertility rate

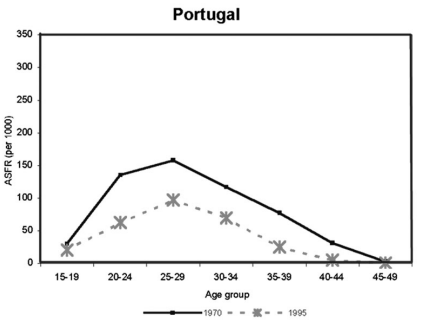


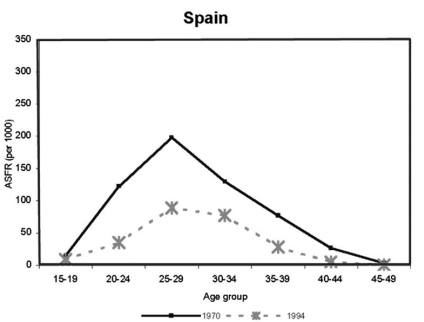
Source: our elaboration on data provided by the Council of Europe.

Figure 2 – Age: specific fertility rates, 1970 and 1995 (or most recent year) (per 1000)

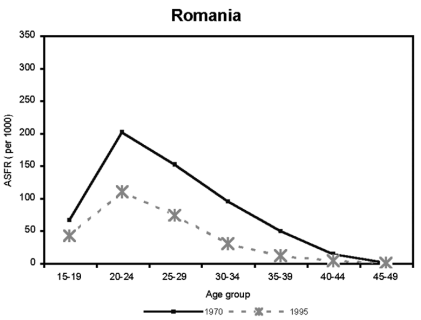


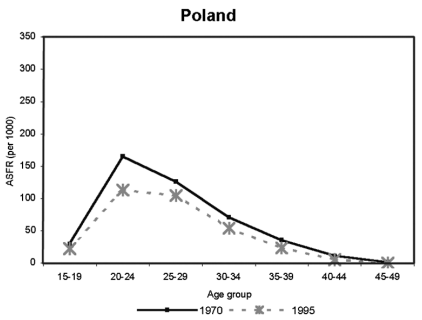
Southern Europe



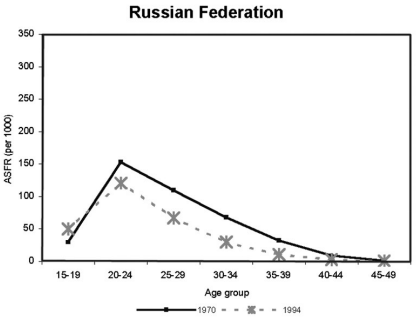


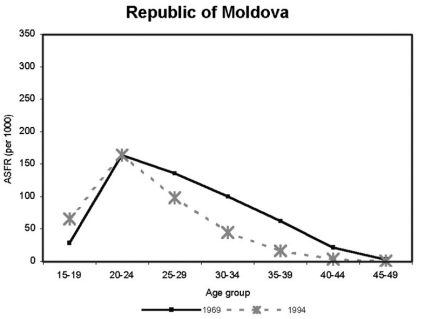
Central and Eastern Europe





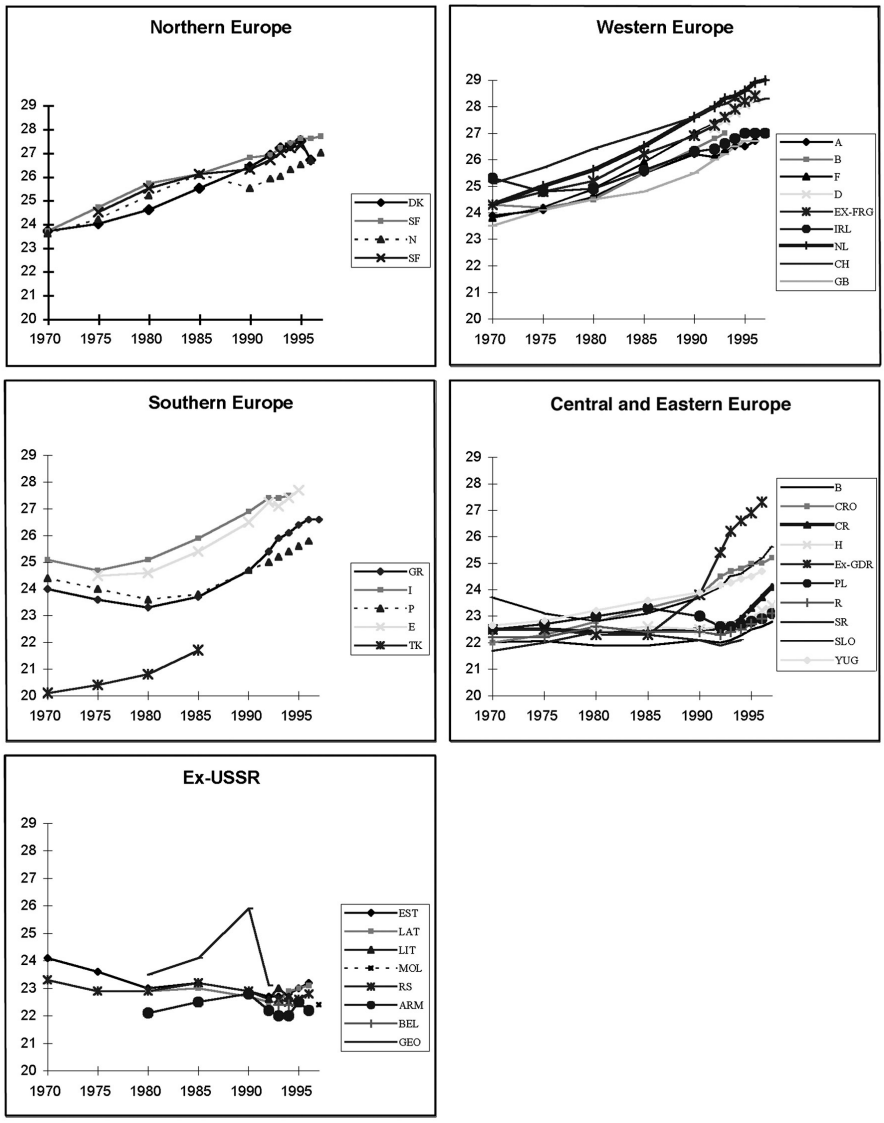
Ex-USSR





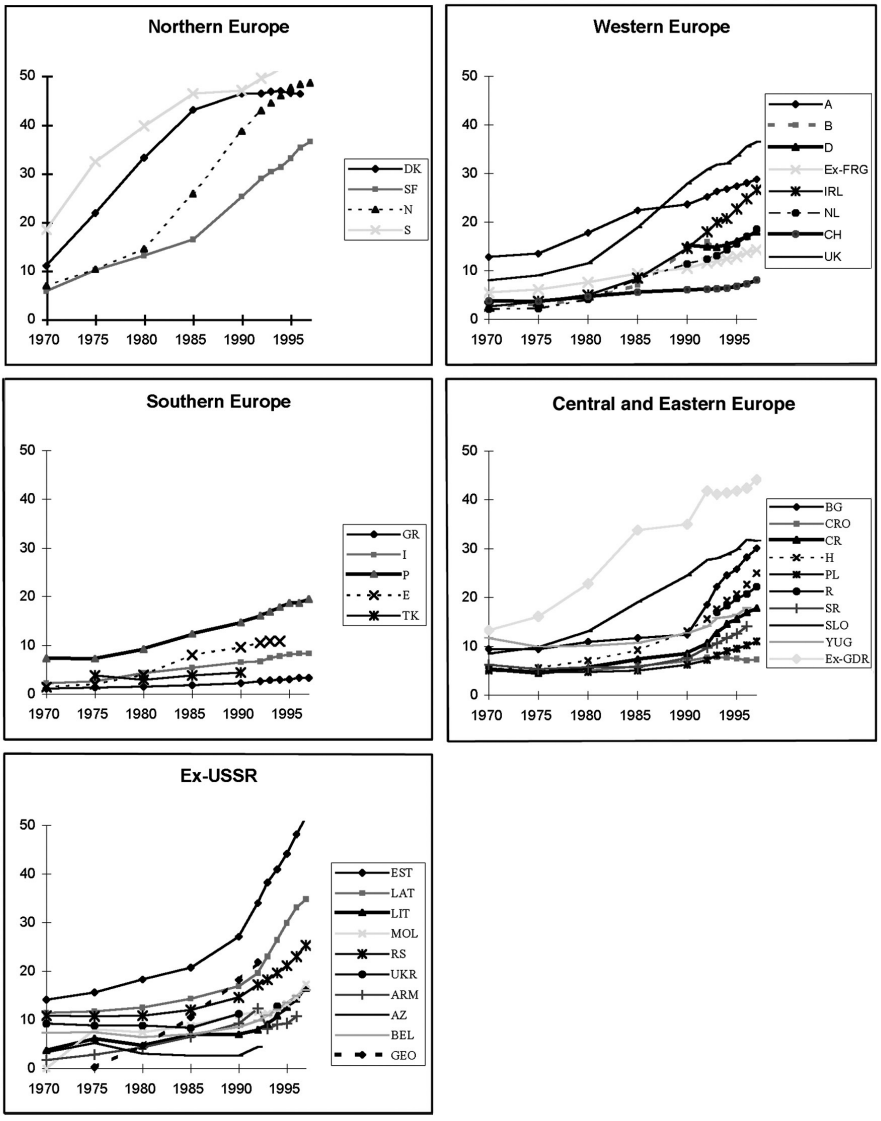
Source: our elaboration on UN and ODE data.

Figure 3 – Mean age of women at birth of first child



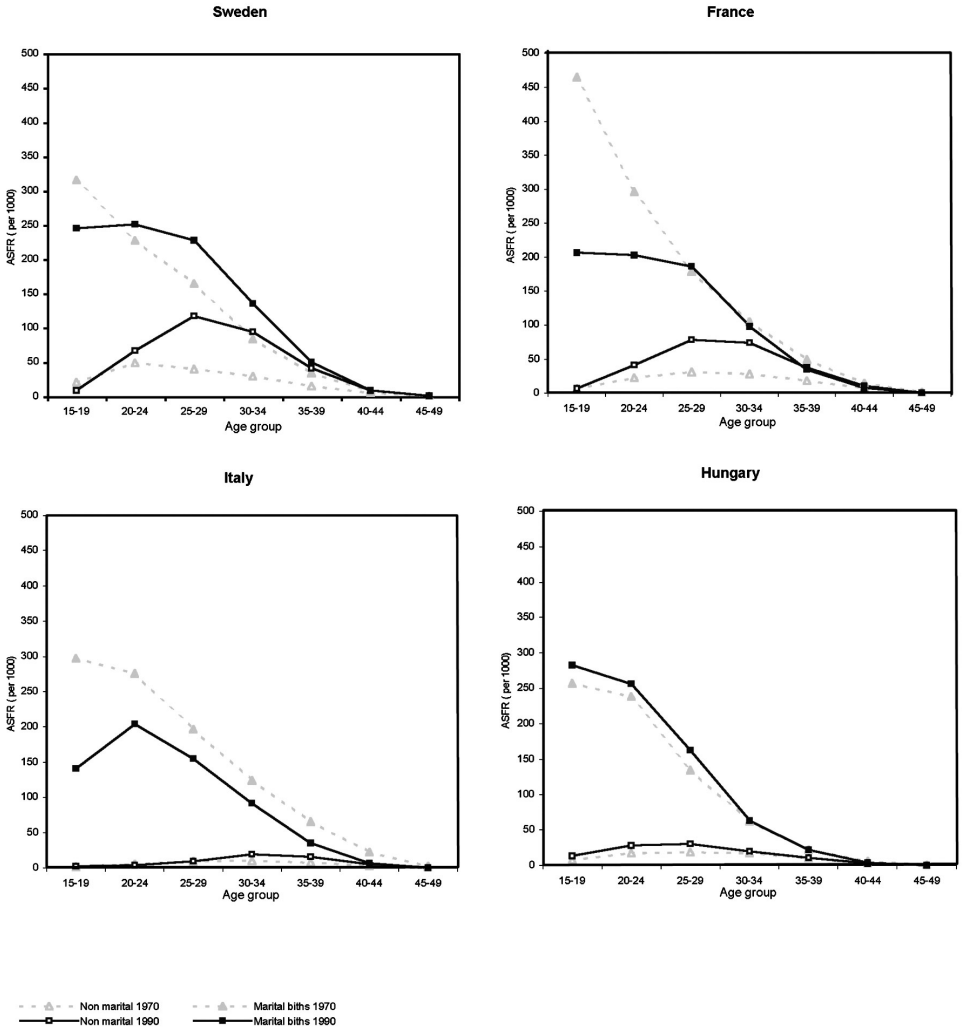
Source: our elaboration on data provided by the Council of Europe.

Figure 4 – Extra-marital births per 100 live births



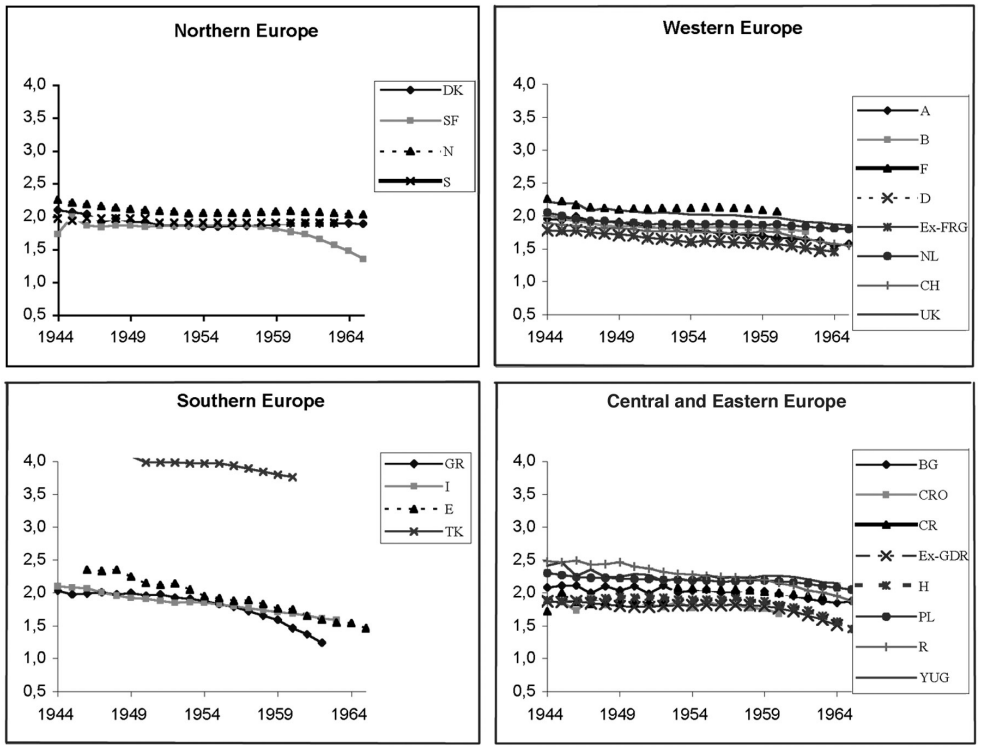
Source: our elaboration on data provided by the Council of Europe.

Figure 5 – Marital and extra-marital fertility rates, 1970 and 1990



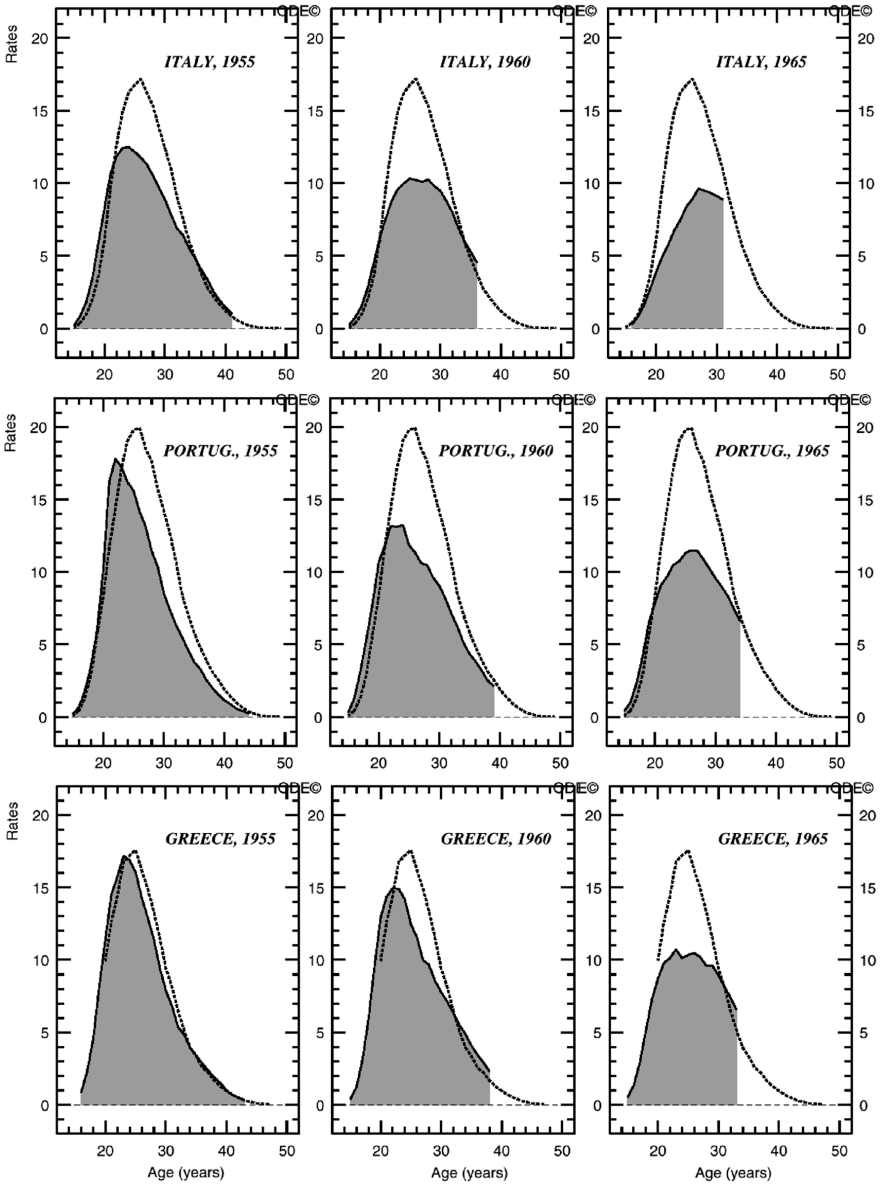
Source : our elaboration on UN and ODE data.

Figure 6 – Completed fertility of female birth cohorts born between 1944 and 1965



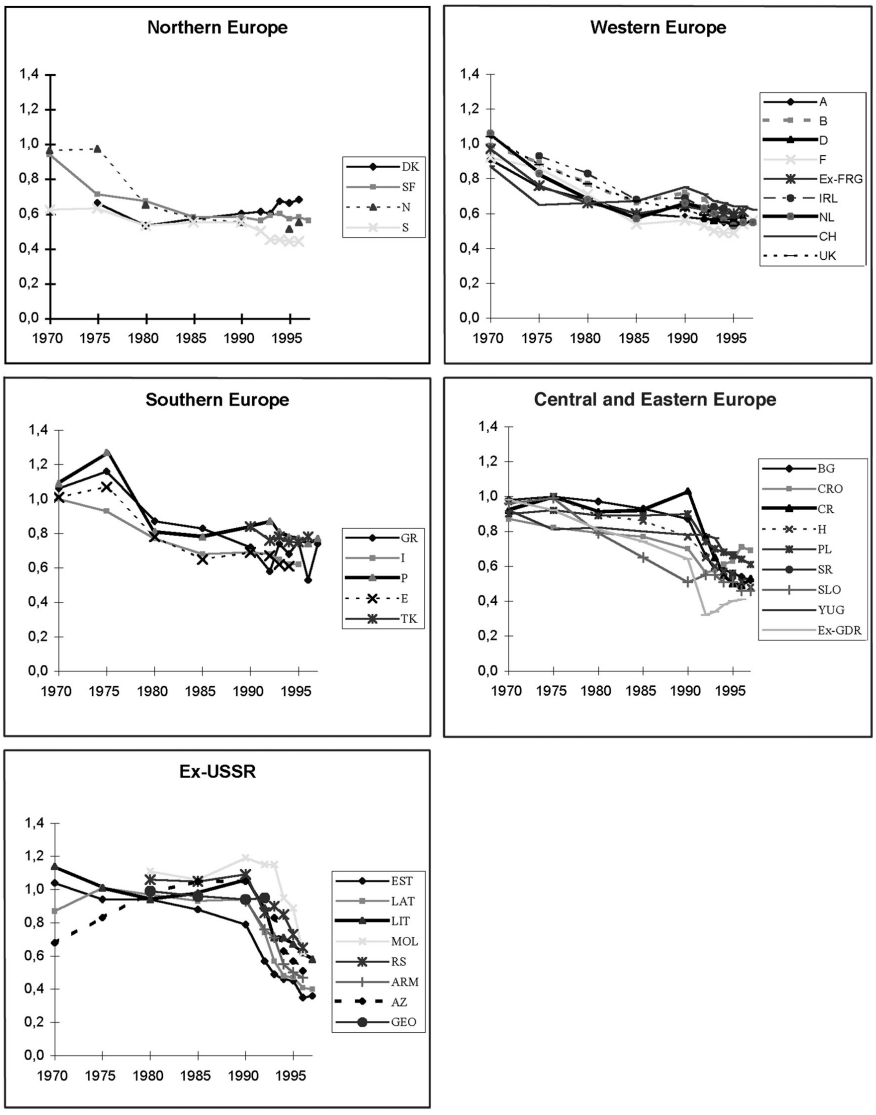
Source : our elaboration on data provided by the Council of Europe.

Figure 7 – Cohort fertility rates in Italy, Portugal, Greece



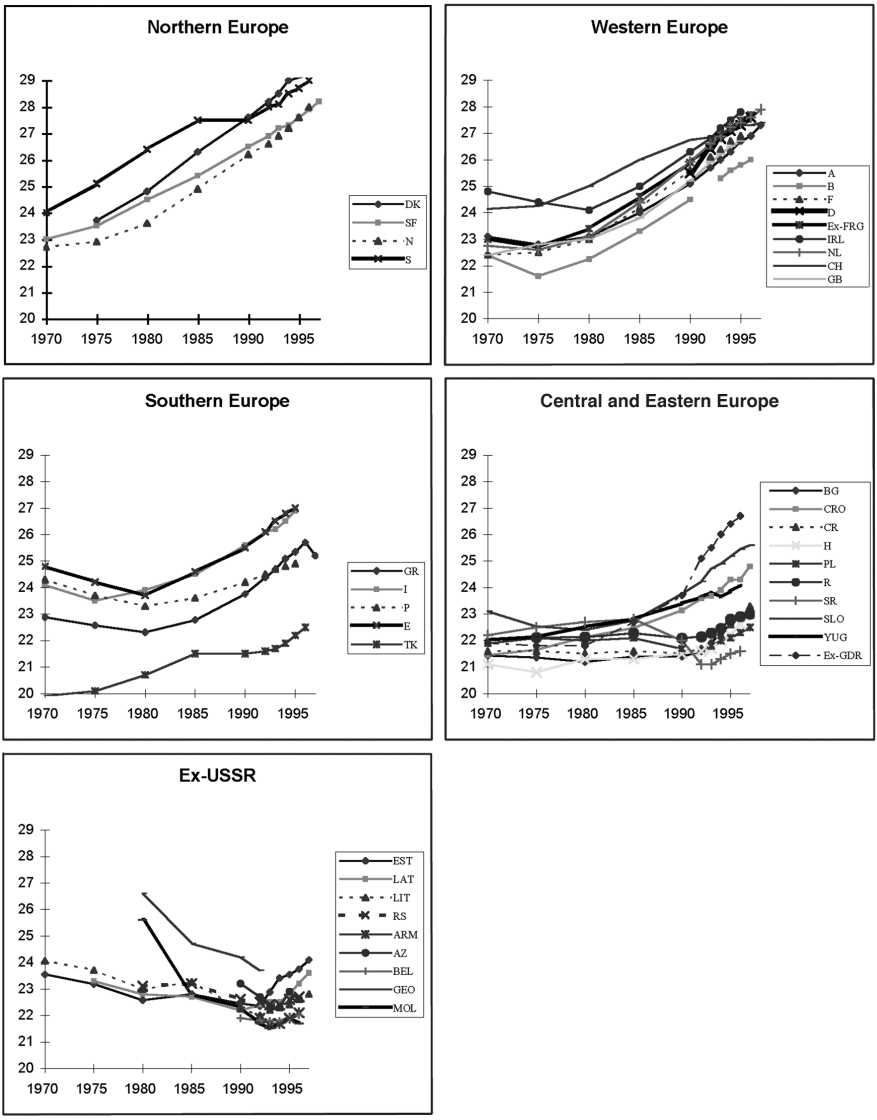
Source : ODE data.
Note : dotted line : 1943 for Italy, 1948 for Portugal, 1951 for Greece.

Figure 8 – Total first marriage rate for females up to age 50



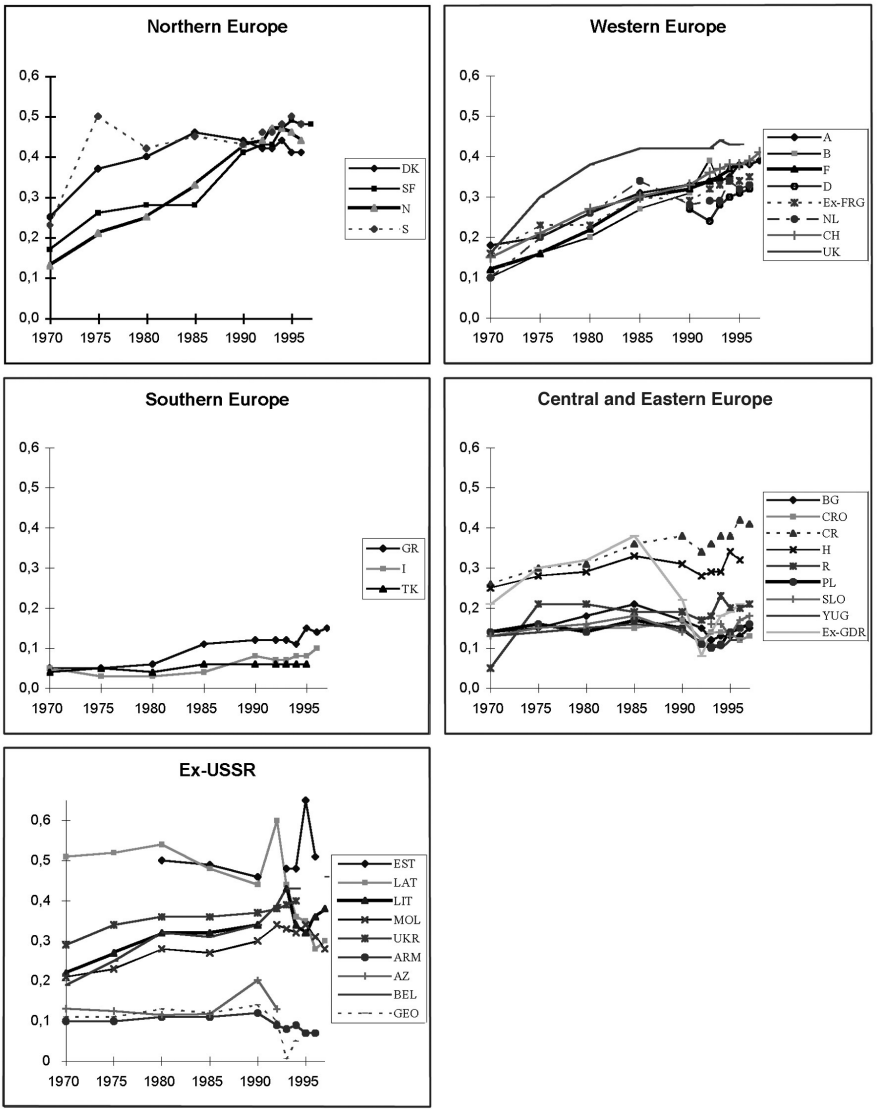
Source: our elaboration on data provided by the Council of Europe.

Figure 9 – Mean age of women at first marriage



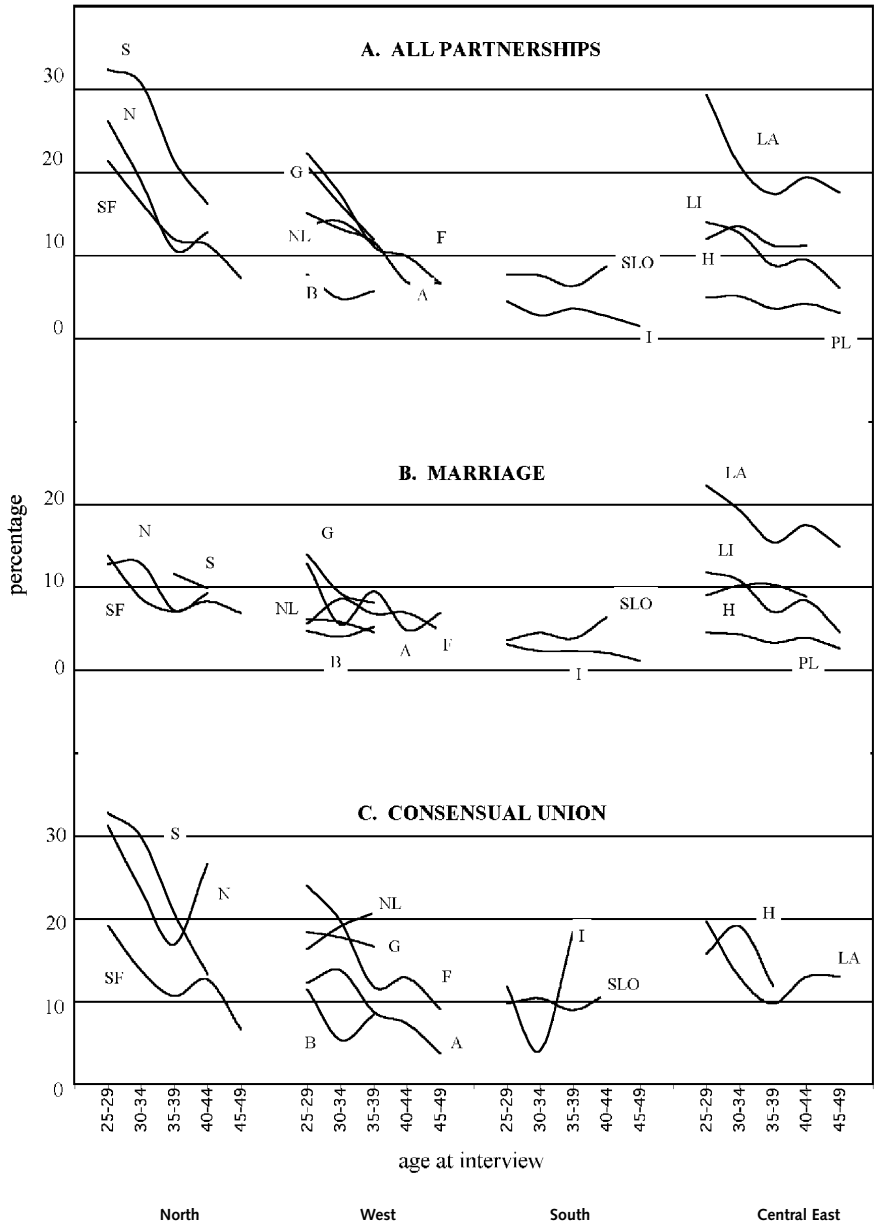
Source: our elaboration on data provided by the Council of Europe.

Figure 10 – Total divorce rate



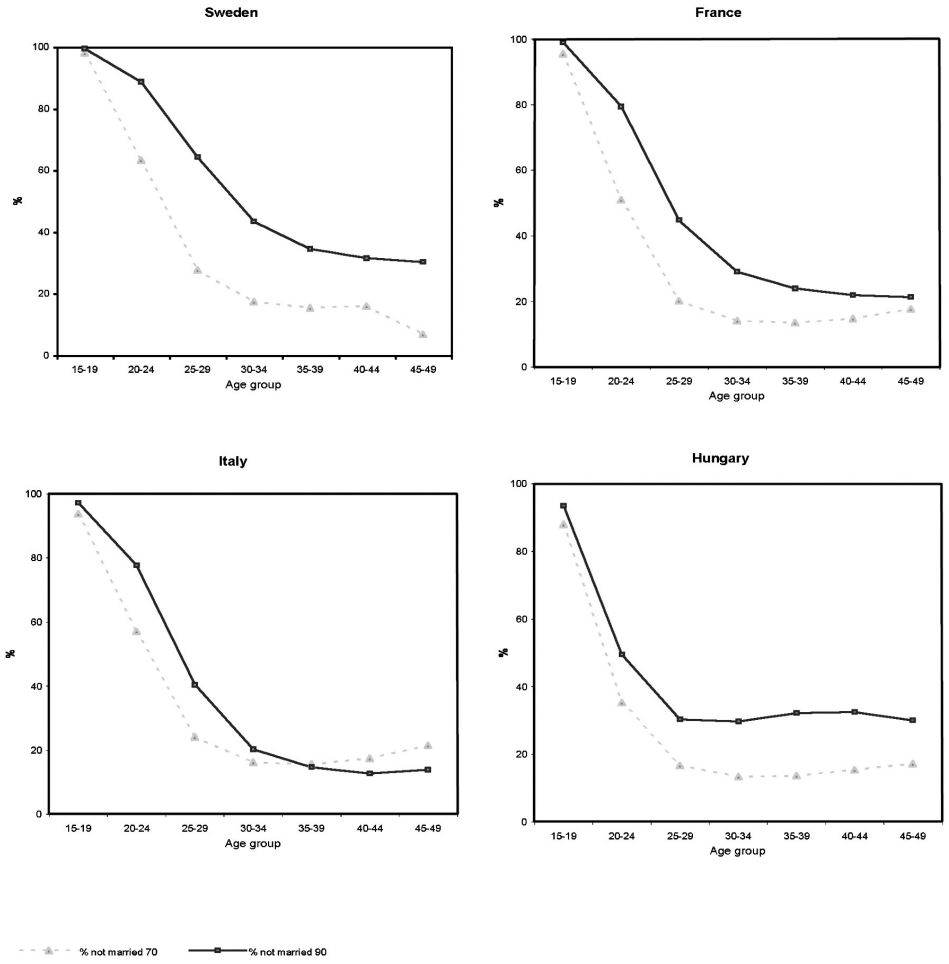
Source: our elaboration on data provided by the Council of Europe.

Figure 11 – Percentage of first partnerships dissolved after 6 years, by type of partnership



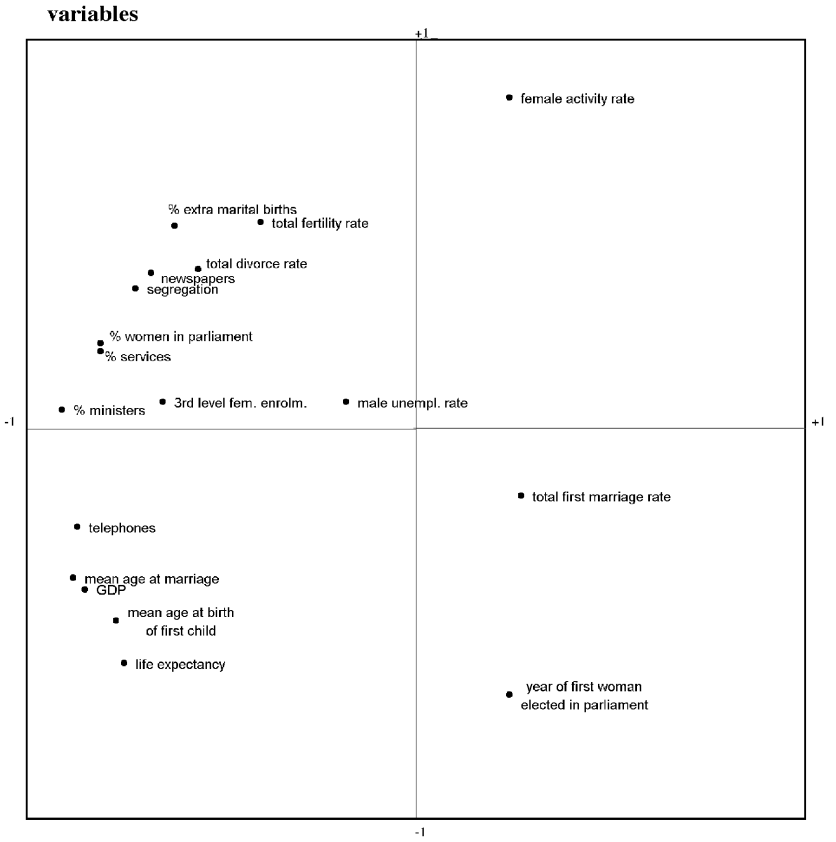
Source: Schoenmaeckers and Lodewijckx, 1997.

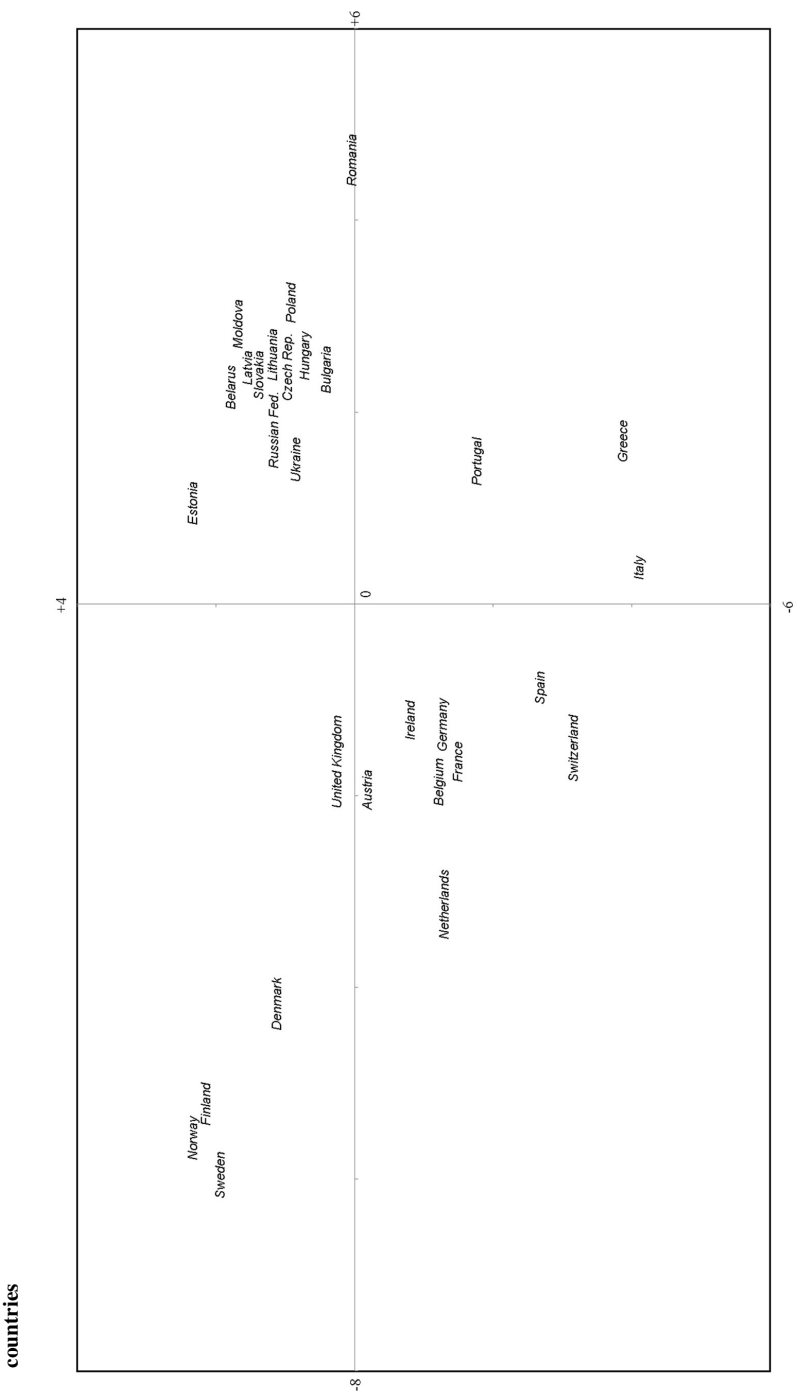
Figure 12 – Percentage of not married women, 1970 and 1990



Source: our elaboration on UN data.

Figure 13 – Principal component factorial analysis on development, gender, fertility, and family behaviour

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-8
+6
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Denmark
United Kingdom
Austria
Ireland
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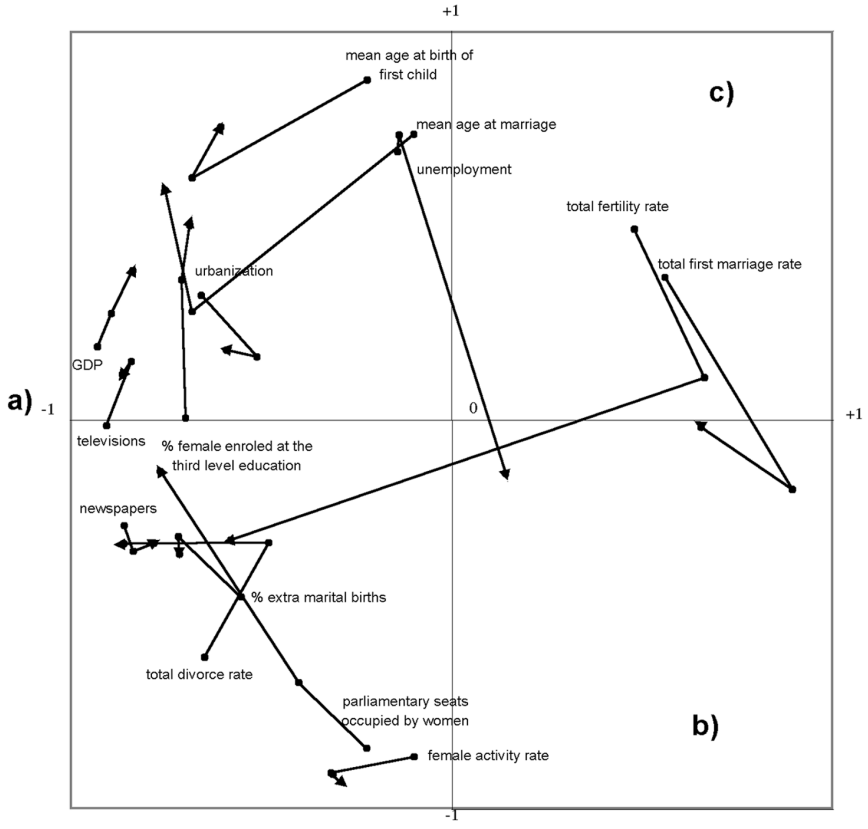
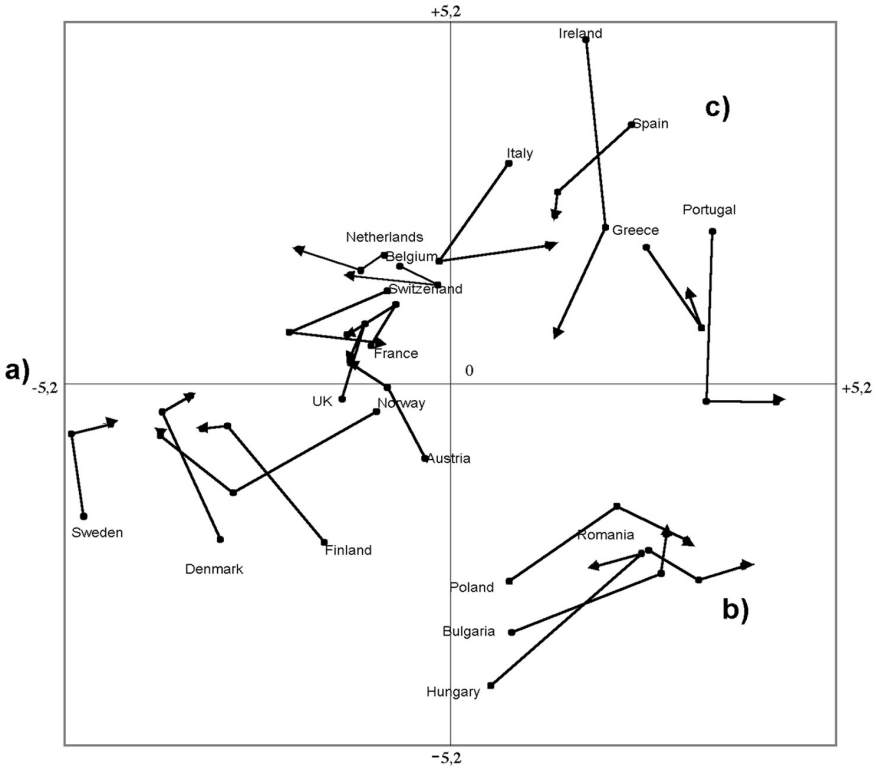
France
Netherlands
Spain
Switzerland
Italy
Estonia
Belarus
Moldova
Latvia
Slovakia
Russian Fed.
Lithuania
Ukraine
Czech Rep.
Poland
Hungary
Bulgaria
Romania
Portugal
Greece

Figure 14 – Multiway analysis on development, gender, fertility, and family behaviour, 1970, 1980, 1994

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France
a)
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UK
Norway
Austria
Sweden
Denmark
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Poland
b)
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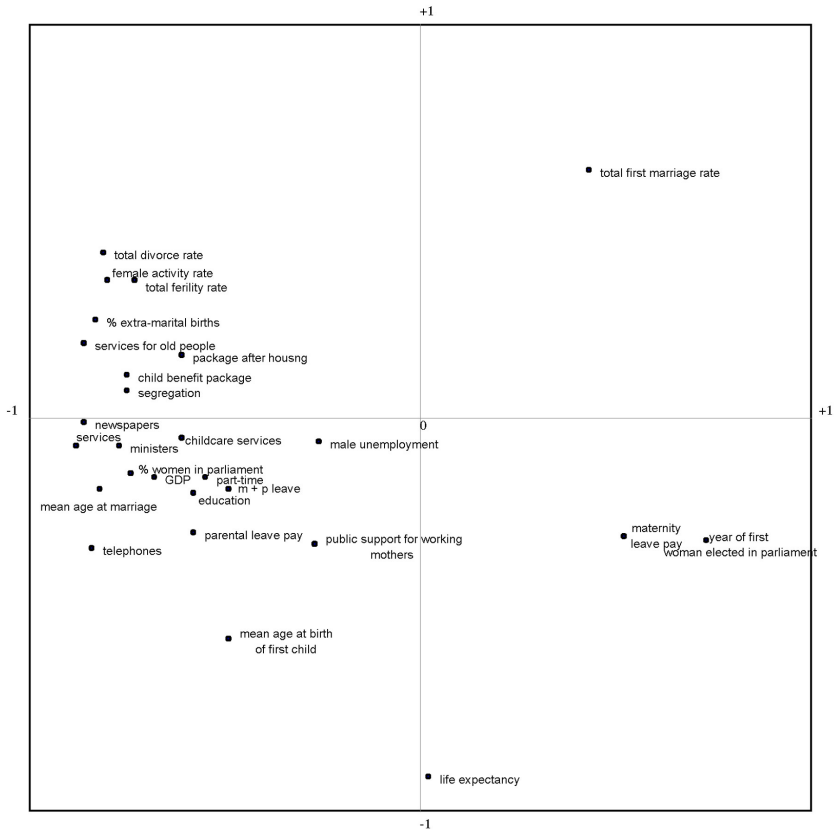
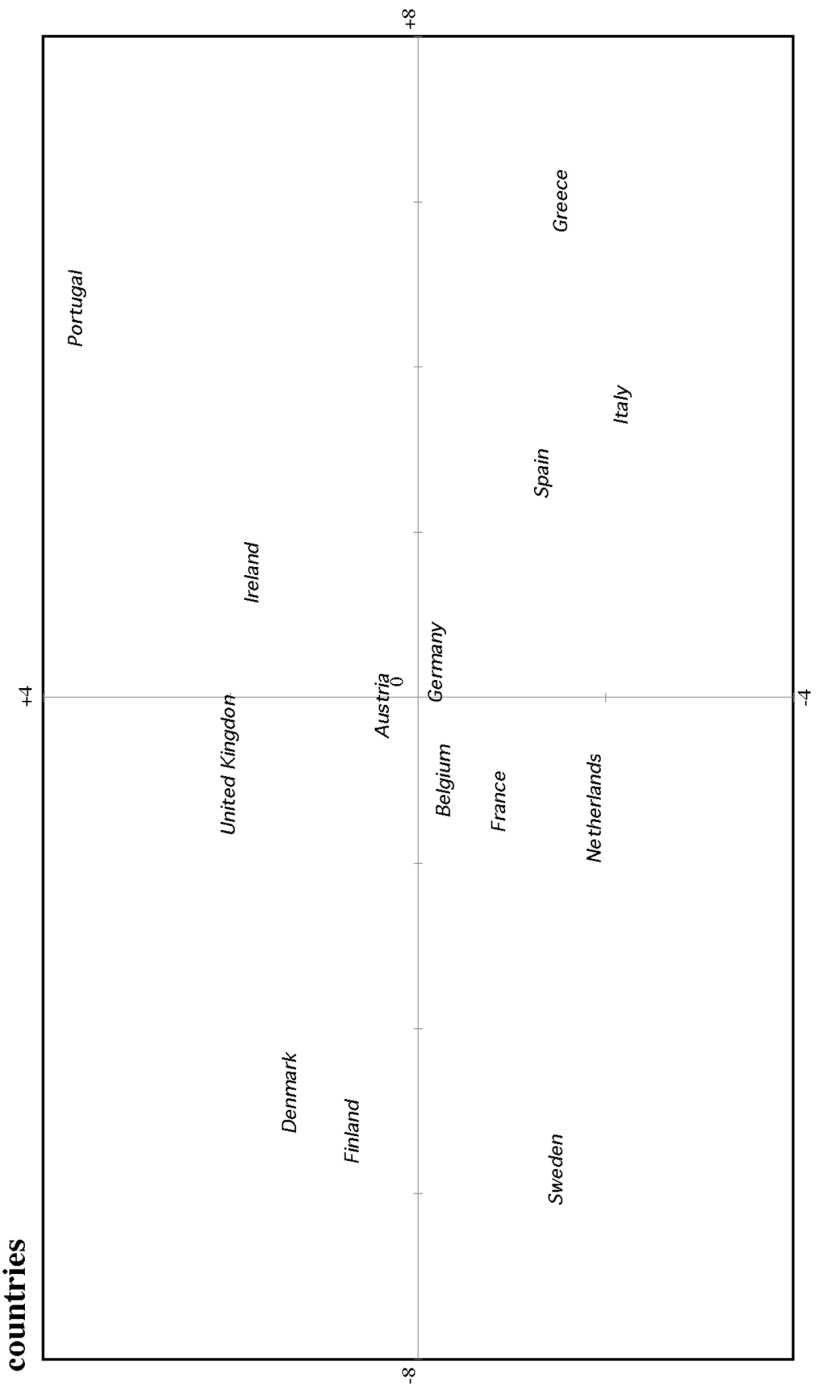
Hungary
−5,2

Figure 15 – Principal component factorial analysis on family policies, development, gender, fertility, and family behaviour

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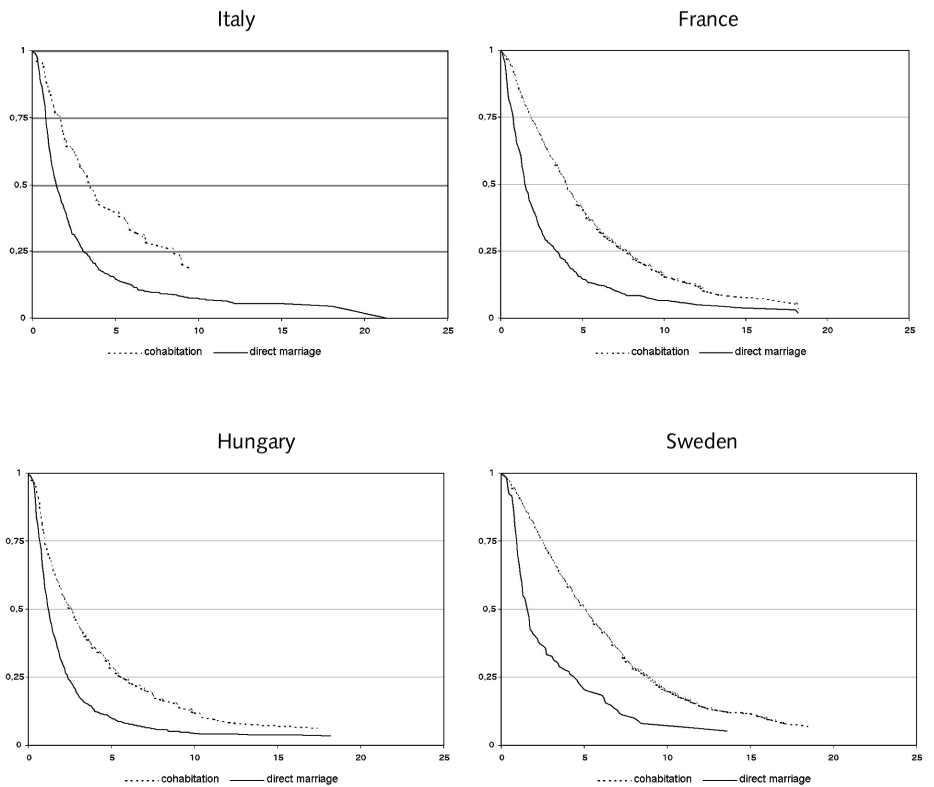
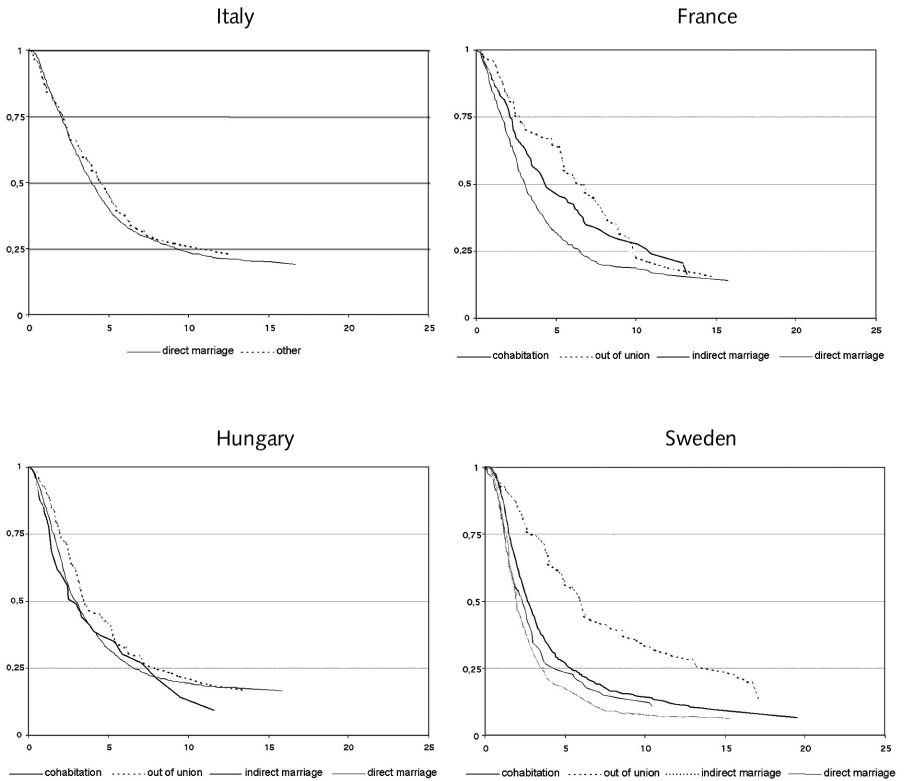
Italy
Spain
Ireland
Germany
Austria
United Kingdon
Belgium
France
Netherlands
Denmark
Finland
Sweden

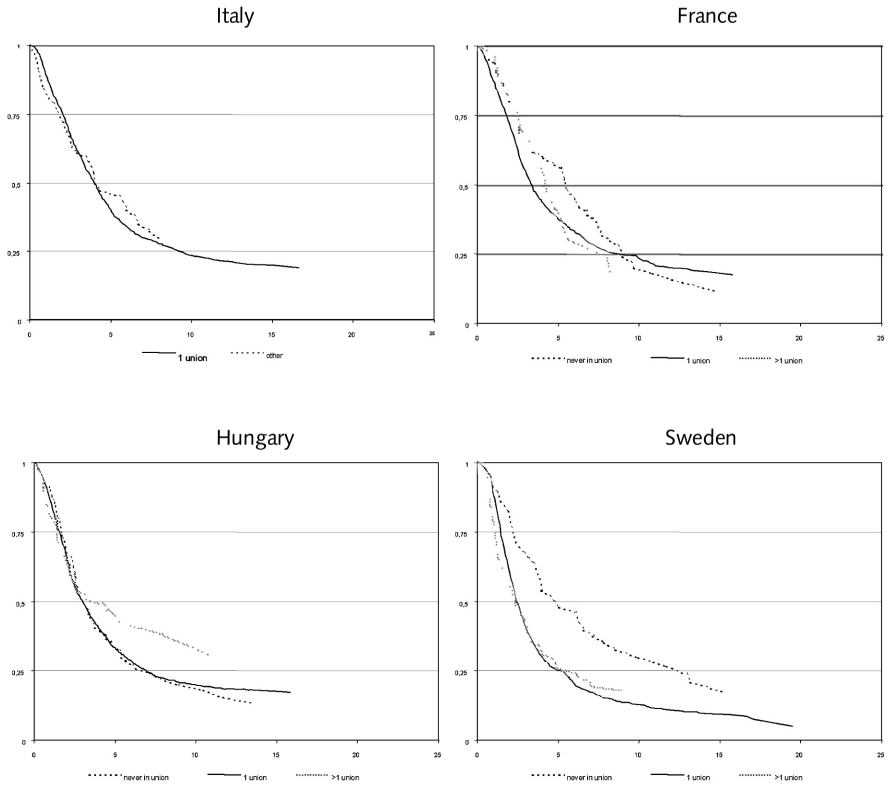
Figure 16 – Probabilities of not having a first, second, third child, according to type and number of unions, by years
First interval : union-birth first child, according to type of union



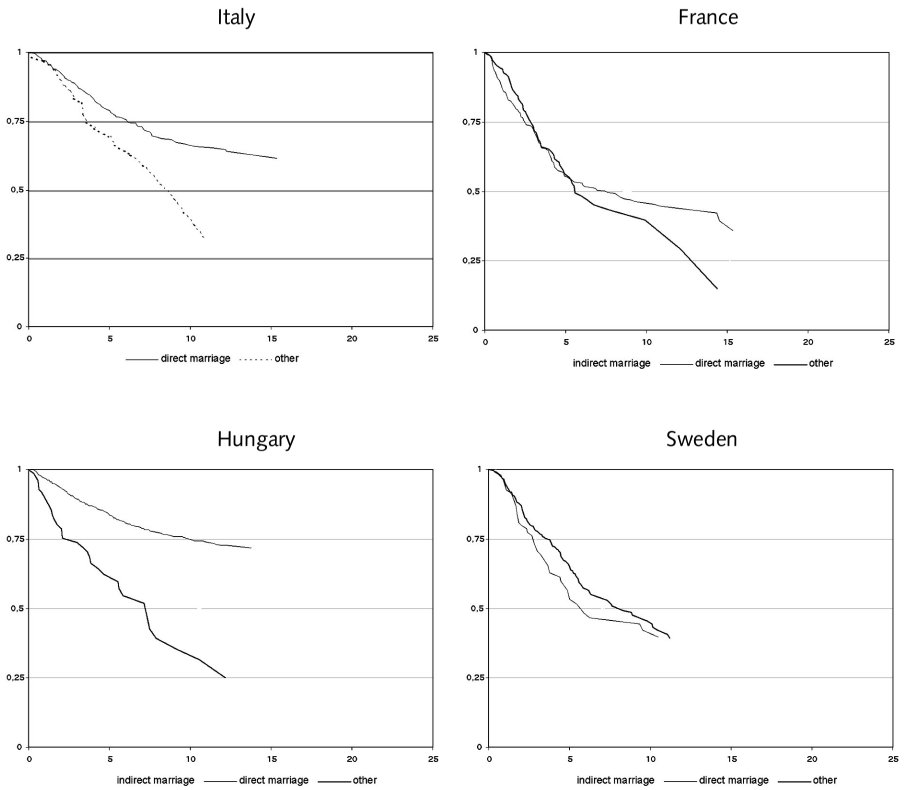
Second interval: birth first child-birth second child, according to type of union, by years



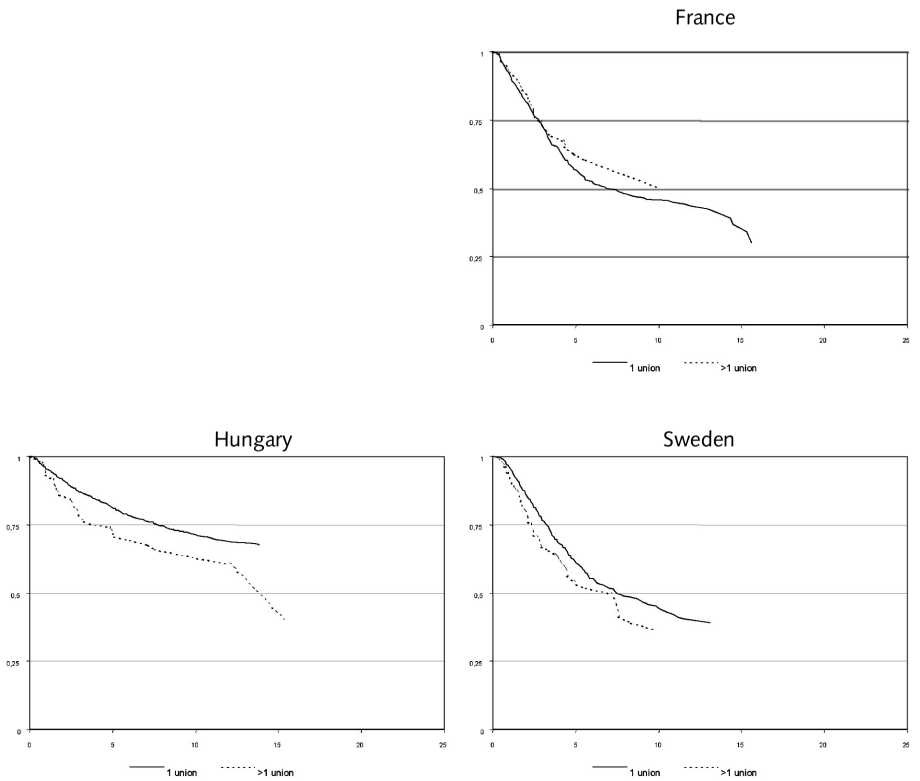
Second interval: birth first child-birth second child, according to number of unions, by years



Third interval : birth second child-birth third child, according to type of union, by years



Third interval : birth second child-birth third child, according to number of unions, by years



Appendices

Appendix 1

Data and methods

Data for the micro analysis

The data used for the micro analysis derives from the FFS (Fertility and Family Survey), conducted in 22 developed countries on the basis of a common core questionnaire, on independent samples of men and women, and coordinated by the PAU (Population Activity Unit) of the UNECE (United Nations Economic Commission for Europe), based in Geneva. The survey was undertaken between 1989 and 1997 and not all the Standard Recode Files were available at the time of study. As for the countries considered in this report, the FFSs were undertaken between October 1992 and March 1993 in Sweden, between January and April 1994 in France, between November 1995 and January 1996 in Italy and between November 1992 and December 1993 in Hungary. The core questionnaire included the collection of information about the history of unions and about the reproductive history of the women interviewed, in addition to information about social and cultural characteristics.

Decomposition of the difference between fertility rates in structure and rates effect

An age specific fertility rate for the age x can be written:

$$r_x = \frac{births_x}{women_x} = \frac{mb_x + \overline{m}b_x}{m_x + \overline{m}_x} = \frac{mb_x}{m_x + \overline{m}_x} + \frac{\overline{m}b_x}{m_x + \overline{m}_x} =$$

$$= \frac{mb_x}{m_x} \cdot \frac{m_x}{m_x + \overline{m}_x} + \frac{\overline{m}b_x}{\overline{m}_x} \cdot \frac{\overline{m}_x}{m_x + \overline{m}_x} = mr_x \cdot \%m_x + \overline{m}r_x \cdot \%\overline{m}_x$$

where

mb_x = marital births
$\overline{m}b_x$ = extra-marital births
m_x = married women
$\overline{m}_x$ = women not currently married
mr_x = age specific marital fertility rate
$\overline{m}r_x$ = age specific extra-marital fertility rate

the difference between two age specific rates is:

$$r_x - r'_x = (mr_x \cdot \%m_x + \overline{m}r_x \cdot \%\overline{m}_x) - (m'r_x \cdot \%m'_x + \overline{m}'r_x \cdot \%\overline{m}'_x) =$$

$$= [(mr_x \cdot \%m_x + \overline{m}r_x \cdot \%\overline{m}_t) \pm mr_x \cdot \%m'_x] - [(m'r_x \cdot \%m'_x + \overline{m}'r_x \cdot \%\overline{m}'_x) \pm \overline{m}r_x \cdot \%\overline{m}_x] =$$

$$= [mr_x (\%m_x - \%m'_x) + \overline{m}r_x (\%\overline{m}_x - \%\overline{m}'_x)] + [\%m'_x (mr_x - m'r_x) + \%\overline{m}'_x (\overline{m}r_x - \overline{m}'r_x)] =$$

[*structure effect* due to the difference in % of married women + *structure effect* due to the difference in % of not married women] + [*rate effect* due to

the difference in marital fertility rate + *rate effect* due to the difference in non marital fertility rate].

The two structure effects and the two rate effects can be summed up to form a global structure effect and rate effect and the effects at different ages can be summed up to form the total effects on the general rate (Santini 1992).

Principal Components Analysis

The basic idea of principal components analysis is to describe the dispersion of an array of n points in p-dimensional space by introducing a new set of orthogonal linear coordinates so that the sample variances of the given points with respect to these derived coordinates are in decreasing order of magnitude. Thus the first principal component is such that the projections of the given points onto it have maximum variance among all possible coordinates; the second principal component has maximum variance subject to being orthogonal to the first; and so on.

If the elements of $\mathbf{y}' = (y_1, y_2, \ldots, y_p)$ denote the *p* coordinates of observation, and the rows of the *n x p* matrix, **Y'**, constitute the *n p*-dimensional observation, the sample mean vector and covariance matrix may be obtained, respectively, from the definitions

$$\bar{\mathbf{y}}' = (\bar{y}_1, \bar{y}_2, \ldots, \bar{y}_p) = \frac{1}{n}\mathbf{1}'\mathbf{Y}',$$

$$\mathbf{S} = (\!(s_{ij})\!) = \frac{1}{n-1}(\mathbf{Y} - \bar{\mathbf{Y}})(\mathbf{Y} - \bar{\mathbf{Y}})',$$

where

1' is a row vector all of whose elements are equal to 1

$\bar{\mathbf{Y}}'$ is an n x p matric each of whose rows is equal to $\bar{y}'$.

The *p x p* sample correlation matrix, **R**, is related to **S** by

$$\mathbf{R} = \mathbf{D}_{1/\sqrt{s_{ii}}} \cdot \mathbf{S} \cdot \mathbf{D}_{1/\sqrt{s_{ii}}}$$

where

$\mathbf{D}_{1/\sqrt{s_{ii}}}$ is a p x p diagonal matrix whose *i*th element is $1/(s_{ii})^{-1/2}$.

Algebrically, the principal components analysis involves finding the eigenvalues and the eigenvectors of the sample covariance matrix. Specifically, for obtaining the first principal component z_1, what is sought is the vectors of coefficients, $\mathbf{a}' = (a_1, a_2, \ldots, a_p)$, such that the linear combination, **a'y**, has maximum sample variance in the class of all linear combination, subject to the normalizing constraint, **a'a** = 1. For a given a, since the sample variance of **a'y** is **a'Sa**, the problem of finding a turns out to be equivalent to determining a nonnull **a** such that the ratio **a'Sa/a'a** is maximized. It is well known that the maximum value of this ratio is the largest eigenvalue, c_1, of **S**, and the required solution for **a** is the eigenvector, $\mathbf{a}_1$, of **S** corresponding to c_1.

After the first principal component has been determined, the next problem is to determine a second normalized linear combination orthogonal to the first and such that, in the class of all normalized linear functions of y orthogonal to $\mathbf{a}_1'\mathbf{y}$, the second principal component has largest variance. At the next stage, one would determine a third normalized linear combination with maximum variance in the class of all normalized linear combinations orthogonal to the first two principal components. The process may be repeated until *p* principal components have been determined (Gnanadesikan 1977).

The principal components may be interpreted thanks to their coefficients of correlation with each variable, and it is possible to represent the variables on a plane consisting of a couple of principal components, by means of the coefficients of correlation of the variables with them. The first two principal components usually extract an important part of the overall variance of the matrix and are sufficient for a synthetic vision of the relations between the variables. A second graph provides the position of the units (the countries in our case) on the plane by means of factor scores. Comparing the graph of the variables with that of the units, we may see the situation which prevails in each country (Lebart *et al.* 1977). The analysis has been performed by the SPAD software.

Multiway factor analysis – Statis Method

Suppose that r statistical studies $\{\mathbf{X}_{..h}, \mathbf{Q}_h, \mathbf{M}\ h \in \mathbf{H}\}$, are available on the same set of units, provided with the same masses M and a semi-definite matrix $\mathbf{Q}_h$, the aim of STATIS is to compare statistical studies giving a graphical representation of the units.

Three different problems may be solved using STATIS:

1) to give an overall comparison of the *r* studies and to recognize similar and dissimilar studies, see a) interstructure analysis;
2) to summarize the *r* studies with a compromise of the views given by studies, see b) compromise;
3) to have a detailed exploration of differences between initial studies, see c) graphical representation.

a) **Interstructure analysis**. Consider the r matrices $\mathbf{W}_h\mathbf{M}=\mathbf{X}_{..h}\mathbf{Q}_h\mathbf{X}'_{..h}$ associated to *r* statistical studies $\{\mathbf{X}_{..h}, \mathbf{Q}_h, \mathbf{M}\ h \in \mathbf{H}\}$, we may use the numerator of the Rv coefficient or the Rv coefficient (Escoufier, 1973):

$$\operatorname{cov}(\mathbf{W}_h\mathbf{M}, \mathbf{W}_m\mathbf{M}) = tr(\mathbf{W}_h\mathbf{M}\mathbf{W}_m\mathbf{M})$$

$$\operatorname{Rv}(\mathbf{W}_h\mathbf{M}, \mathbf{W}_m\mathbf{M}) = \frac{tr(\mathbf{W}_h\mathbf{M}\mathbf{W}_m)}{\sqrt{tr(\mathbf{W}_h\mathbf{M})^2}\sqrt{tr(\mathbf{W}_m\mathbf{M})^2}}$$

as similarity measure between statistical studies. Matrix $\mathbf{C}$ called the *interstructure matrix* with elements $\mathrm{cov}(\mathbf{W}_h\mathbf{M}, \mathbf{W}_m\mathbf{M})$ or $\mathrm{Rv}(\mathbf{W}_h\mathbf{M}, \mathbf{W}_m\mathbf{M})$ is a positive semi-definite matrix. Thus the best *r'*-rank least squares approximation of C is given by the first *r'* elements of the spectral decomposition of $\mathbf{C}=\mathbf{A}\Lambda\mathbf{A}'$.

From this decomposition we can represent the statistical studies as points of the *r'*-dimensional space, with coordinates the *r'* elements of the rows of $A\Lambda^{-1/2}$.

b) **Compromise**. In this phase the matrices $\mathbf{W}_h$ have to be semi-definite positive. Thus a linear combination of the $\mathbf{W}_h$, with positive coefficients, is still semi-definite positive. The compromise matrix is: $\mathbf{WM}=(\sum_h a_h\mathbf{W}_h\mathbf{M}$, i.e., has coefficients equal to the first eigenvector associated to the largest eigenvalue of matrix $\mathbf{C}$. From the Frobenius theorem, this eigenvector has all elements with an equal sign, that may be taken as positive. The compromise matrix accounts for the largest (Rayleigh quotient) sum of squares of the inner product of the initial studies. We can now diagonalize $\mathbf{WM}$, giving the representation of *n* points associated to this "*hidden study*". The plot of the *n* points in a *k'*-dimensional space can be given by the elements of the spectral decomposition of $\mathbf{WM}=\mathbf{B}\Gamma\mathbf{B}'$, i.e., the coordinates are the *k'* values of the rows of $\mathbf{B}\Gamma^{-1/2}$. The compromise matrix is not a representative synthesis of the three-way matrix $\{\mathbf{W}_h\mathbf{M}\ h\in\mathbf{H}\}$, since it does not satisfy the internality property. However is an optimal matrix since represents the 1-rank best squares approximation of $\mathbf{X}$. Sometimes the compromise matrix does not account for a large part of the Rayleigh quotient, thus the associated representation of the initial studies may be poor. On the other hand when the compromise matrix accounts for almost all of the Rayleigh quotient, the arithmetic mean matrix of $\mathbf{W}_h\mathbf{M}\ h\in\mathbf{H}$, gives similar results to the compromise, since the first eigenvector of $\mathbf{C}$ has all values almost equal.

c) **Graphical representation**. When occasions may be ranked, the units may be connected forming trajectories in a *k* dimensional space. These are represented in a unique space spanned by the first eigenvectors of the compromise matrix (Rizzi 1995).

The package used for the analysis is ACT-STATIS (*Analyse Conjointe des Tableaux-Structuration des Tableaux à trois indices de la Statistique*, Lavit 1985; Lavit *et al.* 1994).

Mixture models for the analysis of birth histories

Most event history models (such as discrete-time logit and log-rate, continuous parametric hazard rate, accelerated failure, etc.) implicitly assume that

the event of interest would eventually occur to everyone. This assumption is true for death, but it is unrealistic for many other events, such as the birth of a child. Some others traditional event history models (such as Cox's proportional hazards model) are compatible with the possibility that the event of interest would not occur, but they have some difficulty in interpreting the results, because they do not distinguish between the probability to experience the event and the waiting time to the event (Farewell 1982 ; Yamaguchi 1992). Mixture models permit this distinction, allowing the simultaneous estimation of the separate effects of covariates on the probability and the timing of the event. For the analysis of birth histories this means the possibility to distinguish the determinants of birth stopping from those of birth spacing (Yamaguchi *et al.* 1995). To do this mixture models combine a logistic regression of the probability of occurrence of the event with a survival model for duration (given that the event occurs).

Various survival models have been proposed to estimate the (separate) effects of the explanatory variables on the timing of the event. Following McDonald and Rosina (1998), for our analysis we have chosen a logistic-geometric piecewise discrete-time model. We have used a Bayesian approach based on Gibbs sampling (a Monte Carlo Markov Chain method) to estimate our model. The priors for the regression effect parameters were independent N(0,0.0001) distributions, where the second parameter of the normal distribution is the precision (i.e. the reciprocal of the variance). Estimation of the model was carried out using BUGS (Spiegelhalter *et al.* 1995). A burn-in of 1000 iteration was used and inference was based on a sample of 5,000 observation from the posterior distribution.

We consider "significant" (even though this term is not appropriate in the Bayesian approach) only the parameters with the posterior distribution not containing 0 between 2,5° and 97,5° percentage points. In the tables we present the mean of the posterior distribution of the parameters estimates.

Hazards model with time dependent covariates

To model the effect of the partnership history on the reproductive behavior in a very simplified manner, we applied, separately for each of the first three birth intervals, an extension of the widely used proportional hazards model, which takes into account changes in time of some explanatory variables (Cox *et al.* 1984)

$$h(t;z, z'(t))=h_0(t)*w(z, z'(t);ß, ß')$$

where $h_0(t)$ is the baseline hazard function left completely unspecified, z is the vector of the explanatory variables that does not change over time for

any individuals and z′(t) is the vector of the time varying covariates. The parametrisation chosen of w(z, z′(t) ; ß, ß′) is the log linear form

$$w(z, z'(t) ; ß, ß') = \exp(ßz + ß'z')$$

It is immediate to note that when z=0 and z′(t)=0 $h(t ; z, z'(t))=h_0(t)$.

Following a causal approach (Blossfeld *et al.* 1995), time-dependent covariate have been chosen in order to represent any relevant change in time of the partnership status, that makes the unit under study to be exposed to another causal condition since the change occurred. These changes were included as a series of time dependent dummy variables. Number and definition of these covariates vary according to the country observed and birth order. In practice, only the first two changes in union condition proved to have some influence on the birth intervals length.

As our time dependent covariates change their values only at some discrete points of time, to include them into hazard rates we used a method called "episode splitting" (Blossfeld *et al.* 1989). At each time where the covariate changes its value, the original episode is split into two parts. The first split has the value of the covariate before the change, the second after. The last split has the same ending time and the same exit status as the original episode. All other splits are regarded as right censored.

Model estimation can then be done with these splitted episodes, if in the calculation of the partial likelihood the different starting and ending times of the splits are explicitly taken into account.This method proved to be much efficient and very little time consuming.

Calculation and estimates have been done with the computer program TDA ver.5.2 (Rohwer 1994).

Table 1 – Matrix of data for the principal component factorial analysis, 29 countries

Countries	3rd lev. female enrolment	female activity rate	male unemployment rate	% women in parliament	% ministers	year of 1st woman elected in parliament	female mean age at marriage	total divorce rate	% extra marital births	total fertility rate
Austria	41.8	45	4.1	21	15.8	1919	26.3	0.35	26.8	1.44
Belarus	43.8	59	0.9	4	3.2	1922	21.7	0.43	12.1	1.57
Belgium	39.6	33	6.1	9	11.1	1921	28.3	0.33	15.9	1.55
Bulgaria	38.7	60		13	0.0	1945	22.3	0.13	24.5	1.37
Czech Rep.	17.8	62	3.1	10	0.0	1920	22.2	0.38	14.6	1.44
Denmark	47.1	59	7.1	33	29.2	1918	29.2	0.44	46.9	1.81
Estonia	25.0	59	7.8	14	15.0	1922	23.4	0.46	40.9	1.37
Finland	68.5	57	19.4	39	38.9	1906	27.3	0.47	31.3	1.85
France	55.4	44	10.0	6	6.9	1945	26.7	0.37	36.1	1.65
Germany	29.7	45	8.7	21	16.0	1919	27.1	0.30	15.4	1.24
Greece	40.9	25	6.4	6	4.0	1952	25.1	0.11	2.9	1.36
Hungary	18.2	48	13.5	11	0.0	1945	22.0	0.29	19.4	1.64
Ireland	36.1	31	9.5	12	15.8		26.8		20.7	1.86
Italy	38.8	30	7.6	15	12.0	1946	26.5	0.08	7.7	1.22
Latvia	24.7	58	5.2	15	0.0	1922	22.5	0.36	26.4	1.39
Lithuania	31.6	56	3.8	7	0.0	1922	22.3	0.30	10.8	1.54
Moldova		65		5	0.0	1922	21.7	0.32	12.3	1.95
Netherlands	44.4	31	5.2	31	31.3	1918	27.2	0.34	14.3	1.57
Norway	59.9	52	6.6	39	35.0	1911	26.9	0.48	45.9	1.87
Poland	31.9	57	13.6	13	6.7	1919	22.0	0.12	9.0	1.80
Portugal	30.9	39	4.6	9	9.5	1934	24.8		17.8	1.44
Romania	12.3	54	7.7	4	0.0		22.4	0.23	18.3	1.41
Russian Fed.	50.2	55	5.6	10	0.0	1922	22.4		19.6	1.40
Slovak Rep.	17.0	62	14.2	18	4.8	1920	21.3	0.00	11.7	1.66
Spain	46.2	22	19.0	16	14.3	1931	26.8		10.8	1.21
Sweden	44.9	55	9.7	34	30.0	1921	28.5	0.48	51.6	1.89
Switzerland	23.0	43	3.0	18	16.7	1971	27.2	0.38	6.4	1.49
U.K.	41.9	46	12.2	9	8.7	1919	26.5	0.43	32.0	1.74
Ukraine	46.9	52		4	0.0	1922		0.40	12.8	1.50

Countries	%women working in service	segregation	GDP	newspapers	telephones	expectancy life	mean age at birth of first child	total first marriage rate
Austria	0.34	0.35	19115	40	43.2	76.3	26.7	0.56
Belarus			4244		16.3	69.7	22.4	
Belgium	0.48	0.32	19540	31	41.0	76.5	26.8	0.57
Bulgaria			4320	16	24.6	71.2	22.4	0.54
Czech Rep.	0.30	0.24	8430			71.3	23.3	0.55
Denmark	0.53	0.31	20200	33	57.7	75.3	27.5	0.68
Estonia	0.34	0.29	3610		21.0	69.2	23.2	0.35
Finland	0.48	0.34	16320	52	54.4	75.8	27.6	0.57
France			19140	21	51.1	77.0	27.9	0.55
Germany	0.40	0.30	18840	33	42.0	76.1	27.8	0.57
Greece	0.28	0.21	8950	14	41.3	77.7	26.4	0.55
Hungary	0.39	0.27	6059	28	10.7	69.0	22.9	0.56
Ireland	0.41	0.34	15120	19	30.0	75.4	27.0	0.63
Italy	0.39	0.20	18160	11	40.0	77.6	27.5	0.62
Latvia	0.30	0.26	5010	19	23.9	69.0	23.1	0.41
Lithuania			3110	22	21.6	70.3	22.7	0.62
Moldova			2370	5	11.3	67.6		0.89
Netherlands	0.49	0.29	17340	30	47.7	77.5	28.6	0.55
Norway	0.54	0.34	20370	61	51.5	77.0	26.7	0.55
Poland	0.31	0.23	4702	16	9.3	71.1	22.9	0.66
Portugal	0.36	0.23	10720	5	27.3	74.7	25.8	0.78
Romania	0.15	0.16	3727	32	10.5	69.9	22.9	0.73
Russian Fed.			4760		15.0	67.4		0.73
Slovak Rep.	0.36	0.30	5620			70.9	22.1	0.54
Spain	0.38	0.32	13660	11	34.0	77.7	27.2	0.61
Sweden	0.59	0.39	17900	51	68.7	78.3	27.3	0.44
Switzerland	0.38	0.28	22720	39	60.3	78.1	28.1	0.64
U.K.			17230	38	44.5	76.3	26.7	0.55
Ukraine			3250		15.6	69.3		

Table 2. Matrix of data for the multiway analysis, 1970, 1980, 1994

1970

Countries	1	2	3	4	5	6	7	8	9	10	11
Austria	2.29	12.8	0.91	23.1	0.18	23.9	803	53.2	0.9	8	2510
Belgium	2.25	2.8	0.99	22.4	0.10	24.3	1296	38.4	4.5	7	3330
Bulgaria	2.17	9.3	0.98	21.7	0.14	22.0	1170	72.4	0.0	19	1000
Denmark	1.95	11.0	0.66	22.8	0.25	23.7	1544	55.4	1.1	16	3980
Finland	1.83	5.8	0.94	23.0	0.17	23.0	1298	63.5	3.1	23	2900
France	2.47	6.8	0.92	22.4	0.12	23.8	1581	49.7	2.7	2	3490
Greece	2.34	1.1	1.06	22.9	0.05	24.0	976	29.0	2.0	2	1460
Hungary	1.97	5.4	0.97	21.1	0.25	22.2	778	60.6	0.0	29	1500
Ireland	3.93	2.7	0.93	24.8	0.00	25.3	966	33.4	8.1	3	1710
Italy	2.42	2.2	1.00	24.1	0.05	25.1	1283	35.1	4.6	4	2380
Netherlands	2.57	2.1	1.06	22.8	0.10	24.3	1774	31.4	3.0	9	3290
Norway	2.50	6.9	0.96	22.7	0.13	23.6	1292	38.2	1.4	16	3550
Poland	2.20	5.0	0.90	21.9	0.14	22.5	1218	69.1	0.0	16	1000
Portugal	2.83	7.2	1.09	24.3	0.00	24.4	581	26.5	1.3	8	940
Romania	2.89	3.5	0.84	21.5	0.05	22.2	746	71.6	0.0	15	500
Spain	2.85	1.3	1.01	24.7	0.00	24.5	666	21.0	2.5	3	1430
Sweden	1.92	18.4	0.62	24.0	0.23	24.5	1756	52.5	2.5	21	4960
Switzerland	2.10	3.8	0.87	24.2	0.15	25.1	821	47.8	0.4	8	4390
U.K.	2.43	8.0	1.04	22.4	0.16	23.5	1084	53.6	5.1	4	2730

Legend: 1 - total fertility rate, 2 - % extra marital births, 3 – total first marriage rate, 4 – mean age at first marriage, 5 – total divorce rate, 6 – mean age at birth of the first child, 7 - % female enroled at third level education, 8 – female activity rate, 9 – male unemployment, 10 - % parliamentary seats occupied by women, 11 – GDP, 12 – urbanisation, 13 – newspapers, 14 – televisions.

1980

Countries	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Austria	1.65	17.8	0.68	23.1	0.26	24.6	1811	57.1	3.8	11	9790	56	35	30
Belgium	1.68	4.1	0.77	22.3	0.20	24.5	2111	43.8	8.2	8	10480	89	23	30
Bulgaria	2.05	10.9	0.97	21.7	0.18	21.9	1144	74.8	0.0	21	2450	67	25	19
Denmark	1.55	33.2	0.53	24.8	0.40	24.6	2074	74.5	9.7	29	12110	85	37	36
Finland	1.63	13.1	0.67	24.5	0.28	24.5	2577	70.7	5.5	32	11350	60	50	41
France	1.95	11.4	0.71	23.0	0.22	24.9	2005	55.6	6.0	6	11880	80	19	35
Greece	2.21	1.5	0.87	22.3	0.06	23.3	1256	30.0	4.8	4	4320	64	12	16
Hungary	1.91	7.1	0.89	21.3	0.29	22.4	944	67.9	0.0	21	2220	55	25	26
Ireland	3.23	5.0	0.83	24.1	0.00	24.9	1610	36.0	15.3	8	5520	56	23	23
Italy	1.64	4.3	0.77	24.1	0.03	25.1	1981	38.8	6.1	13	7900	71	8	39
Netherlands	1.60	4.1	0.68	23.1	0.25	25.6	2544	38.3	10.1	20	11130	52	33	30
Norway	1.72	14.5	0.65	23.6	1.62	25.2	1937	63.5	2.3	34	14390	55	46	29
Poland	2.25	4.7	0.89	22.5	0.26	23.0	1656	69.6	0.0	20	1520	59	24	22
Portugal	2.19	9.2	0.81	23.3	0.14	23.6	944	48.4	3.7	8	2500	30	5	14
Romania	2.43	2.8	0.87	22.0	0.21	22.6	868	73.0	0.0	34	750	51	18	17
Spain	2.18	3.9	0.78	23.4	0.00	24.6	1859	26.2	14.9	6	5340	76	9	25
Sweden	1.68	39.7	0.53	26.4	0.42	25.5	1985	71.2	3.0	31	14280	85	53	38
Switzerland	1.55	4.7	0.66	25.2	0.27	26.4	1346	54.0	0.4	14	17040	59	39	36
U.K.	1.90	11.5	0.77	23.0	0.38	24.5	1468	59.6	13.1	6	9790	91	42	40

Legend: 1 - total fertility rate, 2 - % extra marital births, 3 – total first marriage rate, 4 – mean age at first marriage, 5 – total divorce rate, 6 – mean age at birth of the first child, 7 - % female enroled at third level education, 8 – female activity rate, 9 – male unemployment, 10 - % parliamentary seats occupied by women, 11 – GDP, 12 – urbanisation, 13 – newspapers, 14 – televisions.

1994

Countries	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Austria	1.44	26.8	0.55	26.3	0.35	26.5	2511	59.4	5.7	21	22380	55	40	48
Belgium	1.55	15.9	0.58	28.3	0.33	26.8	2566	45.9	8.1	10	20880	97	31	45
Bulgaria	1.37	24.5	0.58	22.3	0.13	22.3	1515	75.3	15.3	13	1330	69	16	26
Denmark	1.81	46.9	0.67	29.2	0.44	27.3	2314	77.0	10.0	33	26000	85	33	54
Finland	1.85	31.3	0.60	27.3	0.47	27.3	2831	75.8	15.2	39	21970	62	52	51
France	1.65	36.1	0.49	26.7	0.37	27.9	2395	57.6	8.3	6	22260	73	21	41
Greece	1.36	2.9	0.68	25.1	0.11	26.1	1987	31.4	5.4	6	7290	64	14	20
Hungary	1.64	19.4	0.57	22.0	0.29	22.6	935	72.0	14.0	11	2970	63	28	41
Ireland	1.86	20.7	0.63	26.8	0.00	26.8	1979	39.0	17.3	12	12210	57	19	30
Italy	1.22	7.3	0.62	26.5	0.08	27.5	1995	40.2	8.1	13	20460	67	11	42
Netherlands	1.57	14.3	0.56	27.2	0.34	28.4	2749	39.3	4.9	29	20480	89	30	49
Norway	1.87	45.9	0.55	26.9	0.48	26.3	2730	67.2	5.4	39	25820	73	61	42
Poland	1.80	9.0	0.68	22.0	0.12	22.7	1221	72.8	11.9	13	1910	63	16	30
Portugal	1.44	17.8	0.78	24.8	0.00	25.4	1020	52.5	3.4	9	7450	34	5	19
Romania	1.41	18.3	0.74	22.4	0.23	22.5	703	74.6	6.2	3	1130	54	32	20
Spain	1.21	10.8	0.61	26.8	0.00	27.2	2542	28.3	14.3	15	13970	76	11	40
Sweden	1.89	51.6	0.45	28.5	0.48	27.2	2209	74.0	6.3	34	27010	83	51	47
Switzerland	1.46	6.4	0.66	27.2	0.38	28.3	1874	53.4	2.3	16	36080	60	39	41
U.K.	1.74	32.0	0.55	26.5	0.43	26.5	1880	59.3	11.5	7	17790	89	38	44

Legend: 1 - total fertility rate, 2 - % extra marital births, 3 – total first marriage rate, 4 – mean age at first marriage, 5 – total divorce rate, 6 – mean age at birth of the first child, 7 - % female enroled at third level education, 8 – female activity rate, 9 – male unemployment, 10 - % parliamentary seats occupied by women, 11 – GDP, 12 – urbanisation, 13 – newspapers, 14 – televisions.

Table 3 – Matrix of data for the principal component factorial analysis on 14 countries

Countries	child benefit package	package after housing	childcare services (0-3 years)	maternity + parental leave in months	maternity leave pay	parental leave pay	public support for working mothers	part-time	services for old people	3rd lev. female enrolment	female activity rate	male unemployment rate
Austria	4	4	3	4	7	4		26.9	3.0	41.8	45	4.09
Belgium	5	5	6	4	6	4	6	29.8	6.0	39.6	33	6.10
Denmark	4	4	7	4	4	4	6	35.5	17.0	47.1	59	7.09
Finland	4	5	4	6	6	5		15.8	24.0	68.5	57	19.38
France	4	6	5	6	6	4	4	28.9	7.0	55.4	44	10.00
Germany	4	4	3	6	7	3	2	33.8	3.0	29.7	45	8.70
Greece	2	2	3	2	7	2	5	8.4	0.0	40.9	25	6.39
Ireland	4	3	3	2	6	2	4	23.1	3.0	36.1	31	9.49
Italy	2	3	4	2	6	5	4	12.7	1.3	38.8	30	7.60
Netherlands	4	4	4	4	7	2	4	67.3	8.0	44.4	31	5.21
Portugal	2	4	4	4	7	2	2	11.6	1.5	30.9	39	4.61
Spain	2	3	3	6	7	2	4	16.6	1.0	46.2	22	18.96
Sweden	4	4	6	6	5	5		43	13.0	44.9	55	9.71
U.K.	4	4	3	2	3	2	3	44.3	13.0	41.9	46	12.15

Countries	% women in parliament	% ministers	year of 1st woman elected in parliament	female mean age at marriage	total divorce rate	% extra marital births	Total fertility rate	% women working in services	segregation	GDP	newspapers	telephones	expectancy life	mean age at birth of 1st child	total first marriage rate
Austria	21	15.8	1919	26.3	0.35	26.8	1.44	0.34	0.35	19115	40	43.2	76.3	26.7	0.56
Belgium	9	11.1	1921	28.3	0.33	15.9	1.55	0.48	0.32	19540	31	41.0	76.5	26.8	0.57
Denmark	33	29.2	1918	29.2	0.44	46.9	1.81	0.53	0.31	20200	33	57.7	75.3	27.5	0.68
Finland	39	38.9	1906	27.3	0.47	31.3	1.85	0.48	0.34	16320	52	54.4	75.8	27.6	0.57
France	6	6.9	1945	26.7	0.37	36.1	1.65			19140	21	51.1	77.0	27.9	0.55
Germany	21	16.0	1919	27.1	0.30	15.4	1.24	0.40	0.30	18840	33	42.0	76.1	27.8	0.57
Greece	6	4.0	1952	25.1	0.11	2.9	1.36	0.28	0.21	8950	14	41.3	77.7	26.4	0.55
Ireland	12	15.8		26.8		20.7	1.86	0.41	0.34	15120	19	30.0	75.4	27.0	0.63
Italy	15	12.0	1946	26.5	0.08	7.7	1.22	0.39	0.20	18160	11	40.0	77.6	27.5	0.62
Netherlands	31	31.3	1918	27.2	0.34	14.3	1.57	0.49	0.29	17340	30	47.7	77.5	28.6	0.55
Portugal	9	9.5	1934	24.8		17.8	1.44	0.36	0.23	10720	5	27.3	74.7	25.8	0.78
Spain	16	14.3	1931	26.8		10.8	1.21	0.38	0.32	13660	11	34.0	77.7	27.2	0.61
Sweden	34	30.0	1921	28.5	0.48	51.6	1.89	0.59	0.39	17900	51	68.7	78.3	27.3	0.44
U.K.	9	8.7	1919	26.5	0.43	32.0	1.74			17230	38	44.5	76.3	26.7	0.55

Conclusions

Aura-Mihaela Zamfirescu, Antonella Pinnelli and Beat Fux

In the face of the changes in family and reproductive behaviour over the last 25 years, many authors have underlined the difficulty of finding a single coherent explanation for the variety of combinations of traditional and modern patterns. Some authors argue that we must recognise a diversity of explanations (Boh *et al.* 1989 ; Hopflinger 1985, Kuijsten 1996). In particular, it is very difficult to reconcile the very low fertility of Southern Europe with the stability of its family models, in so far as the former is perceived as a manifestation of modernisation while the latter is regarded as traditional (Delgado 1995 ; Sgritta 1988).

The results of the present study can give a coherent explanation of the recent trends in family and reproductive behaviours.

The conclusions of the theoretical part of this study show the continuation of the polarisation between the family and non-family sector. There is an increase in the proportion of childless people, postponement of births, smaller family sizes, declining marriage and increasing divorce rates. Modernisation and globalisation, resulting in better economic conditions, family policies aiming at facilitating the reconciliation of work and family, and the promotion of gender equality could have a positive impact on these trends.

The empirical part demonstrates the fundamental importance of better economic conditions, family policies and gender equality for higher fertility. Higher fertility, even if below the replacement level, can be part of the framework of modernisation, in spite of new family behaviours : the framework of a more modern society, at an advanced stage of economic development, in which post-materialist values are common and more value is given to individual self-fulfilment, and the gender system is fairer, may contain not only the diversification of forms of union and their greater instability, but also a fertility closer to replacement level, which is the level of fertility indicated as expected or ideal by most people in opinion surveys. In this framework, it is not "modern" to have a very low fertility. The latter, if anything, is the result of difficulties which are so great as to impede marriage (or other forms of union) and fertility. This is clearly demonstrated by the multivariate analyses, which always show the greater modernisation associated with the new patterns of family behaviour and with higher fertility rates, and advanced modernisation also include the state family support system and labour market flexibility, while the difficulties experienced in the countries of Central and Eastern Europe and the South are evident.

In an age of greater freedom of choice, there is a great risk that individualism and egoism will prevail. But the difficulty facing the individual in making permanent commitments for the future (and having a child is one) corresponds to a social and political climate. Such ideological reasons might persist and continue to have a negative influence on fertility, even if the presently existing obstacles and constraints of a material nature were to fall.

There are some margins for state intervention : to remove obstacles and constraints (the rigidity of the labour and housing markets, the lack of services for children and for the elderly and the inadequacy of leave systems), and to support the family in a role which is of general interest for the future, both from a demographic point of view and from that of the quality of the population. State positions must be more coherent and courageous, and more long-term oriented, because the future is a responsibility which is both individual and collective.

The economic crisis and the crisis of the welfare state, the former impeding the normal transition of young people into adult life (employment, life as a couple, having children), the latter reducing support to families with children and to working mothers, are a serious threat to the future of fertility. The experience of the countries of South Europe, where families still play supportive roles which have been absorbed in other places by the welfare state, shows that this, far from favouring fertility, discourages it by prolonging the functions of the family of origin and stopping the younger generations from forming a family.

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