An evaluation of the
FERTILITY AND FAMILY SURVEYS PROJECT

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EXPLANATORY NOTES

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The following abbreviations have been used:

CES	Conference of European Statisticians
CFS	Comparative Fertility Surveys
FFS	Fertility and Family Surveys
INED	Institut National d'Etudes Démographiques
ISCO	International Standard Classification of Occupations
ISCED	International Standard Classification of Education
LFS	Labour Force Survey
PAU	Population Activities Unit
SCR	Standard Country Report
SRF	Standard Recode File
TFR	Total fertility rate
UNECE	United Nations Economic Commission for Europe
UNFPA	United Nations Population Fund
WFS	World Fertility Survey
WHO	World Health Organization

Preface

The Population Activities Unit (PAU) of the United Nations Economic Commission for Europe (UNECE) conducted the Fertility and Family Survey (FFS) project between 1988 and 1999 in close collaboration with 23 UNECE countries plus New Zealand. As the data compilation part of the project drew to a close, the PAU began developing a proposal for a new survey data collection and research programme to be launched in 2000, which subsequently became known as the Generations and Gender Programme (GGP). The initial proposal was presented to the Bureau of the Conference of European Statisticians (CES), an intergovernmental UNECE body, which oversees the work of the PAU in the field of demographic analysis. In response to the GGP proposal, the CES requested the PAU to conduct an evaluation of the FFS, which could then aid the design and implementation of the GGP.

Following this request, the PAU commissioned Patrick Festy and France Prioux of the Institut National d'Etudes Démographiques (INED), France to prepare an evaluation report of the FFS. Their assignment was to scrutinise the survey data collection undertaken in the FFS context from a cross-country comparative perspective. The initial findings of Festy and Prioux were presented at the FFS Flagship Conference in 2000. Their provisional report was also submitted to the Bureau of the CES in 2001, which they accepted with satisfaction. Subsequently, the authors of the evaluation report completed their analysis, the results of which are presented in this publication. The report is also available on the PAU web site – http://www.unece.org/ead/pau/.

In this report, the authors review the FFS aims, including the implicit and explicit objectives of the project as identified by its originators. They scrutinise comparability of the survey and sampling designs adopted by the various countries participating in the project, as well as comparability of the questionnaires they used to collect the FFS data. They assess the efforts to standardise the data using a common Standard Recode File format so making the standardised data available for cross-country comparative research. Also, *inter alia*, the authors draw lessons from the FFS effort for future similar international projects, including the GGP. The result is a comprehensive analysis of opportunities for cross-country comparative research that the FFS Standard Recode Files provide, but also of obstacles and caveats that comparative research based on this body of data must face and take into account.

Patrick Festy and France Prioux have conducted a painstaking and rigorous analysis that is rarely conducted following major social science surveys. In the process, they have provided an invaluable service to the international demographic research community and, in particular, to researchers pursuing ongoing or initiating new comparative research projects based on the FFS data. The PAU is deeply grateful to them for this contribution.

The analysis presented in this report would not have been possible without the broad support that its authors received from many collaborators in the countries that took part in the FFS project. On request from the authors, they provided material and information that rendered the report as comprehensive as possible. The PAU acknowledges with appreciation the cooperation extended to the authors by their FFS colleagues.

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INTRODUCTION

The Fertility and Family Surveys project (FFS) was a multi-national, Europe-centred, comparative project, launched at the very end of its worldwide predecessor, the World Fertility Survey (WFS), to collect and analyse new data on fertility and family. The aim was to place family-building in the wider context of personal biographies and attitudes. Participating countries were given sampling guidelines and a model questionnaire, comprising core and optional modules. They each agreed to convert their national data files into a standardised data file and also to write a standard country report. These were to be made available for international comparative analysis by the scientific community.

This evaluation report does not cover the whole programme, but focuses chiefly on the comparative database of the Standard Recode Files (SRFs). It has been written specifically for researchers who intend to use that database and want to gauge its validity before extracting results from it. The basic issue that we will try to address is that of comparability: can apparent international differences be attributed to actual differences in behaviour and circumstances, or might they be artefacts associated with procedural disparities? Since the database is now essentially complete, answers to this question can be gained through a careful scrutiny of the entire process of data collection and processing.

This evaluation was made possible through the co-operation of the PAU staff, who were responsible for co-ordination of the project, as well as the national representatives of the 24 countries who contributed to the database. All were kind enough to answer our questions promptly and comment on drafts of our report. Nevertheless, the appraisals in this document are *ours only* and do not necessarily reflect any consensus by the participants of the programme.

Our study utilised material readily available to researchers who wish to undertake a comparative analysis from the database. We received the SRFs from 21 of the 24 countries that participated in the FFS programme. The three omissions were Estonia, Greece (whose survey was only conducted in 1999 and so their SRF was not compiled) and the Netherlands (which completed its survey much earlier but did not contribute to the comparative database). Martine Corijn, the FFS project manager at the PAU, also provided us with all the Standard Country Reports (SCRs) which had already been published or were in preparation. This set of reports will soon be complete, with the exception of those of the USA and Germany. Additional material also made available included two UN publications, detailing respectively the questionnaire (and its codebook) and the SRF, plus various issues of the FFS Newsletter and a number of internal documents.

This general information was elaborated by specific input from the national representatives of the 24 countries that participated in the FFS. We sent an initial request to them in March 2000 asking them to:
-   send copies of their questionnaires, in their original language(s) and translated version, if any;
-   give details of the methods that had been used to design the samples, organise the fieldwork and possibly address the non-response issue;
-   identify the difficulties encountered in adapting their database to the SRF, due to differences in basic concepts; differences between their questionnaire and the model issued by the PAU; and differences

between their classifications and the international standards;

-    state whether they had used their own programs or the standard PAU programs for the production of the tables in their country report;

-    provide any other information they thought relevant to our task.

A second request in April 2001 asked for reactions and comments on the first draft of our final report.

We were impressed by the responsiveness of all the persons we contacted on these occasions, which can be considered as positive proof of the interest taken in the FFS project. Having been supplied with an extensive and varied range of documentation, we endeavoured to come to an honest conclusion based on a scientific approach. None of our providers should be held responsible for our judgements and our failures.

I. HISTORICAL DEVELOPMENTS

A. FFS OBJECTIVES

The Regional Meeting on Population and Development held in Budapest in 1987 identified "the determinants of family formation, family planning and fertility" as one of the priority areas for future work by the Population Activities Unit (PAU) of the United Nations Economic Commission for Europe (UNECE) in Geneva. The PAU's response was to launch a project in 1988 entitled "Promotion of fertility and family surveys in developing UNECE countries". This became the FFS project, and it was soon extended to all the UNECE countries.

The long-term objective of the FFS was to assist the development of consistent and effective fertility and family policies in the UNECE countries through the collection, processing, analysis and reporting of fertility and family data as a basis for policy making.

The four immediate aims of the project were:
- to conduct FFS surveys based on a common core questionnaire in some twenty countries, half of them in central and eastern Europe;
- to set up an internationally comparable, standardised and computerised database, which would be derived from national fertility and family surveys and accessible to participating countries for comparative analysis;
- to prepare, publish and disseminate comparable country reports on fertility and family behaviour and intentions, for use by both government and non-government agencies;
- to prepare, publish and disseminate comparative in-depth studies on specific aspects of fertility and family behaviour and intentions in different countries, for use by both government and non-government agencies.

B. PREDECESSORS TO THE FFS

The FFS was preceded by two projects, both run by the PAU. The first - the UNECE Comparative Fertility Surveys (CFS) - was initiated by the PAU in the early 1970s, after the completion of twelve national surveys over a seven-year period from December 1965 to December 1972. There was no co-ordination of the initial phases of the surveys, but a comparative analysis of the material was performed at the PAU through harmonisation of the twelve independent databases. The main aim was to identify the factors contributing to the fertility decline which had been observed in the 1960s. The sample universe was ever-married women under 45 years of age. A single final publication was issued in 1976, three years after the last national database became available[1].

The second project was the World Fertility Survey (WFS), carried out under the auspices of the International Statistical Institute. This was mainly designed to gather data in developing countries. It was a closely co-ordinated operation using a standard procedure based on a model questionnaire. Technical and financial support was provided to many countries unfamiliar with demographic survey-taking. For industrial countries there was a more flexible approach: there was no financial support for survey-taking and the tools to be shared were only suggested. Eighteen UNECE countries took part in the WFS (out of a total of 62 countries world-wide). The fieldwork was done between 1975 and 1981. A scheme for comparative analysis was developed at the PAU, drawing on the previous experience. Once again, ever-married women were targeted to improve the knowledge of fertility regulation and intentions. No final consolidated report was ever published[2].

Compared to its two predecessors, the FFS provided a more systematic coverage of the UNECE countries (Table 1). The 24 countries in the project included parts of the former USSR (Baltic countries) and several overseas countries (Canada, New Zealand, USA). However, several populous countries such as Great Britain, Romania, Russia, Turkey and Ukraine did not participate. The duration of the complete fieldwork rose from six and seven years, for the CFS and WFS respectively, to eleven years for the FFS. Norway was the first to carry out fieldwork, in 1988, while Greece was last, in 1999. The target of data collection and analysis shifted from a firmly fertility-oriented project focused on married women for the CFS and WFS, to a broader household perspective for the FFS, including respondents of different marital statuses.

As in the WFS, participation was flexible. Two key tools – the sampling frame and questionnaire – were simply indicative and allowed countries ample scope for national adaptation. However, the production of SRFs by most participating countries created an essentially comparative database. Comparative analysis was no longer confined to a predetermined, closed group of researchers,

Table 1. Geographical coverage of the three comparative surveys in the UNECE countries

CFS		*WFS*		*FFS*	
				Austria	1995-96
Belgium	1966	Belgium[1]	1975-76	Belgium[1]	1991-92
		Bulgaria	1976	Bulgaria	1997-98
				Canada	1990 & 1995
Czechoslovakia	1970	Czechoslovakia	1977		
				Czech Republic	1997
Denmark	1970	Denmark	1975		
				Estonia	1994
Finland	1971	Finland	1977	Finland	1989-90
France	1971	France	1977-78	France	1994
				Germany	1992
Great Britain[2]	1967	Great Britain	1976		
				Greece	1999
Hungary	1965-66	Hungary	1977	Hungary	1992-93
		Italy	1979	Italy	1995-96
				Latvia	1995
				Lithuania	1994-95
Netherlands	1969	Netherlands	1975	Netherlands	1993
				New Zealand[3]	1995
		Norway	1977-78	Norway	1988-89
Poland	1972	Poland	1977	Poland	1991
				Portugal	1997
		Romania	1978		
				Slovenia	1994-95
		Spain	1977	Spain	1994-95
		Sweden	1981	Sweden	1992-93
		Switzerland	1980	Switzerland	1994-95
Turkey	1968				
USA	1970-71	USA	1976	USA	1995
Yugoslavia	1970	Yugoslavia	1976		

Notes: [1] 1975-76: Dutch-speaking community of the Flemish Region only;
1991-92: Dutch-speaking community of the Flemish Region and the Brussels Capital Region
[2] England and Wales only
[3] New Zealand is not a UNECE country

but split into the production of Standard Recode Files (SRFs) by the participants and the launching of a call for bids for free usage of the international database. Two years after the completion of field work in Greece (though more than twelve years after the launching of the Norwegian survey) 23 SCRs have been (or soon will be) published. In addition, 93 comparative research projects have been approved, although the publication of results from these is, as yet, more limited.

Based on these initial considerations, there are good reasons to consider the FFS programme a success. The three best arguments for such a positive judgement are probably the following:

- Getting 24 countries to contribute is an impressive achievement. The list includes several with little or no previous experience in family and fertility surveys, most often because they were not independent countries in previous decades and had no opportunity to initiate such scientific operations. For all these countries, FFS was a wonderful occasion to get involved in sophisticated survey-taking with strong guidelines and support, which in most cases gave the venture a positive outcome. Estonia, Latvia, Lithuania and Slovenia typify such countries, but the examples of Austria, Germany, Greece, New Zealand and Portugal are somewhat similar from a practical point of view. The project resulted in a satisfactory coverage of the most significant parts of the UNECE region;

- The idea of converting different questionnaires into a single database through a systematic and decentralised re-coding, is an innovative and valuable one. The challenge of harmonisation is always a difficult one, and has probably never addressed data as complex as these collected by the FFS. Apart from the FFS predecessors, the standard census tabulations by Eurostat and the WHO database on causes of death come to mind. Even though less complex than the FFS, both are notorious for their pitfalls and failures;

- Making the database available to the scientific community at large is another example of the FFS group's intent to act as a public service devoted to knowledge and research. Modern technical facilities were pre-requisites for this approach to be turned into reality. The FFS resolutely seized the opportunity.

But every rose has its thorns. There were weaknesses in the FFS programme; most of these are simply the other side of the coin to the most positive aspects of the operation listed above:

- In order to extend the geographical coverage, the FFS programme had to bend the rules of comparability in two respects, one minor, one major. First, the eleven-year gap between the first and the last survey seems overly long for a period of rapid changes in the family sphere. However, as the surveys placed emphasis on retrospective data, this long time period did not have a markedly detrimental effect on data comparability. Secondly, and much more problematic, was the fact that the FFS sought to accommodate several countries which had conducted their surveys along totally independent lines. The FFS could then only integrate their data with difficulty, sometimes having to use very broad approximations in the definition of certain concepts or variables.

- The questionable validity of the SRF as a pivotal instrument in the FFS programme is a direct consequence of the previous point. A discussion on the diversity of inputs used to compile the database will be central in our report, which could have been entitled: "How effective was the FFS as a tool to standardise heterogeneous data?" Another, possibly less bold formulation might have been: "What precautions should be taken by researchers when using the FFS comparative database as a standardised set of survey data?"

- Analyses, comparisons and discussions from the data have been slow in appearing. The totally decentralised procedure to analyse such a rich and complex database has proved to be a protracted business. Published conclusions from the comparative stage are few up to now. More importantly, even when all the proposed research is complete, it will probably not cover all the material in a fair manner: too great a focus will be put on some points,

and too little on others. This will not be a significant failing, if sufficient energy remains for a balanced, bird's-eye view of the fascinating material which the programme collected on family and fertility change in the 1980s and the 1990s.

II.   IMPLICIT AND EXPLICIT OBJECTIVES FOR THE FFS

A. FAMILY RATHER THAN FERTILITY

It was decided at the outset to give the survey a family rather than solely a fertility focus, and to put family building in a life-course perspective through the collection and simultaneous analysis of retrospective biographies. The choices implicit in these decisions and their consequences for the study design must be emphasised.

Fertility was the central focus of the earlier CFS and WFS projects. These were undertaken during a phase of rapid and unprecedented fertility decline in Western countries associated with the spectacular spread of new, effective contraceptive technologies (the pill, IUD, sterilisation): the so-called "second contraceptive revolution". However, in the 1960s and 1970s, fertility and child-rearing were still highly concentrated in simple family forms: marriages and most usually uninterrupted first marriages. The shift in the FFS survey from fertility to family mainly reflected the shift in focus to the setting in which respondents were born and raised: one-parent or two-parent families, biological or reconstituted families. This change had far-reaching repercussions on the target populations, some of which had previously been clearly perceived and others not. Women – still less married women – were no longer the sole universe sampled: men too were sampled as being important players.

The two points (sampling of both genders and any marital status) received unequal emphasis in the recommendations given to countries and, even more, interpreted by their national institutes. The gender approach resulted in the widely endorsed aim to have two discrete male and female samples. Nevertheless, men were under-sampled in most cases, probably from being regarded as less reliable informants than women, and for having less intense bonds with their children than do mothers. It is clear from some country reports that the male surveys were less carefully designed than their female counterparts (the rationale for the sample frames was often devised for women, then adapted, where necessary, for men). It was also decided not to have both partners in couples interviewed, unless countries positively wished to do so. These sub-samples aside, all marital statuses were put on an equal footing in all countries, without differentiated probabilities or even stratification on this characteristic. This widened the prospects for a fair representation of single mothers or divorced fathers, for instance.

Notwithstanding the family perspective, the age limits of the samples remained classically linked to fertile ages: under fifty for women and generally five years older for men. Some countries even set a lower ceiling, such as forty years. These choices are unsatisfactory: fertility histories may come to an end between forty and fifty, but family histories do not. After this age, many parents still have under-age children, and these children are still at risk of changes in their family environment (divorce or remarriage of the parents, for instance). The proportion of "empty nests" is, therefore, an underestimate for women under sixty and men under sixty-five. To put the same criticism in different terms, it can be said that, despite its innovations, the FFS remained oriented towards adults in their prime. In retrospect, it would not have been too difficult to make the samples representative of children under sixteen or eighteen, through answers given by their adult guardians, and to pave the way for a child-centred analysis of family formation or dissolution[3]. Other drawbacks linked to a low sample age limit will be discussed later (Chapter III).

B. AN INDIVIDUAL-BASED APPROACH

The second major focus of the FFS was to put family building in a multidimensional biographical perspective, to unveil the interactions between the educational, occupational, residential and familial facets of individuals' lives. Attitudinal questions were added as another biographical element; though considered as subsidiary. Therefore, most of them were relegated to the optional modules of the model questionnaire. This postulated consistency between various aspects of personal histories inevitably pointed to a longitudinal vision, with the implicit assumption that present behaviour of an individual can be explained by his own past, and, hence, to the grouping of members of the same cohorts for statistical analysis. The samples were designed according to age at survey. Most tables in the SCRs were drawn up by reference to birth cohorts, even if, for practical reasons, the definition of these cohorts was proxied by age at survey – a problematic assumption when the fieldwork was spread over a long period.

The idea of internal consistency in individuals' lives and the homogeneity of people born during the same period, from having being simultaneously exposed to the same historical events, has been developed into cohort analysis in the socio-demographic field since 1940[4]. More recently, scholars have questioned it. They have placed more emphasis on a period approach, assuming that the life course of cohorts reflects less the consistency of groups of people than the result of the good and bad years they have experienced individually during their nubile ages, fertile ages, etc.[5] Roughly transposed into fertility terms, this assumption means that people do not plan an ultimate family size which they finally achieve or not, but rather continuously adapt their behaviour to external opportunities and constraints. It is clear from the sample frames and from the tables in the SCRs that such an approach was not contemplated by the FFS initiators. For instance, the choice of surveying only those of fertile age at the survey date precludes most retrospective period analyses, because it excludes from the past periods populations exposed to the risk of fertility at higher ages. Some Scandinavian samples limited to single cohorts born every five years are even more characteristic of the "FFS approach" and less amenable to a retrospective period analysis. For instance, while the FFS could encompass an analysis of the link between an individual's family building process and his spells of unemployment, most FFS surveys were not properly designed to study the responsiveness of the entire fertile population to short-term economic movements (e.g. a rise in unemployment rates).

The biographical approach leads to an interpretation of individual behaviour by individual determinants. It is much more micro- than macro-focused. Combining regional statistics on environment or economic circumstances is outside the compass of this type of data collection. This observation led Italian researchers to import from other sources information on each interviewee's place of residence (physical, geographical, political or demographic characteristics, service availability, etc.) for a macro-micro multilevel analysis[6]. Such a concern, if addressed before the survey had been designed, would probably have resulted in a different sample scheme including more geographical clusters. Period analysis is typically among the multi-level approaches, which were not contemplated when the FFS was launched. The project was designed for our understanding of, for instance, the diversity of matrimonial behaviours, not marriage rates.

Falling between the micro- and macro-approaches, meso-analysis situates individuals in relationship with their different associates and studies the interactions of these actors. Not only are the facets of a personal biography interlinked, but each biography is also connected to other people's biographies. Individuals' decisions are affected by the behaviour of their spouses, children,

parents, siblings, relatives, friends, neighbours, etc. The FFS did not broach this field. Only minimum information was collected about families of origin and partners' families; nothing was asked about siblings, colleagues, neighbours, etc. Biographical elements on regular sexual partners, which are likely to be decisive in fertility, were very sketchy. Would it be too much to say that there was in the FFS an underlying assumption of individualistic rationality, more in line with the idea of free choice in one's life than with that of constraining social pressure?

C. NATIONAL OBJECTIVES

The FFS objectives in each country were, in fact, more complex than has just been indicated. In most cases, the cost of a large-scale survey cannot be justified by the sole desire for a clearer understanding of the fertility and family behaviour of recent birth cohorts. Basic knowledge about the population can only be gained through surveys aimed at answering such questions as: How many people currently live in non-marital cohabiting unions? How many in non-marital, non-cohabiting relationships? How many are protected against undesired pregnancy by effective contraception? The FFS survey sought to provide such answers, by asking respondents their current situation regarding relationships and contraceptive practices. Their detailed biographies, plus the questions on respondent's opinions and attitudes, fleshed out the individuals' histories. In doing so, the different life tracks that people choose can be seen. By the composite vision given by all the respondents, it is possible to interpret the views of society on pertinent issues, where these tend to converge, and which issues are more open to debate[7]. The requirements of the diverse end-users of the data collected made for a certain amount of ambiguity in the main focus and hence in the compilation of the questionnaires.

A few countries chose to collect information on interactions between actors at a meso-level of analysis – generally by collecting additional data from the respondents about their partners, parents,

children or siblings. Specific procedures were introduced, e.g. in Italy and Switzerland – to gather data from partners in unions. Special subsamples were drawn, which did not interfere with the FFS design. Commenting on their experience, some Italian researchers regret that a greater focus was not put on this[8].

The general position of the various countries vis-à-vis the FFS programme was very different. Countries can probably be divided into three categories:

- the first group concerns countries which adhered strictly to the programme and adopted its orientations and tools, either completely or with minimal adaptations. Typically, these were countries with little or no previous experience of fertility and family surveys. For these countries, inputting the data into the SRF was a straightforward task;

- the second category contains countries that accepted the aims of the programme – in particular the idea that comparative data should be produced through common tools – but had competing national objectives, often stemming from a tradition of past surveys in the same field. Continuity with previous experience challenged comparability with other countries. Steps were taken in various directions to make the competing objectives compatible; they included borrowing and adapting parts of the model questionnaire and carefully designing the SRF;

- the third group comprises countries which departed considerably from the FFS standard and had to make tremendous efforts to join the main stream. It includes countries which had pioneered the FFS programme and had run pilot programmes before the tools were fully developed (generally, to contribute to their design); it also includes others which were accommodated in the programme only after conducting surveys outside the context of the programme. For many of these countries, comparability is a vexed issue and the creation of the SRF caused headaches.

D. AN OVERVIEW

The most remarkable achievement of the FFS project is probably to have collected, through specifically designed surveys in 24 industrial countries, a full, unique set of interlinked fertility and family-oriented retrospective biographies of adult men and women. That aim predates and stems from outside the FFS, and is to be found, for instance, in the pioneering work of Robert Cliquet in the Belgian CBGS (Centrum voor Bevolkings- en Gezinsstudie) or Daniel Courgeau and Henri Leridon of the French INED (Institut National d'études Démographiques) early in the 1980s. But, to the PAU goes the credit of having followed up this promising source so quickly, and extending its coverage to a wide range of countries from East to West across Europe and outside Europe.

The FFS was constrained by the impossibility of imposing on so many countries an international comparative design, which they would accept as a standard. In most countries, many national specific objectives were in competition with supranational orientations. Most often, this was for historical reasons, with the need to maintain a degree of continuity with previous surveys. Such a duality of objectives, it must be stressed, is almost inevitable in the countries covered by the UNECE, where there is a long-standing tradition of national data collection, and where the adoption of an internationally shared tool cannot be imposed and must be negotiated. The heterogeneity of the region on these points only adds to the difficulty of the task for any co-ordinating body.

The rest of the report will be devoted to an evaluation of the FFS programme's efforts to enforce a minimum measure of homogeneity on the material collected and analysed, and to design specific tools that would create the conditions for comparability in retrospect, whenever they could not be established in advance. The emphasis will be *on obstacles to comparability and the critical approach all researchers must take to the data they use. These particular reservations should also be considered as a tribute to the painstaking and productive efforts made by the FFS programme to construct a vast and abundant comparative database from the contribution of 24 participating countries.*

III.   COMPARABILITY OF SURVEY AND SAMPLE DESIGNS

A. SURVEY DESIGN

Survey-taking in the 24 countries was spread over a protracted 11-year period from 1988 to 1999 (Table 2). Latecomers benefited from the experience of the other countries and of the PAU staff, and as a result tended to stick more closely to the standard questionnaire, which was agreed on in 1992. By contrast, the pioneers who started their surveys in the late 1980s or early 1990s operated with relatively few guidelines. This was especially true of those countries that had planned their surveys well before the main harmonised tools took final shape. In 1988, for instance, Norway chose a single birth cohort sample frame which was later adopted by Sweden. In 1991, Poland decided to survey all the eligible members of each selected household, a procedure partly taken up by the Netherlands shortly after. Also in 1991, Belgium used a questionnaire which differed even more from the questionnaires used in the other early surveys.

All these points raise clear comparability issues in relation to both sampling and the questionnaire wording, which will be addressed in this chapter and the next. In addition, the diversity of the survey dates also invokes specific questions for comparative analysis. The basic problem can be expressed as follows: cohort data from retrospective surveys can be considered from two angles – the participants' birth year, and the age at which the individual biographies were truncated by the survey date. For instance, women aged 30-34 when surveyed in early 1995, say, in Slovenia, were born in 1960-64. When compared to the Canadian women surveyed five years earlier, should they be compared to those born in the same period, but who were 25-29 at the survey date, or to women aged 30-34 at survey, who were born in 1955-59? The FFS chose the latter option for the SCRs: tables were to be built according to age at survey date, in classical five year age groups, so that survey results in, say Spain and Portugal, should be "comparable", despite a two-year interval between the two surveys.

The choice made was a conservative one: inter-country comparisons of census data are generally built on similar ages. But it was not necessarily a good one, once a cohort approach had been chosen, following the hypothesis that year of birth is a determinant of fertility and family behaviours. From the cohort approach, age at survey is only used to define who is in the valid age band to participate in the survey; it is not a criterion for comparisons, it only poses problems for statistical analysis. To postulate that Swedish and Slovenian people born in the same year have something in common is the true rationale for cohort analysis. It would have been preferable to stick to that approach, which was consistent with the basic objectives of the FFS. When Norway decided, as a pioneer, to define its sample by a single year of respondents' birth, picking up every fifth birth cohort, so as to maximise the homogeneity associated with each, it pointed in the right direction, but it was not a feasible solution for most countries.

The length of the fieldwork in some countries had the same consequences and led to the same conclusions. In Lithuania, for example, the survey was done over a 15 month period, between October 1994 and December 1995, so that people born in a given year (say 1960) were still 33 for the youngest, if born late in the year and surveyed in the early months of the survey period, or up to 35 for the oldest, if born early in 1960 and surveyed late in 1995. In other words, there is no strict coincidence between age at survey and year of birth, due to the long survey period.

Table 2. Fieldwork dates for each country

Country	Period
AUSTRIA	December 1995 – May 1996
BELGIUM (Flanders)	Flemish Region: April – October 1991
	Brussels Capital Region: January - December 1992
BULGARIA	December 1997
CANADA	January – March 1990
CZECH REPUBLIC	October – December 1997
ESTONIA	Women: January – November 1994
	Men: February 1997 – January 1998
FINLAND	Women: August 1989 – January 1990
	Men: September – December 1992
FRANCE	January – April 1994
GERMANY	May – September 1992
GREECE	January – July 1999
HUNGARY	Women, Non-Budapest: November 1992 – January 1993
	Women, Budapest: May – June 1993
	Men: November – December 1993
ITALY	November 1995 – January 1996
LATVIA	September – October 1995
LITHUANIA	October 1994 – December 1995
NETHERLANDS	February – June 1993
NEW ZEALAND	October – November 1995
NORWAY	October 1988 – March 1989
POLAND	November – December 1991
PORTUGAL	April – June 1997
SLOVENIA	December 1994 – December 1995
SPAIN	Women: June – October 1995
	Men: November 1994 – February 1995
SWEDEN	October 1992 – May 1993
SWITZERLAND	October 1994 – May 1995
USA	January – October 1995

A common parameter had to be chosen; age was chosen for the SCRs. It was consistent with the previous decision, but probably equally unfortunate.

The different survey-taking dates was not the only factor of heterogeneity in the initial survey design. Survey populations were also defined differently from country to country (Table 3). Sample age limits have already been mentioned: some countries like Canada surveyed people from aged 15 up, while Germany restricted its samples to those aged 20-39. The drawbacks stemming from a low age ceiling in family studies were emphasised earlier. Is it sufficient to add that a retrospective approach more easily addresses the high floor problems (start age at 18 or 20, instead of 15), because young people at the survey date have only a short experience, which could have been deduced from the retrospective information given by slightly older persons? The omission of young people aged 15 to 18 or even 20 by some countries who did not wish to survey minors, is not a major loss to a retrospective cohort analysis of family building.

Table 3. Ages or cohorts surveyed by country; limitations and exclusions

Country	Ages/cohorts surveyed	Limitations and exclusions
AUSTRIA	Men and Women – 20-54 years	
BELGIUM	Men and Women – born 1951-70	Belgian nationals, Flemish Region and Brussels Capital Region
BULGARIA	Women – 18-45 years	
CANADA	Men and Women – 15 years and over (restricted to 15-54 years for FFS)	Excluded: ordinary households without a telephone and people full-time in institutions
CZECH REP.	Women – 15-44 years (Men surveyed were women's partners)	Excluded: some districts (4 out of 81)
ESTONIA	Women – born 1924-73 Men – born 1924-73	Included: population in student halls of residence, long-term care institutions, prisons, units of armed forces, etc.
FINLAND	Men – born 1943-47, 1953-57, 1963-67 Women – born 1938-67	
FRANCE	Men and Women – born 1944-73	All private households. Excluded: French overseas *départements*
GERMANY	Men and Women – 20-39 years	Only Germans in private households[1]
GREECE	Men and Women – 18-50 years	
HUNGARY	Men – born 1947-71 Women – born 1950-73	
ITALY	Men and Women – born 1946-75	All people on ordinary electoral lists (i.e. with Italian citizenship and voting rights)
LATVIA	Men and Women – born 1 Oct 1945 to 1 Sept 1977	Excluded: half of administrative regions
LITHUANIA	Men and Women – 18-49 years	
NETHERLANDS	Men and Women – born 1950-74	
NEW ZEALAND	Women – 20-59 years	Excluded: Chatham Islands
NORWAY	Men – born 1945, 1960 Women – born 1945, 1950, 1955, 1960, 1965, 1968	
POLAND	Men and Women – 20-49 years	
PORTUGAL	Men – 15-54 years Women – 15-49 years	Excluded: people with learning disabilities
SLOVENIA	Men and Women – 15-44 years	
SPAIN	Men and Women – 18-49 years	
SWEDEN	Men – born 1949, 1959, 1964 Women – born 1949, 1954, 1959, 1964, 1969	
SWITZERLAND	Men and Women – 20-49 years	Excluded: households without private telephone
USA	Women – 15-44 years	

Note: [1] The technical annex of the German SCR states that: "The random sample for the main field work was taken in two steps, beginning with the drawing of sample points from the ADM-Mastersample and a similar sample for East Germany. These should be representative for the population which is entitled to vote. In the second step a sample of persons was drawn by the interviewer following a random route procedure."

Another major group excluded is the population living in non-private households. It is likely that this was a systematic omission[9]. Most omitted populations are probably insignificant (e.g. those in long-term care institutions or prisons), but what about students, conscripts and other situations in which

young men may outnumber women? This must at least be considered by those wanting to study the household structure from the country reports or from the standardised database.

Some other exclusions were more country-specific and generally linked to the coverage of the sampling base. Non-nationals were excluded where electoral lists were used, e.g. in Italy and Germany. In several countries, interviewees were contacted by telephone, thereby excluding households without a telephone: these included the Netherlands and Switzerland, where initial contacts were made to check if there was an eligible person in the household, and Canada, where respondents were fully interviewed by telephone. Outdated census or population register lists excluded the few recent immigrants in countries like Estonia. But the most peculiar case was that of Belgium, where the survey was conducted by the CBGS, a research institute of the Flemish Community in Flanders, and where the FFS data concerns only Dutch-speaking nationals resident in the Flemish part of the country and the Brussels Capital Region.

B. SAMPLING DESIGN

The very few guidelines set for a standardised sampling procedure were the product of general sampling theory and previous experience in the field. Statistical theory states that a random sample taken from a base population gives an unbiased estimate for any characteristic sampled: however, there is a degree of uncertainty – the sampling "error" – which is dependent on the size of the sample. Stratification, multi-stage sampling, unequal probabilities or clusters are just practical devices that may affect the degree of uncertainty, but not the representativeness of the samples. The use of these devices is also broadly considered to be justified by the constraints on access to good sampling bases, including national statistical office practices. The result is that sampling in a series of geographically-defined populations is highly discrepant according to whether regions in a nation or nations in

a continent are studied. Different regions are usually sampled by the same procedures, possibly with stratification and unequal probabilities if the regions are substantially different in size and if a sufficient number of cases is needed in all of them. Different nations are generally sampled by different procedures, unified only by the basic principle of randomness. This was the explicit guiding philosophy of the WFS, and was apparently taken up by the FFS[10].

A more specific question was also important for the FFS: what devices are most likely to improve the type of sample called for by a retrospective biographical survey? Jan Hoem's conclusion on this is categorical: any outcome-dependent weighting would be, at best, inefficient. For instance, there should be no oversampling of a current marital status category in a retrospective study of nuptiality. The sampling method is not to be "informative"[11]. Due to the multi-biographical nature of the FFS (educational, occupational, residential and family careers), few weightings could have been recommended, except for the most classical ones (regions, size and socio-economic characteristics of settlements, for instance). However, the special attention given to non-traditional households in some FFS surveys – such as the enumeration and understanding of some recently developed family situations – may have produced some "heterodox" choices, with an oversampling of these families in their present configuration (e.g. France).

To conclude: many technical aspects of the sampling, albeit highly discrepant in the FFS surveys, are probably not significant for the comparability of the data collected. They are second-order considerations when compared to more fundamental issues such as sample size and, even more, response rates.

1. Sampling techniques

Turning briefly to the mix of sampling techniques, the main differences between countries relate to the type of sampling base

used (Table 4). In a handful of countries, lists of individuals were readily available from some nominal roll or other, so that the targeted respondents were determined a priori and were to be found in the field "come what may". Such was the case in countries with population registers - like the Nordic countries, Belgium and Hungary - or other types of lists: census data (Estonia) or electoral registers (Italy). For these countries, additional available statistics relevant to the individuals surveyed made interesting stratification possible. In Norway and Sweden, for instance, the sample referred to specific single year birth cohorts, so as to maximise population homogeneity. In Estonia, age and native/immigrant status could be correlated to pre-survey out-migration and response rates. The use of nominal rolls as a sampling base is not just efficient, but also affords a straightforward calculation of non-response rates (see below).

In the other countries, households first had to be selected on a geographical basis, and then the interviewers had to choose the person(s) to be interviewed. This meant that samples could be classified by region, settlement size and possibly socio-economic status. Typically, random route procedures were used for the selection of households and a Kish number or some other random method determined the person to be surveyed in the household. However, there were many variants around that general scheme. Drawing in a master sample probably meant knowing some characteristics of the household likely to be found at the selected address and this could have allowed some stratification to enter. In specific cases such as Canada or Switzerland, some telephone screening was performed after the random issuing of a list of phone numbers, so as to determine the eligibility of the contacted persons (the method proved to have a devastating effect on the response rate in Switzerland - see below). Another type of screening was used in France, where the FFS sample was extracted from a larger-scale survey, and this enabled some stratification of family-type characteristics.

Decisions on the eligibility of persons within each household were quite discrepant: only one person was interviewed in most countries, but in Poland it was all the adults and in the Netherlands up to three. The common feature in all these methods was that households were first contacted, then individuals in the household if they happened to be eligible. Amongst its other consequences, this two-stage procedure makes the calculation of response rates less straightforward than for samples of specified individuals (see below).

Due to deliberate over-sampling (or under-sampling) of some populations - Maoris in New Zealand, birth cohorts in Sweden, regions in Canada, family types in France - and the choice of only one person in households of unequal sizes, most samples are not self-weighted. Nevertheless, the consequences for the precision of estimates can be assumed to be minor when compared to other sources of uncertainty and errors. But it is regrettable that so few countries published analyses on how their sampling design may have affected their results, nor gave information on their sampling procedure enabling such analysis.

2. Sample size

Sample size remains the basic element for assessing the expected precision of survey results. But it is not such a straightforward criterion. No analysis could refer to the total sample, without at least some simple breakdown (Table 5). What conclusions can be drawn from a direct comparison of the total samples from the different countries?

Large samples, numbering more than 7,500 interviewees, were taken in Estonia, Germany, the Netherlands, Poland, Portugal, Canada and the USA. The latter two are somewhat atypical cases in that the surveys were not purpose-designed for the FFS but were stand-alone operations with a broader aim, from which FFS-type information was extracted, sometimes with difficulty (see below on the problem of the SRFs). The Polish survey, though clearly

Table 4. Sampling procedures

Country	Sampling unit	Stratification	Self-weighted sample?
AUSTRIA	NK	9 länder × 4 settlement sizes	No
BELGIUM	Individuals	Flanders: socio-economic strata.	No
		Brussels: 19 boroughs.	
BULGARIA	NK	NK	Yes
CANADA	1 individual per household	10 provinces × strata (?)	No
CZECH REPUBLIC	Individuals	78 districts × stratified settlements	Yes
ESTONIA	Individuals	Native/immigrant population × 16 regions × 5-year birth cohorts	Yes
FINLAND	Individuals	Women: probably not	Yes (W)
		Men: 3 quinquennial cohorts	NK (M)
FRANCE	1 individual per household	Yes	No
GERMANY	1 individual per household	East-West stratification and stratification of the master sample	No
GREECE	Probably 1 individual per household	Greater Athens × 5 geographical strata	
		Greater Thessaloniki × 7 geographical strata	
		34 prefectures × urban/non urban	
HUNGARY	Individuals	Budapest and towns	Yes
		Other × settlement sizes	
ITALY	Individuals	Municipalities: 18 self-representing + 244 selected (by 5 regions × settlement size)	No
		Electoral registers: at least 2 × municipalities	
LATVIA	"Mixed" (no other precision given)	8 regions × district (?) × settlement size	Yes
LITHUANIA	1 individual per household	6 regions × 4 settlement sizes	Yes
NETHERLANDS	Up to 3 individuals per household	Probably not	NK
NEW ZEALAND	Probably 1 individual per household	14 regions × area units	No
NORWAY	Individuals	Self represented municipality>30000 habitants ≤ 30000: type × size	Yes
POLAND	All individuals in household	49 zones × rural/urban and 1 mixed zone	Yes
PORTUGAL	1 individual per household	7 regions	No
SLOVENIA	1 individual per household	12 regions	No
SPAIN	Probably 1 individual per household	17 regions × 7 settlement sizes	No
SWEDEN	Individuals	Year of birth	No
SWITZERLAND	1 individual per household	5 regions × settlement size	No
USA	NK	NK	NK

Note: NK: Not known

focused on family and fertility, was among the "early birds" that used a questionnaire designed before the FFS model questionnaire was drafted and was, consequently, significantly different from it. The German sample is also somewhat atypical, but for a very different reason: there were, in fact, two partly independent subsamples, one for the former West Germany and one for the former Eastern *länder*; the two subsamples were equal in size and most results were published

Table 5. Sample size and sampling errors on frequencies

Country	Total size, N		Average size, n, per five-year age group		Sampling error $\sqrt{p(1-p)/n}$, with p=0.5	
	Men	Women	Men	Women	Men	Women
AUSTRIA	1,539	4,581	220	650	3.4%	2.0%
BELGIUM	2,198	3,236	550	810	2.1%	1.8%
BULGARIA	-	2,367	-	370	-	2.6%
CANADA	4,083	4,482	510	560	2.2%	2.1%
CZECH REPUBLIC	721	1,735	120	280	4.6%	3.0%
ESTONIA	2,511	5,021	250	500	3.2%	2.2%
FINLAND	2,040	5,105	680	850	1.9%	1.7%
FRANCE	1,941	2,944	320	490	2.8%	2.3%
GERMANY	3,998	5,976	1,000	1,490	1.6%	1.3%
GREECE	1,017	3,031	160	470	4.0%	2.3%
HUNGARY	1,919	3,554	380	710	2.6%	1.9%
ITALY	1,206	4,824	200	800	3.5%	1.8%
LATVIA	1,501	2,699	230	420	3.3%	2.4%
LITHUANIA	2,000	3,000	310	470	2.8%	2.3%
NETHERLANDS	3,705	4,516	740	900	1.8%	1.7%
NEW ZEALAND	-	3,017	-	380	-	2.6%
NORWAY	1,543	4,019	770	670	1.8%	1.9%
POLAND	3,783	3,902	630	650	2.0%	2.0%
PORTUGAL	2,957	5,954	370	850	2.6%	1.7%
SLOVENIA	1,761	2,798	290	470	2.9%	2.3%
SPAIN	1,991	4,021	310	630	2.8%	2.0%
SWEDEN	1,666	3,318	560	660	2.1%	1.9%
SWITZERLAND	2,075	3,878	350	650	2.7%	2.0%
USA	-	10,847	-	1,810	-	1.2%

separately. It could be said that there were two 5,000 German samples rather than one 10,000 sample. The three countries with the largest samples, purpose-designed for the FFS, were Portugal (8,993), the Netherlands (8,221) and Estonia (7,532).

Small sample sizes with under 5,000 respondents were those from Bulgaria, the Czech Republic, Greece, Latvia, New Zealand, Slovenia and Sweden. Bulgaria and New Zealand are special cases since, although purpose-designed for the FFS, the surveys were restricted to women; even then, the female samples were relatively small compared to those of most other countries, and will seem smaller still when the age coverage is

taken into account. From the latter point of view, the Swedish and Norwegian samples were also cases apart, due to their partial coverage of every fifth birth cohort.

There was a marked gender imbalance in the different countries' samples. No firm guidelines seem to have been set on this, but in most cases female samples were relatively larger. Family matters, which were the core of FFS surveys, are mostly two-sex and two-parent questions that are, however, often answered better by mothers than by fathers. But the connections to be investigated between family and other individual biographies (educational, occupational or residential) required male- and female-specific

information, which was difficult or impossible to obtain from women only. The outcome was that the majority of interviewees were women. Male sample sizes were often much smaller, and in some cases so small as to make them difficult to analyse.

In only three cases – Canada, the Netherlands and Poland – were men almost as numerous as women. The Canadian case was not an FFS-designed survey and must not be taken as representative. The two latter were specific too, but in a very different way: in every sampled household, all the adults (Poland), or up to three (in the Netherlands) in the eligible age range were interviewed, so that both partners in couples were certain, or at least very likely, to be eligible. In both these countries, as well as in the Czech Republic and Italy, on much smaller samples, couples were included in the FFS, contrary to the programme guidelines. At the other extreme, half the number - or fewer - of males to females were surveyed in the following countries: Italy, Portugal, Spain, Finland, Norway and Austria. It needs to be repeated that in Italy, with a male sample just one quarter the size of the female one, there was also a subsample of couples where both partners were interviewed. In Estonia, an early female survey was followed by a later male survey. In Bulgaria, New Zealand and the USA no males were surveyed at all.

The effect of sample sizes must be discussed in relation to the general objective of the FFS: a biographical analysis of birth cohorts. The consensus was that these cohorts should be grouped in five-year age bands and the standard country tables were designed on this basis. Norway and Sweden, who conducted their surveys before this decision was reached, chose to select every fifth single-year age cohort; their sample base made this possible and straightforward. The average number of respondents falling into each category of the sex-specific cohorts, whether five-year bands or every fifth single-year ones, gives a fair idea about the individual countries' preferences regarding

the sampling procedure. Of course, for a given total sample size, the wider the age coverage of the survey, the smaller the number of people in each age cohort. Limited coverage (for instance only four five-year age cohorts in Belgium or Germany) produces more respondents in each cohort, which compensates for the previously analysed disadvantage of having too few cohorts. Extended coverage, as in New Zealand or Estonia (eight or ten five-year cohorts in the female samples, respectively), gives a broader historical view, but produces a limited cohort size and a higher degree of uncertainty.

In the female samples, the average number of respondents per five-year age cohort was over 800 in Belgium, Finland, Italy, the Netherlands, Portugal and the USA. Such numbers result in a 1.8 per cent maximum uncertainty on a 0.5 frequency. In four newly independent countries (the Czech Republic, Latvia, Lithuania and Slovenia), plus Greece and New Zealand, the average number was below 500, with at least 2.3 per cent uncertainty on a .5 frequency. It is difficult to allocate a clear position to Germany, because of the East-West split of the sample, but due to the limited number of cohorts, their average size was about 750 in each subsample. Looking at the FFS female samples, the range of sampling error is quite small between the lowest and highest values (from 1.2 per cent in the USA to 3 per cent in the Czech Republic) and indicates an acceptable degree of accuracy.

In the male samples, the situation is clearly less favourable. In the best case, the average cohort size was just under 800 in the Netherlands and Norway, but barely over 200 in Austria, Italy or Latvia and even below that in the Czech Republic and Greece. Uncertainties are less than 2 per cent in the first group of countries but around 4 per cent in the second. The three Nordic countries compensated for relatively small male sample sizes by a more specific age sampling than for women; this resulted in a limited gender differential in cohort-specific sample size. In Italy, there was the maximum gender disparity in the cohort sizes.

3. Response rates

Regardless of the quality of the sample design and the accuracy of the results associated with the sample size, the main threat to randomness lies in non-responses and their selectivity. Non-respondents should always be suspected to be different from respondents and a high frequency of non-responses may seriously bias estimates inferred from the available answers. Procedures generally used to address this problematic issue in the field are by substituting new respondents to compensate for non-respondents, and during the statistical process, by post-stratification weighting to make the final sample concordant with that initially expected. Whatever ingenuity is put into these methods, they can never match up to a good response rate.
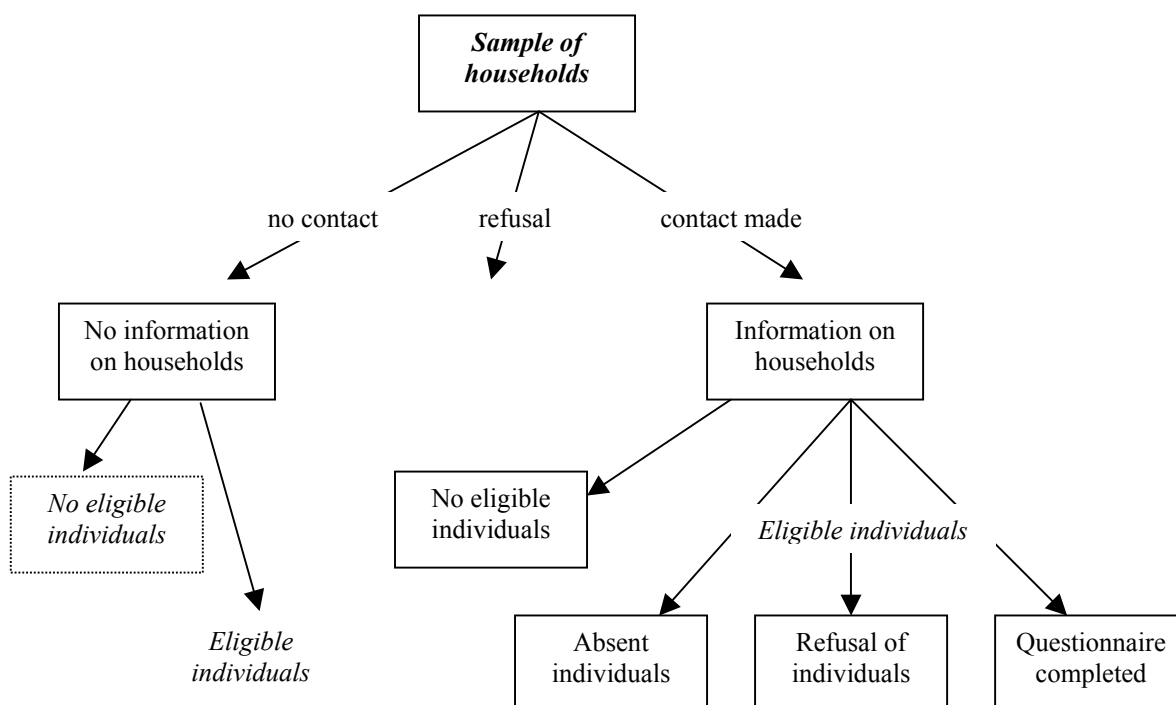
There were three types of problems in the FFS with regard to non-responses. Firstly, in some countries, the non-response rates were not published or were difficult to interpret. Secondly, in a number of cases, the non-response rates were high enough to raise concern about the validity of the survey results. Thirdly, in various (possibly the same) countries, the procedure for dealing with non-responses was unclear or questionable.

Published information on non-responses is scarce or non-existent. The distinction between basic concepts like non-eligibility (where applicable), no contact achieved and refusal is rarely made. Complexity of sample design is a major obstacle to obtaining information about non-responses. In countries whose sample base was drawn from a population register or some other nominal source, the nature of non-responses is fairly clear and satisfactory. The countries that used this method and compiled information on non-responses included the three Nordic countries, Belgium, the Czech Republic, Estonia, Hungary and Italy. However, their reports tended to be lacking in detail. In other countries, where households had to be approached first in order to check the eligibility of their members, information on

response rates was less clear. It is probably better to keep the two groups distinct and to avoid a global overview.

Where updated nominal rolls were used, the causes for non-response were almost exclusively limited to long-term absence and refusals. Outdated lists may have added other causes, such as death or emigration. Such was the case in Italy, which relied on local electoral registers; this produced a high frequency of non-responses (over 40 per cent), but reasonable rates of refusal (about 16 per cent). In all other cases, refusals accounted for at least half of the non-responses. Non-response rates were very low in the Czech Republic (under 7 per cent), around 20 per cent in the Nordic countries, Estonia and Hungary (with refusals in the 7-15 per cent bracket), rising to approximately 30 per cent in Belgium (around 20 per cent refusals). Refusals are understood to be the worst impairment to representativeness. However, the range of rates from 7 to 20 per cent can be considered as an acceptable sign of quality and homogeneity in the FFS data.

Where a specific individual was not being targeted for interview, a household was approached. The interviewer then had to ascertain first whether there was an eligible person in that household, and secondly whether they were available and willing to be interviewed. The various outcomes are shown in Figure 1. The response rate was then calculated as the proportion of completed questionnaires (bottom right on diagram) to the total number of eligible respondents. The total number of eligible respondents is the sum of those who belonged to the households which gave information on their composition (right and romans) plus those in households which gave none (left and italics). This latter figure was estimated from the former by assuming they would have the same percentage of eligible respondents. In typical FFS surveys, where only one person per household was counted as eligible, then the "average number of eligibles per household" is simply the proportion of households including an eligible person.

Figure 1: Non-responses in household samples

Few countries provided the details needed to check the way (non-)response rates were calculated. Greece is a case in point, where 40,870 households were selected for sampling, of which 19,482 were contacted and 21,388 were not. Of the contacted households, 58.4 per cent proved to be eligible. Therefore the response rate equals 4,074 completed interviews divided by 40,870x.584, which equals 17.1 per cent. In Switzerland, initial contacts with households were established by telephone; "neutral losses" from this first stage were eliminated; they (correctly) included all cases of ineligibility, along with households that could not be contacted (which is highly problematic as some might have proved to be eligible). The resulting response rates were, therefore, probably overestimated. In the Netherlands, the addresses were visited by interviewers; households not contacted were eliminated; these included cases of ineligibility (not a dwelling unit), as well as refusals (no time) and unavailability (illness); from the remaining households, those with no eligible persons were eliminated; the resulting response rates were probably, therefore, overestimated[12]. Similarly, in New Zealand, the number of completed questionnaires was compared with the number of persons listed as eligible in all households contacted. Their report states: "a more refined measure would also have taken into account an estimate of the eligible respondents from those households which could not be contacted"[13]; thus explaining why the published response rate overestimates the "more refined" one. In France, the households were first visited as part of the larger Labour Force Survey; from the households who responded; individuals were then identified as eligible for the FFS; published response rates were limited to the second stage; this is certainly an overestimate of the global response rate.

Most of the non-response rates, as shown in Table 6, are reasonably low, i.e. say below 25 per cent, although some reservations must be stated about their accuracy and comparability. We have looked more closely at the higher rates and checked their calculations, but consider that non-responses were more probably under- than over-estimated (see previous paragraph), except for Greece. The authors of the national reports were mindful of the

Table 6. Non-response rates and tackling procedures

Country	Non-response rate, NR, as a percentage				Tackling procedures	
	Men		Women		Substitution	Post-stratification
	Total NR	of which refusals	Total NR	of which refusals		
AUSTRIA	*Refusals: Vienna = 33%; rest = 18%*				Yes	
BELGIUM	33.7%	70% of NR	29.8%	70% of NR	Yes	
BULGARIA	*Non-response = 9%*					
CANADA 90	*Non-response = 24.2%*					
CZECH REPUBLIC	*Non-response = 6.8%*				No	No
ESTONIA	18.8%	9.2%	15.4%	7%	Yes	No
FINLAND	18.1%	15.6%	18.6%	13.4%		No (W)
						Marital status & region (M)
FRANCE	19.1%[*]		15.5%[*]			Sex, age, conjugal status
GERMANY	*East = 23.9%; West = 29.0%*					*Länder*, settlement size, household size, age, marital status
GREECE	80.4%		83.8%			
HUNGARY	23.2%	9.7%	12.2%	7.2%	Yes	
ITALY	48.3%	15.1%	42.0%	16.4%	Yes	5 regions x 3 age groups (20-29, 30-39, 40-49)
LATVIA	26.9%	20% of NR	23.3%	20% of NR	Yes	
LITHUANIA	33%		29%			
NETHERLANDS	*Non-response =52% of households[*]; Refusals =67% of NR*				Yes	Birth cohort, marital status, household position, national, settlement size, number of children
NEW ZEALAND			46.4%[*]			No
NORWAY	21.8%	50% of NR	18.8%	50% of NR		
POLAND	*Refusals = 3.5 % of households and 5.2 % of individuals*					No
PORTUGAL	5.9%		5.3%		Yes	Age groups
SLOVENIA	*Non-response = 14% of the eligibles*					Sex, age, settlement size
SPAIN	23.0%		16.4%			
SWEDEN	23.5%		21.6%			
SWITZERLAND	63.6%[*]	56.2%[*]	62.2%[*]	54.4%[*]	Yes	Marital status x Age, Nationality x Age, urban/rural
USA	NK		NK			

Note: [*] Possible underestimate (see text).

problems created by frequent non-responses and employed various checks to gauge the reliability of their data; these will be referred to below. But they also stressed the difficulty of doing better in their country. For example, the Netherlands' report states: "The response [rate] is in line with other recent household surveys. In general, in the Netherlands, public willingness to participate in surveys is lower than in most other countries"[14]. Similarly, to quote the New Zealand report:

"It should also be noted that lower than desired first-passage response rates are not just a New Zealand phenomenon, but are a major problem in developed countries, particularly when the agency carrying out the survey has no official status"[15].

Except for countries with the highest response rates, such as Poland, Estonia and Finland (women), where the survey results were taken at face value, it was considered necessary to make

adjustments to correct for the effect of non-responses on data representativeness. The most usual method was post-stratification: the distribution of respondents by selected characteristics is adjusted to a known reliable distribution through re-weighting. The implicit basic assumptions are not very different from those in the quota method: a deliberate adjustment on selected key variables should result in a global adjustment for all variables. While the initial stratification had mostly been based on geographical aspects like regions or settlement sizes, post-stratification also introduced various demographic aspects like age at survey (or year of birth), marital status or household characteristics.

Instead of increasing the weighting of respondents to allow for non-respondents, some countries chose to substitute for the latter by introducing new people in the samples. However "natural" it may seem, this method is not favoured by sample theoreticians unless strictly controlled. All respondents, whether initial or substituted, must have a clearly defined probability of participating in the final sample. The substitution methods used in the FFS varied quite widely. In some cases, their use was restricted to non-contacts, that is excluding refusals (Hungary and Portugal), while in others they included all categories of non-responses. In some countries substitution restored the sample to its initially expected shape (e.g. Italy, where the substitute had to have the same age, sex and marital status as the replaced person), while in others it maintained distortions (e.g. in Belgium, where random replacement by age and civil status did not systematically compensate for these two variables). In general, the description of the substitution procedure in the SCRs is rather vague, which makes it difficult to come to firm conclusions about its statistical relevance.

4. An indicator for sample validity

Validity checks conducted by the countries involved in the FFS generally relied on a comparison of the survey results with those from alternative statistical sources pertaining to the eligible population. Age, marital status or the total number of children born were the criteria of most direct concern to the FFS. Comparisons may have then resulted in post-stratification.

Two brief examples from the country reports or personal communications with the national representatives exemplify this. "The main indicator of the validity of the sample is the comparison of the total fertility rate obtained by the Greek FFS and the official vital statistics. These two figures are identical: 1.30 according to the 1999 Greek FFS and 1.30 according to the 1999 official Greek vital statistics"[16]. The conclusion by the Greek team was, therefore, that the survey did not require re-weighting. The situation was somewhat different in Switzerland, in which there was post-stratification on "civil status (single, married, widowed, divorced) by age class, nationality (Swiss or foreign) by age class, and type of commune (urban or rural). (…) However, the choice of variables used for the correction is still arbitrary. It is implicitly assumed that the criteria adopted for post-stratification are correlated with the behaviour studied by the survey, and this is not necessarily true. (…) After weighting, distribution of the figures by level of education is still substantially different from that observed during the 1990 Census"[17].

Little was done to assess the impact of sample biases on the validity of the retrospective biographies collected, notwithstanding their central importance to the FFS. What we have done here is to compare the trends in the yearly total fertility rate for the ten years prior to the surveys (derived from the FFS data and computed as three-year moving averages) with the trends derived from vital statistics and population estimates. The latter would be assumed to be reliable basic statistics.

The restriction of most samples to the fertile ages, at best, creates problems for the retrospective coverage of that age range, say ten years prior to the survey. We

have adapted our calculations so that the same age span was included in the survey and in vital statistics. Thirteen European countries were compared (Figure 2). There was no specific rationale for the selection of these countries.

In most cases, the FFS overestimates the fertility levels as calculated from vital statistics. Bulgaria and Lithuania are exceptions to this rule. The results for France, Italy and Portugal compare closely. The FFS overestimates total fertility rates by more than 10 per cent in Austria, Spain, Switzerland, the Czech Republic and Slovenia. Since respondents are likely to have told the truth, this must indicate that women who had more children than average were over-represented in the samples. This could well be true: married women with children are probably easier to interview than single childless women.

The differences between the "true" and the FFS-based rates tend to be greatest for the most recent years. This is the case for all Eastern European countries except the Czech Republic, and for Spain, although the opposite is observed in Austria. The more recent the period, the greater the over-representation of women with children. The clear reason for this is that mothers with newborn children are probably easier to "catch" than other women, because they spend more time at home where interviewers can reach them. Distortions in total fertility rate time-trends are significant in Bulgaria, Lithuania, Slovenia and Spain; also in Austria, though its trend is in the opposite direction.

The representativeness of the samples is probably not the only factor to blame for introducing discrepancies, and that aspect of reliability does not necessarily cast doubt on all the material collected. Retrospective surveying may produce conflicting results with vital registration, whatever the quality of sampling, if mortality or migration have modified the population composition in the years covered by retrospective data. Furthermore, the calculation of vital rates is not always as accurate as we postulate,

especially where there is high, unregistered, post-census emigration. Finally, the unrepresentativeness of the sample for past events may not be an obstacle to the biographical analysis of the material collected on an individual basis. That said, these caveats remain negligible when compared to the importance of some gaps and their trends. More scrutiny of different databases is required before very firm conclusions are drawn from them. For example, a rate of 1.77 live births per woman in 1990-94 according to the Slovenian FFS survey, compared to 1.41 in the vital statistics, demands substantiation, if not reconciliation.
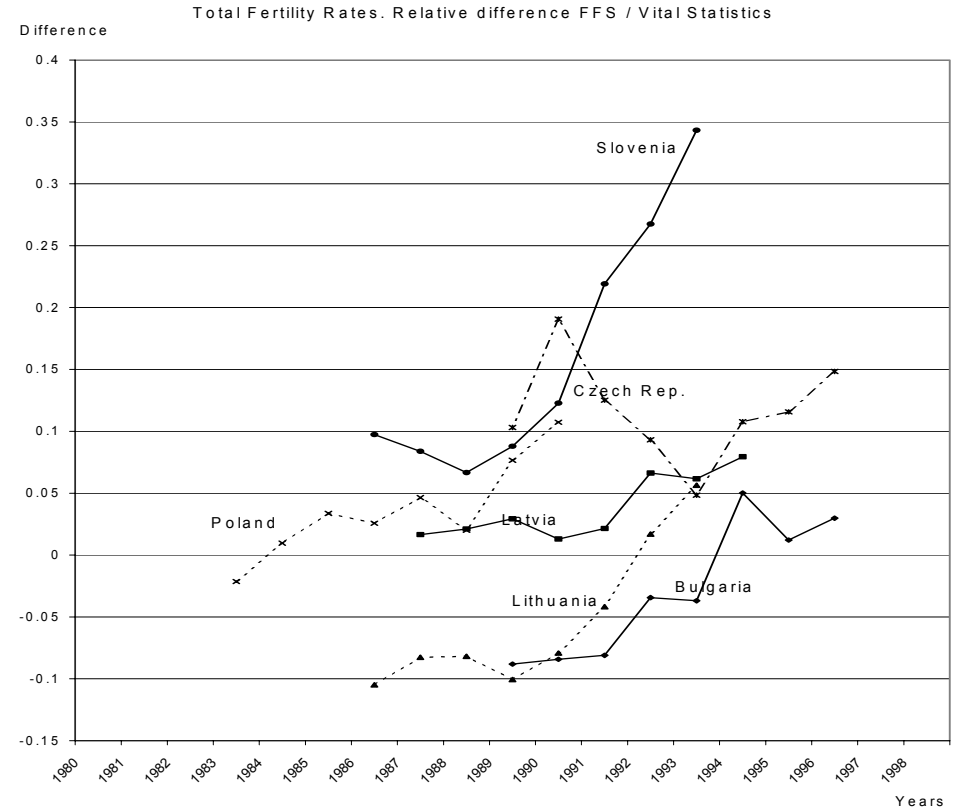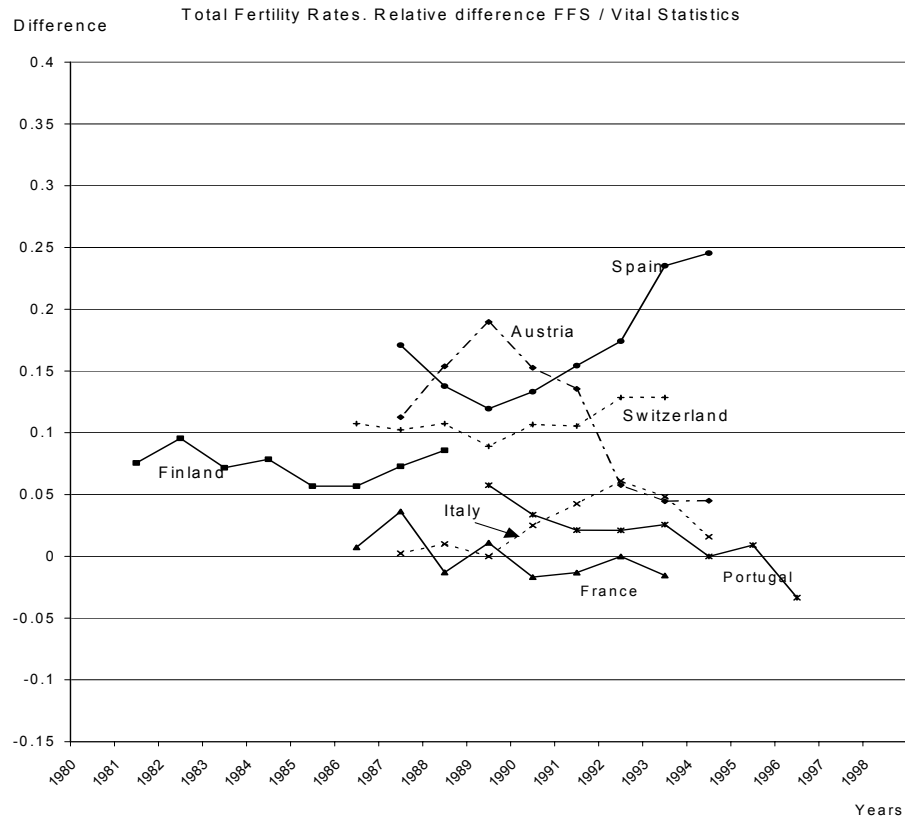
Sampling designs and procedures may be responsible for these discrepancies, but might it not be more likely that the answer should be sought in the quality and management of the fieldwork? Biographical surveys with relatively large samples are not an easy task. Qualitative information, such as past experience of conducting other scientific studies, the involvement of staff specifically assigned to the survey, the strictness of the rules to be followed in case of no contact or refusal, or the proximity of the national statistical office may be as important as more quantitative data in evaluating the quality of the collected material.

C. AN OVERVIEW

In different countries, the FFS used a wide variety of sampling procedures and techniques to select their respondents. This is the result of unequal opportunities and constraints faced by statisticians at the national level, and possibly also due to traditions that may differ across the scientific community. But such differences can be considered as irrelevant as long as the basic requirement of randomness is fulfilled.

From this point of view, the compilation of 24 random samples with an average size of over 5,000 is a great achievement and offers scope for a vast number of possible analyses. In particular, the ability to maintain a distinction between

Figure 2. Relative differences between total fertility rates derived from FFS data and those calculated from vital statistics (as per cent)

Total Fertility Rates. Relative difference FFS / Vital Statistics

Total Fertility Rates. Relative difference FFS / Vital Statistics

men and women and a five-year birth cohort approach in most international comparisons is a major contribution to a description of family trends since the 1960s.

A major concern is that of non-response rates. These were high in some countries, with values above 30 per cent.

Tackling procedures have often been some form of substitution, but this does not always guarantee reliability. Re-weighting relied on classical references to recent demographic or geographical distributions, with little attention paid to the emphasis put by FFS on retrospective data. These reservations may be relevant for certain country comparisons.

IV. COMPARABILITY OF QUESTIONNAIRES

In 1992, the PAU published its model questionnaire, which was taken as a yardstick by all the countries participating in the FFS and later formed the framework of the SCRs. The questionnaire reflected the basic orientation of the project, with its strong focus on both family and non-family biographies, a section on attitudes, and a mix of core and optional modules. Some countries adopted the model in its entirety, while others developed their own guidelines and forged looser ties with the FFS tool; between these two extremes lay countries which took up part of the model and developed other aspects on their own.

Countries that developed their questionnaires before 1992 obviously lacked the benefit of the finalised FFS model questionnaire, but the model probably benefited from the experiences of these pioneers.

There were model male and model female questionnaires; they differed only marginally. Countries either adopted both or departed from both by drawing up their own versions of male and female questionnaires on parallel lines. The analysis below refers to female questionnaires.

A. THE MODEL QUESTIONNAIRE

The questions were organised into three sections. The first two collected factual information, firstly on current status and secondly biographical data, while the third section concerned opinion and attitudinal data. The questions belonging to the third category were mostly optional.

The *current status* questions were used to collect information on the current situation of the respondent or of other members of the household. The first set of these questions pertained to the household, giving a brief characterisation of each member: marital status, activity, relationship with the interviewee, etc. The second set referred to the present fertility or fecundity status of the interviewed woman: e.g. Was she currently pregnant? If not, did she know of any sterility problem? If not, what was her current contraceptive practice? The third set dealt with the current situation of her present spouse or partner, if any.

Biographies were mostly collected by means of tables. These included migrations (in an optional module), partnerships, live-born and adopted children, step- and foster-children, other pregnancies, fertility control (in another optional module), and with education and occupations. Questions on the age of the interviewee on leaving the parental home or at her parents' separation were other biography-type questions. The dividing line between questions pertaining to biographies and the current status questions were sometimes blurred: was the total number of ever-born children a biographical summary or a factual description of the present situation? What about the highest educational level attained?

Opinions and attitudes were collected by means of questions grouped into an optional module, except for questions on how "planned" ever-born children were and those on intentions concerning future fertility. Typically, the questions were on attitudes regarding marriage, partnership or abortion, on values and beliefs, on opinions regarding family life and the possible intervention of the State in this sphere.

All the questions that did not belong to the optional modules made up the "core questionnaire". The dominance of *biographical* items in the core questions reflected the general orientation of the

whole FFS project. That dimension merits more extensive consideration.

All the biographical modules were organised along the same lines: the history of events of the interviewee were collected in chronological order, starting from the first event for partnerships, births, contraceptive practice or occupations, or from the age of 15 for residence or education. Successive rows in each table referred to successive events or to sequential spells, with their dates and other information that characterised them.

Tables dealing with partnerships, children and other pregnancies were preceded by a series of questions likely to identify the total number of events, which then defined the total number of rows to be filled in. Similarly, the migration table was preceded by a question on the total number of moves since the age of 15. By contrast, there was no such total in the modules dealing with the contraceptive, educational and occupational biographies.

Three aspects of this *arrangement* require comment.

Biographies were collected independently from one another, except for "other pregnancies" which were expressly linked to live-birth intervals[18]. It may be have been considered tactful to put distance between partnership histories and birth histories, to avoid any "adjustment" of dates, where respondents tend to declare births, which actually occurred before a union or a marriage, to be included in the partnership period. However, data accuracy in contraceptive biographies may have been improved had spells been more specifically linked to partnership or pregnancy dates[19]. Similarly, making explicit links between residential and occupational biographies or, at least for women, between occupations and births, would also have been beneficial. It will be seen later that some countries did make such efforts to bring consistency between various biographies[20].

Adopting *chronological order* for the organisation of biographies was a "natural" tendency, but not one endorsed by all survey practitioners. Some prefer to start from the most recent events and work backwards in time[21]. This is not common practice, and we know of no comparative evaluation of the two methods. Significantly, however, CVs often approach occupational biographies in reverse chronological order. Some researchers, based on psychological experiments, have concluded that independent events (exam dates) are better recalled in reverse chronological order, while the recall of events possibly linked by a causal order (successive visits to medical doctors) is better organised by chronological order[22]. In the FFS, it will be seen that Canada was a case apart in some respects here.

Ascertaining the total number of events, before recording any details, is a standard procedure for births (with some probing on the no-child answer). This is not so with partnerships, and still less where a distinction is made between marriages and non-marriages. It would have probably been more tactful not to ask such a question directly, but deduce it from other answers.

B. THE NATIONAL QUESTIONNAIRES

The model questionnaire was in English; the national questionnaires in their national language(s). The countries were requested to prepare an English re-translation of their questionnaire for comparability purposes. They were advised to have these translations done by professionals, so that parts of the model which had been translated into the national language(s) could be translated back into English and checked: "*Traduttore, traditore*". Some countries followed this advice; others supplied "non-professional" translations which included questions "cut and pasted" from the original English model; while yet others supplied no translation. The very mixed results were further compounded by our own imperfect comprehension of English (and the other languages). Our analysis of similarities and differences in the questionnaires and, still more, in the wording of the questions and the optional answer choices, must be considered as *our*

interpretation, subject to the above linguistic caveats.

Only seven of the twenty-four countries (Czech Republic, Greece, Hungary, Latvia, Lithuania, Slovenia and Spain) adhered almost precisely to the model questionnaire. Some countries made an effort to incorporate most of the questions[23], but many national questionnaires departed, sometimes significantly, from the model. In some countries (e.g. Belgium, Finland, Norway and Poland), the survey took place so early that the model questionnaire was not yet available. However, in most cases the reasons for discrepancies lay elsewhere: either it was felt necessary to adapt the questionnaire to specific national attributes, or the survey was one of a series, and priority was given to consistency between the current questionnaire and past experience, so as to be able to analyse national trends. In the latter case, the similarity to the FFS model questionnaire was sometimes only marginal. This resulted in major difficulties when the national files had to be put into a standard format. That particular difficulty will be considered in Chapter V on the Standard Recode File.

Only the biographical modules and the biography-type questions are addressed here, and almost exclusively with reference to the female questionnaire.

1. Questionnaire structure and interdependency between biographies

When compared to the model, some national questionnaires adopted a totally different sequence of biographies[24]. In Austria, Belgium, New Zealand, Poland and the USA, for instance, the questionnaires started with the educational and occupational biographies, which were then followed by the partnership and children biographies. In Canada, Finland, Norway and the USA, questions on pregnancies and children came before those on partnerships. In Sweden, most information on children was concentrated at the very beginning of the questionnaire, in or just after the household composition

table. In Estonia, questions on childhood and parents, which were far more numerous than for any other country, together with the migration biography questions, were placed after the partnership, children and contraception biography questions, and even after the opinion questions. But the most original sequence of biographies was found in Poland; it appeared as if the most difficult topics – relationships and contraception – had been tucked away at the end of the questionnaire, so as to avoid too many early refusals.

Most discrepancies between the questionnaires are related to the unequal degree of independence between the biographies. In most cases, we have seen that the model questionnaire was based on independence. However, some countries introduced links between the sequential stages, either because it seemed more logical to introduce some association between the events or to help improve interviewees' recall. But the reverse is also true: in some countries, biographies were split where they had been grouped in the model questionnaire. In others, extra modules were added, which may appear redundant.

1.1. More links within or between biographies

Some countries sought to ease and systematise the efforts of respondents to remember and organise their biographies, by listing reference dates in a table, chart or sheet.

In the USA, the respondent was given a "calendar" and asked to put on it the dates of five or six major life events (school-leaving date, first job, marriage, important birth and death dates). She was then invited to refer to that document when she was asked new dates, some of which were entered on the calendar. Similarly, in New Zealand, the respondent was asked to enter key events of her occupational and family life on a "life summary chart", made up of several rows. In Switzerland, the questionnaire alluded to an "aide-mémoire" to help the respondent reconstitute the stages of her life.

In Belgium, it was probably the interviewer who had to enter the dates on a "check sheet." Similarly in Estonia, the interviewer was supposed to fill in a "summary life history chart," so as to immediately check the respondent's consistency. In Finland, when starting the interview, the interviewer was supposed to show the respondent the "time chart" he was to compile "to record the point of time at which some primary event such as the birth of a child, marriage, or cohabitation had taken place. The purpose was to help the interviewee to remember when given events had taken place in her life and to allow the interviewer to assess their logic." Three years later, "the time chart was not used in the male survey because, according to interviewers, it was impractical in use. It was quite a big piece of paper (A3 size). This meant that it was quite often difficult to spread it on the table or on the knees if the place where the interview was carried out was such that there wasn't any table at all. Because the men's questionnaire was also shorter (the quantity of history data) we assessed that the men's interviews were easier to control than women's interviews"[25].

In a less systematic and formal way, other countries' questionnaires interrelated a number of biographies to reinforce the consistency of each where factual links exist between episodes in respondents' life courses. These varied from country to country.

Two relatively simple examples are offered by the association of *pregnancy and contraception histories* on the one hand, and birth and pregnancy histories on the other hand. The first case includes that of Belgium, Italy, Poland and the USA, with minor inter-country variations. In each country, the sequence of pregnancies was augmented by information on contraceptive use before the first and during subsequent intervals. In Belgium, contraceptive information was limited to the method used just before pregnancy. In Italy, only the first six pregnancies were considered and only the main method of contraception and the last one in each interval were asked for.

In Poland, only the first five and the last pregnancies were considered and only the last contraceptive method in each interval. In the USA, only the last contraceptive spell was identified for pregnancies before 1991, after which the monthly use of contraception was detailed. Except for the USA, these contraceptive biographies were not input into the SRFs.

For *pregnancies and births*, the model questionnaire made two separate biographies, first asking for births, then associating "other pregnancies" to birth intervals. Belgium[26], Italy, Norway, Poland, Switzerland and the USA started with pregnancies and extracted births from them through a specific question on the outcome of each pregnancy. Consequently, there was no introductory question on the number of births (except for Poland). In some cases, a final check was made on the number of listed births. In some countries there was also an opening question on the total number of pregnancies (Belgium, Italy, Switzerland, the USA). The main problem associated with this type of questionnaire arose with twins and other multiple pregnancies: there was no explicit provision for these situations in Poland, and only for twins in Switzerland.

Norway and Sweden are examples of a *more complex association* of birth, educational and occupational biographies. The children's birth dates were recorded age by age in a table and women were asked for their educational, occupational and full-time motherhood spells in the birth intervals. As a further step, women in Switzerland were first asked about each period of education and employment; then about their migrations and partnerships in each of these periods.

1.2. Independence between educational and occupational biographies

In the FFS model questionnaire, educational and occupational biographies were, like all others, independent of each another. For example, part-time or even full-time students may also have a job,

since no minimum number of hours worked was set.

A similar strict independence was almost always respected in national questionnaires, particularly as most of the countries who did not take up the model questionnaire only asked about the highest educational level and age at that stage, and/or characteristics of the first and last jobs. However, in some cases, where the organisation of the questionnaire was radically different from the model, the splitting of the two biographies may be questionable.

In Switzerland, for instance, a single biography dealt with all occupations since the age of 15, but the choice of "occupations" offered to the respondent included training and apprenticeship, employment and unemployment, housekeeping or child-raising, together with language study (including au pair work), unpaid services, travelling, and care of parents or relatives. After registration of the main occupation, an inventory of all regular activities with a minimum frequency of one day per week was recorded. However, it is doubtful whether these subsidiary activities were included in the SRF, so academic study concurrent with other activities may have been under-recorded.

In Norway, likewise, educational biographies were collected age by age in a table, together with "occupational activities" and "other activities". It is likely that instructions to the interviewers and the text of questions listed in the "field-guide" made things clear, but such documents were not made available to us[27]. Another example of ambiguity was for Belgium, where no educational biography was collected. An initial question identified women still in full-time education at the interview date. They were then not further questioned on either their academic attainment or any other possible occupation. Their education was presumed to be complete when it was no longer full-time. Also, the occupational biography did not envisage the resumption of full-time education after part-time spells or total interruption.

1.3. Looser links within or between biographies

Biographies that were designed as one piece of information in the model questionnaire were sometimes split into two or more units. For instance, partnership biographies were sometimes split into non-marital unions and marriages, birth histories into own children and other children, etc.

In Canada and the USA, the questionnaires started with marriages and attached to each of them possible premarital cohabitation with the future husband; they then moved to common-law partnerships, which have remained so, without later marriage. The only difference between the two countries is in chronological order: in Canada, the questionnaire started with the present marriage, if ongoing, then moved to first and second (interrupted) marriages, if any. Similarly, non-marital partnerships started with the present one, if ongoing, then went back to the first and second (interrupted) ones[28]. In the USA, marriages were enumerated in chronological order, but as in Canada, consensual unions started from the current one.

In Belgium, common-law partnerships and pre-marital unions were identified from a comparison between living arrangements and marital status biographies, through a relatively complex algorithm.

Slightly different were the cases of countries which counted as two separate events of when a partnership began out of wedlock, and then when it transformed into marriage. In Norway, the interviewer filled out a new line in his table. In Poland, the respondents were interviewed on their sequential spells of relationships, whether friendship, engagement, living-together cohabitation, living-apart-together cohabitation, marriage or "other". Each change in the form of relationship with the same person was allocated a new row; partnerships (in

the FFS sense of marriage or living-together cohabitation) could be extracted from this record of relationships in the same way that births could be extracted from pregnancies. An introductory item on the number of marriages offered a consistency check with the whole table.

Information on own births and other children was collected in the same biography in the model questionnaire. The logic was different in questionnaires where own births were extracted from pregnancy histories; inevitably, other children had to be collected separately (Italy, Switzerland, USA). In Belgium, women were first asked about children who had ever lived with them in the same household, then about pregnancies and their outcomes: this makes it unlikely that the date of death of children who died in maternity hospitals would be included. In France, own live-born children were dealt with first, then other children, but only those under 18 years currently in the household. Likewise in Finland, own children came first, followed much later by children from other partners. In both cases, pregnancies with no live births were enumerated separately.

The Swedish approach was radically different, with questions on children spread throughout the questionnaire and no direct questions on the number of births or pregnancies. The dates of birth of children currently living with the interviewee were collected in the household composition table, which was immediately followed by biographical information on own children ("natural" or adopted but not living with her): dates of birth, death or leaving. The circumstances of each pregnancy and the date of entry of adopted children into the household were obtained in the following module, after questions on the respondent's childhood and on her parents.

In Poland, separate biographies were built for "occupational activity" and "occupational inactivity" (but only the starting date of each spell was collected); similarly "changes of municipality" were

enumerated separately from "changes of dwelling conditions".

To these various sources of complexity may be added one final point: many countries failed to include in their questionnaire a check-sum of the total number events which the detailed biographies dated and categorised. This was frequently the case for partnerships; for example, Belgium, Canada, Estonia, France, Norway, Sweden and Switzerland had no such question and Poland had only one question on the number of marriages. It was similar for migration biographies, which were rarely collected; Estonia, Poland and Switzerland, however, did so. Estonia and Sweden had no question on the number of live-born children, Belgium on the number of foster children, Norway on pregnancies and births.

1.4. Other sources of non-comparability in the structure of biographical questionnaires

Thus far, we have sought to identify systematic deviations that make clusters of national questionnaires different from the model. However, as there are so many ways to combine biographies in a questionnaire, some countries were different from all the others.

In Austria, the biographical part of the questionnaire commenced with an inventory of all events such as moves and births (including adopted, step- and foster-children) plus the starting dates of spells in education, spells in work and new partnerships (including same-sex partnerships). After this phase, the interviewer "looped" back to all these biographies, with additional questions on the end of spells and the transformations from one category to another (e.g. from consensual union into marriage).

In Belgium, three histories were collected successively but included partly redundant information: marital status, living arrangement and intimate relationship biographies. Similarly information was collected on all the children who had lived in the respondent's

household, then on pregnancies and their outcome. Much data needed for the SRF had to be reconstructed from the combination of elements extracted from two or three parallel histories.

In Poland, "migration history" and "change in dwelling conditions" may also have been partly redundant modules.

Annex 1 summarises the main points on which the structure and content of the biographical modules for each national questionnaire depart from the model one.

2. Definition of the events and spells to be considered

In Annex 2, each biography-type event is assigned its definition according to the FFS model questionnaire. Most of these definitions are clear; some include a minimum duration to be considered, which most often was three months (migration, contraceptive and occupational biographies). However, that did not give the model questionnaire sufficient precision in all cases. We compared national questionnaire definitions with the model based on our reading of the questionnaires or the instructions to the interviewers, when available to us, in the original language or in translation.

Biographies may be rendered non-comparable due to differences in definitions or differences in the criteria that interviewers define a change from one spell to another. That was the case with migration biographies, when the minimum duration was as long as one year (Finland) or where movements within the same "municipality" (Poland), "commune" (Switzerland) or "settlement" (Lithuania) were excluded. Contraceptive biographies were another example, when questions were limited to the main method or to the last method used in an inter-pregnancy interval (Italy, Poland). In the latter example, both countries excluded the information from their SRF, but not all countries did so, and users must be aware of these discrepancies before starting to work with the SRFs.

Things were often much less clear-cut than suggested by the above examples, and it was very hard to gauge the incidence of a potential discrepancy in definitions. The PAU compliance table prepared by Erik Klijzing, FFS project manager during the 1990s, and available on the FFS website is helpful. It contains asterisks to draw attention to problematic comparisons; but it is only an indication, and a more detailed scrutiny is called for[29]. Annex 2 offers users additional material for decision-making, enabling them to take their own decision as to whether "partnership" is the same in France ("vie en couple"), in Switzerland ("faire ménage ou foyer commun") and in Canada ("living together as husband and wife").

Even more serious doubts arose when the definition, minimum duration or criterion for a move from one spell to another was unclear in the model FFS questionnaire. Let us consider a few examples:

- *Parents' divorce or separation*

The model questionnaire was fairly vague ("Did your parents ever separate or divorce?" If yes, "How old were you when this occurred?"). No minimum duration was indicated for separation; the case of parents who had never lived together was not envisaged; it was not defined if the age given should be that at divorce, at de jure separation or at de facto separation; in the case of several separations only the first was to be considered, but this is specified only in the instructions. So, it is doubtful whether the results are fully comparable across countries which adopted the model questionnaire, and an even more vexed issue for countries which added further particulars into their questionnaire.

- *Absence of duration in the definition of some events*

The model questionnaire set no minimum duration for parents' separation, leaving the parental home, partnership or co-residence with "other children." Attempts to add precision in some national questionnaires only reduced the comparability between national surveys. Minimum stay away from parental home was 3 months in Estonia, 4 months in the USA and 6 months in

Sweden and Switzerland. A partnership had to have lasted at least 1 month in France and 3 in Belgium and Greece. "Other children" must have lived a minimum of 3 months with the respondent in Switzerland, 6 months in Estonia and one year in Finland. How are we to know if other countries gave instructions to their interviewers on these points[30]?

- *Ambiguities with regard to movements between spells in the educational and occupational biographies*

In both the educational and occupational biographies, the model questionnaire gave no indication to the interviewer on what constituted a movement from one spell to the next. This led to ambiguities in the data collected.

For education, it is clear that completion of a course should conclude one spell and lead to a new row to be completed in the table, but the same probably should have applied when a level was completed (as described in ISCED1) or when there was a change in the domain studied (as described in ISCED2). But it is unlikely that these rules could have been applied to countries which do not precisely follow the ISCED1 pattern by level or the ISCED2 classification by domain i.e. nearly all countries. The same goes for countries that had no question on domains studied (Austria, Finland, Norway, Poland and Sweden). Transition from full-time to part-time education (or vice-versa) probably should have resulted in a new spell too, but what about those countries with no question on that point?

Finally, it should be noted that the model questionnaire allowed for two simultaneous curricula (see the skip instruction in question 808), which no national questionnaire did, except for Finland and probably Switzerland.

Similarly, neither the model questionnaire, nor its instructions, gave any indication on the reasons for a move from one occupation to another. Any change in activity status (Q815) was ascertained, but what about a change in type of work (Q816), a change of status in a job (Q817),

a change in work duration (Q818), or a change of job description (Q819)? Only in Italy was it clearly stated that any change must be taken into consideration: any "modification in the same work defined by a different professional status, a different kind of work (continuous or seasonal, full-time or part-time) ". Almost everywhere else, the lack of precision increased the risk of non-comparability. This was especially so if one or more questions were omitted, if the classification of occupations differed from ISCO or if the number of possible options in the answer differed from the model questionnaire (see below on the last point). Finally, there was no explicit reference to changes of employer in the model questionnaire, even if it was probably implicit in Q819 ("Do you still have the same job?"). In Germany, for instance, it was clearly stated that a change of employer must not be considered if it was not paralleled by a change of occupation or a change of job description[31]. The opposite interpretation was chosen in Austria, where changes of employer were considered, but not changes in the type of job or changes of status in the same job[32]. In Belgium, only changes in activity status or changes in work duration could conclude a spell, since there was no question on type of work or status. Poland and Estonia were even more restrictive: in the former, only changes in activity status could conclude a spell; in the latter, only periods of inactivity were enumerated. What about Switzerland, where the question was "Do you still have the same job?" but where jobs were characterised by domain, duration of work and status? And what about Sweden, which had an additional question in the "working schedule" (day work versus night work or weekend job) and the opening of a new spell when the respondent moved from one of these categories to another or when the number of hours worked changed?

The instructions attached to the model FFS questionnaire expressly envisaged the possibility of two simultaneous part-time jobs, which inevitably allowed scope for overlapping activity spells. One cannot be certain whether these same explicit instructions

were given to the interviewers, where the model questionnaire was adopted, except for Hungary and Italy where they were printed on the questionnaire itself. In countries with a specific national questionnaire on occupation, the possibility of two simultaneous jobs was sometimes clearly excluded. For instance, in Germany, the questions referred only to the "main job[33]", in Finland, to the "chief occupation", in Belgium, to the "main activity". In Poland, working spells were initiated by the end of inactivity and were concluded by the end of activity. In Switzerland and Sweden, ancillary activities were envisaged, but it is unclear whether they were included in the SRF.

- *How were partnerships initiated and concluded?*

In the model FFS questionnaire, a partnership was initiated when a couple started living together and was concluded when they separated, even temporarily (whatever the duration) and even as a result of external constraints ("forced living-apart-together or LAT[34]"). Consequently, direct marriage could occur before "partnership," if co-residence came later, and the resumption of co-residence after forced LAT was to be considered as a new partnership. This is unless the use of the term "forced LAT" was to be restricted to the present situation of couples and excluded from past spells. The instructions were unclear on these points and countries probably had their own interpretation of them.

Comparisons were further complicated for countries which added extra stages in the partnership biographies so as to detail the evolution of "relationships." Poland was a case in point, where a series of possible stages was envisaged from friendship to marriage, with a distinction between couples living together and living-apart-together (how were the latter considered in the SRF[35]?). Similarly, how were French couples considered, given that those living apart were not classified separately in the French questionnaire and separation was not defined as the end of co-residence[36]? What of other countries where there was no clear

definition of shared residence? What about Estonia, where the "starting date of partnership" could differ from the "starting date of sharing common space," and where "the end of partnership" could differ from "the end of sharing space." In both cases, the latter seems to have been taken for the SRF, but was that really consistent with the idea of couples living together, which the FFS designers probably had in mind?

In fact, these problems had two distinct origins:
- divergent criteria for the definition of couples and partnerships (was a shared permanent residence a pre-requisite?)
- housing conditions in some countries that may keep newly-married couples from starting to live together immediately or discordant couples from splitting up. With the essential criterion of the initiation and conclusion of partnership spells being that of shared residence, the FFS model questionnaire faced a challenge in countries with an acute housing shortage.

3. The choice of response options and the specific codes for semi-open questions[37]

For the few semi-open questions and some closed questions, the coding by countries for their national files may have differed from the choices offered by the FFS standard procedure. For countries with their own questionnaires, the risk is even more evident, as questions and definitions may have differed significantly from the model. But even when the model questionnaire was adopted, response options were sometimes added to closed questions. More detailed classifications in the national nomenclature presented no problem if the groupings in the more detailed classification could reconstitute the less detailed one without ambiguity. For instance, if manual workers were subdivided into skilled and unskilled workers, it is no problem. However, such was rarely the case. The clearest example is that of educational level. There were very few countries in which the educational system fitted the standard ISCED classification[38]. According to the PAU compliance table, comparability doubts

exist for all countries except Hungary and the Czech Republic on Q801, and for all countries except for those same two plus Spain and Finland on Q805[39]. However, even for the Czech Republic there were 10 response options instead of the 7 in the model questionnaire. According to the Hungarian Central Statistical Office[40], "the variables V801 and V805 can get values 0-6 depending on the educational level, but in the Hungarian SRF their content was not identical with the educational level of the values 0-6 indicated by the ISCED. The attention of potential users of the Hungarian SRF must be directed to this fact in every case." Conversely, the Finnish nomenclature fits the ISCED definitions[41].

Instances of divergences in the response options between the national and model questionnaires abound.

- On reasons for leaving the parental home (Q317), Switzerland and Estonia added study and/or military service; Belgium offered quite different items.

- On the methods of contraception (Q515): the list has been shortened in Belgium, Estonia, Germany, Lithuania and the USA; expanded in Austria, Czech Republic, Finland, France, Poland; and modified in Italy and Norway. Two concurrent methods could be stated in most countries, but only one in Poland, and more than two in Hungary, Latvia and the USA.

- The main differences are concentrated in the occupational biographies. In the model questionnaire, there were six response options on occupational status (Q817). However, there were only three in Norway, four in Belgium, Finland and New Zealand[42]; but eight in Germany, Lithuania and Latvia, nine in Austria and 15 in Italy. In addition, similar numbers of options are no guarantee of similarity of content (see Latvia and Switzerland). More significant still was the range of items to describe "the main activity" during the "gap" between two occupational spells (Q815). There were five in the model questionnaire: employed (for spells shorter than three months), unemployed, housewife, study and "other;" just three in Norway (unpaid homework, unemployed, "other"); but many more in Austria, Belgium, Estonia, Finland,

Lithuania, Poland, Sweden, Switzerland, with details such as maternity leave, child raising, military service, travelling, illness, disability or retirement, or specific activities like unpaid work, home-work, language learning. Some of these items underline failings in the model questionnaire, with its lack of precision on maternity leave and child-raising leave.

C. A TENTATIVE OVERVIEW OF COMPARABILITY IN BIOGRAPHIES

Annex 3 gives an overview of various factors (structure of the questionnaires, definition of events and spells to be considered, choice of response options and specific codes) and their possible impact if the SRFs are used for comparisons. This includes age at parents' separation, age on leaving the parental home, age at first partnership, age at first contraceptive use, age at end of studies, age at first job, contraceptive use, educational level and occupation. Most of these events or situations are discussed in the SCRs and it is useful for users to know whether they can compile corresponding tables for comparative analysis.

Educational and occupational biographies aside, the row entitled "Certainly incomparable" has rarely been used. Only countries with accumulated divergences from the model questionnaire, very specific definitions or a very specific questionnaire structure have been entered as such. The row entitled "Comparable to some extent" contains many more entries, because questionnaires often differed from the model with respect to a number of minor points. A brief explanation has been given, so that users can make their own decisions as to whether to keep or drop the information. The "Probably comparable" row comprises countries which used questionnaires very similar to the model and those which differed on minor conceptual points or question wording. In cases of uncertainty about the right classification, or when the reasons for a decision need to be explained, a comment has been included in the final row.

All these examples point to the same conclusion. Even if similar information could have been obtained from the 24 countries that participated in the FFS, the questionnaires used to collect it were in some cases structured very differently. It is difficult to establish from a comparison of the results whether these discrepancies have resulted in non-comparability of the data. A special scientific protocol would be needed to test such a hypothesis. What must be stated is that considerable caution must be exercised when using material which the SRFs present in a systematic and homogeneous format but which was collected using very different tools.

V.   THE STANDARD RECODE FILE

Since the model questionnaire – even the core modules – was only a suggestion to the countries, a comparative database could only be compiled if the variously designed national files were converted into SRF format by re-coding the national data into a standard format. A well-defined file was designed – the so-called Standard Recode File (SRF) – that fitted the model questionnaire. Transforming the information derived from the national questionnaires into these standard files was the key technical challenge for the FFS. The PAU staff wrote the instructions and codebook for the SRF to enable each country to do this work. In some cases, the PAU team was deeply involved, especially in the initial phases of testing the process. In the later stages, it stayed in close contact with the countries so as to maximise the internal consistency of results.

A. STANDARDISING THE DATA FOR THE SRFs

Even with help from the PAU, the recoding work was taxing for countries whose questionnaires departed significantly from the model. Larry Bumpass commented on the US situation, where the National Survey of Family Growth (NSFG) was taken as the basis for the FFS SRF: "It took a GREAT deal of work to hammer the NSFG data into the FFS format." In the USA codebook, he stresses: "It is important to understand that this survey was conducted completely independently from the FFS program. (...) Every effort has been made to recode comparable variables as closely as possible to the FFS coding. Nonetheless, exact matches were often not possible even when similar variables were collected. (...) Many variables in the FFS are not represented in these data, and the coding of a number of others could only be approximated." In conclusion (emphasis added): "The user must take care to read the codebook and note the annotations set off in brackets and bold italics – these indicate differences between the NSFG and the FFS. Categories that are not available in this USA file are earmarked by an asterisk beside the code. Variables not available are indicated in bold capital letters." Similar comments were made by other countries such as France.

Examples of annotations taken from the US and French codebooks

V203	Current marital status	2. Married
		3. Widowed
		4. Divorced
		5. Legally separated
USA codebook: ["Separated" includes non-legal.]		
V204	Marital cohabitation?	1. Yes
		2. Not any more
		3. Not yet
USA codebook: [If the husband was not in the household, it was assumed to be "not any more" given the US context.]		
V205	Reason for not living together	1. Marital discord
		2. Forced LAT
USA codebook: [If respondent included both marital discord and any other reason, it was coded as marital discord.]		
French codebook: [code 1="to stay independent".]		

Record: 21 (partnership history)

USA code book: [Marriages and cohabitations were sorted by start date to order them into the FFS format. Some errors appear in the data due to overlapping dates given by the respondent or missing dates. Rather than trying to resolve inconsistencies, the data appear as in the source file. This problem on occasion leads to overriding a skip in the FFS, for example if the respondent said that one relationship was the current relationship, but after sorting by date, there appears to be another relationship after the "current" one.]

Record: 30 (children)

USA codebook: [The source data allowed these categories to overlap (e.g. step-children could have been adopted). For the purposes of the FFS, step-children who were adopted were counted as step-children. Foster-children who were adopted were counted as adopted children.]

French codebook: [In the French data are only listed the children of respondent and other children aged less than 18. First biological children, second adopted children, third partner's children, fourth other children.]

| V512 | Sexual intercourse last 4 weeks? | 1. Yes |
| | | 2. No |

USA codebook: [The source data allowed respondents to list up to four spells of no intercourse. Over 200 respondents gave four periods that did not include the interview date. If these respondents actually had more than four spells, some of then may have not included a current spell of non-intercourse as one of the four. In those cases, respondents may erroneously be assigned as having intercourse here (i.e. V512 = 1).]

French codebook: [In the French data, this variable is not very accurate, as all men and women who use contraception are presumed to have sexual intercourse. People who do not use any contraceptives at the time of the survey were asked why. No sexual intercourse was the first answer proposed, among others: (partner) pregnant, want a child, infecund, don't want to use contraception, other, don't know, no answer.]

| V518 | Contraceptive use of 3 or more months? | 1. Yes |
| | | 2. No |

USA codebook: [The source data collected a month-by-month contraceptive calendar from January 1991 to the interview in 1995. V518 = 1 if this calendar indicated that there was three or more months of consecutive use during this time or if the method used in January 1991 had been in use for three or more months.]

From these and other examples, the difficulties in constructing a fully comparable tool can be classified under three main headings:

- Most stemmed from differences between national questionnaires and the PAU model. Apart from excluded questions and excluded items in the answers, there were also wording differences – groupings, blanks, approximations, etc. – which required adaptations.

- In a few cases, there were differences in basic concepts. For instance, in Italy, the concept of "head of household" (excluded from the usual Italian standard definitions) was replaced by "economically independent from your parental family". In the USA, the source data contain employment, rather than job spells. These employment spells include periods of paid employment only.

- In some cases, there were differences between national classifications and the international standards, which were difficult to resolve. In France, educational attainments were assigned to the three aggregate levels of ISCED by inference from the information about the age at the end of initial studies and level of education.

Most of these cases were discussed in detail in the earlier chapter on comparability of the questionnaires. To maintain the same level of precision in evaluation, we must now consider how national variables were transformed into the

standard variables. The PAU compliance table – available on the FFS website – is a synthesis of this. For each variable in the SRF, it indicates the most closely comparable variable for use in each national questionnaire; asterisks are used to signal approximations. The publication produced by the CBGS for the Belgian file is an extended version of this table, with an indication of the many questions which could have been used to define a variable in the SRF, depending on the previous stages of the respondent's personal history[43]. Even more specific would be the computer program which was used to convert the national file into the SRF. The compilation and the archiving of these programs could be a project for the future.

B. LIMITATIONS IN COMPARABILITY OF THE SRFs

A number of participating countries adhered more or less precisely to the FFS model questionnaire. For these surveys, transforming the national data file into the SRF was a relatively easy, if cumbersome, task. Broadly speaking, the results are reliable. With a very few qualifications, much sound comparative analysis should be possible from a pooling of these recoded files.

This is far from the case for other countries which developed their own questionnaires and, more especially, their own strategy for gathering information on individual biographies. For these countries, the situation was not unlike that which prevailed in the CFS, two decades earlier. Surveys, which had not been harmonised beforehand, were reconciled afterwards, for comparative statistical analysis. In the CFS case, it was decided that researchers would have to develop their own harmonised databases by sifting through the original questionnaires, national data files and all the material and information made available by the national representatives. The FFS reversed this and asked those in charge of the national surveys to convert their data into the pre-set format, before

opening the database to comparative research by outsiders.

There are pros and cons to both options, and the choice is a matter of weighting. In the CFS procedure, the comparative database was created by its analysts in order to fit with their scientific objectives. Their decisions may have lacked knowledge of national peculiarities and conditions of data collection, which they were not involved in. A different team undertaking a new but different comparative analysis might have made other choices for data harmonisation. In the FFS project, the recoded files were adapted to a normative standard by the authors of the national surveys, who were fully aware of their national peculiarities and conditions of production. However, their choices were not necessarily suited to all research aims. Future comparative analysts will clearly lack the familiarity with the source data which they would have gleaned when creating their own database.

At best, the use of the SRF may be frustrating for those who might have preferred other choices after consulting the national questionnaires, annotations to the national codebooks, etc. At worst, the comparative database might be taken at face value to produce unqualified results. As the SRFs were not generally used by their authors for the production of their national results, it is possible that unnoticed discrepancies have crept in to the recode files. A minimum guarantee for informed use of the SRFs would be to have the questionnaires and codebooks distributed together with the files and continuously supplemented by users' comments on errors and pitfalls in the database.

C. AN OVERVIEW

The SRF is the cornerstone of the FFS project. It converts the mixed bag of material collected by the national questionnaires into comparable files. It paves the way for comparative analysis. The file design follows that of the model questionnaire. The PAU had to supervise,

and in many cases carry out, the conversion. The successful completion of this is one of the most remarkable achievements of the entire FFS project. Turning heterogeneous information into a standard product for a large group of countries is a challenge faced by various statistical institutions: e.g. Eurostat for census data in Europe, WHO for causes of death in the world, the UN Population Division for worldwide population forecasts, etc. Never before had such a complex biographical questionnaire been subjected to standardisation for such a large number of countries, through a decentralised yet controlled procedure. This is a remarkable innovation deserving due acknowledgement.

But you cannot turn dross into gold! The differences between the national questionnaires and the FFS model questionnaire can only be filled by reasonable approximations. The most important thing is probably to document all the stages of that complex procedure as fully as possible and to make the information available to users of the database in order to avoid misinterpretation.

VI. THE STANDARD COUNTRY REPORTS

From the Standard Recode Files, thirty-two tables (numbered 4 to 35) were designed as the framework of a Standard Country Report (SCR). This standardised format of the data (available on the FFS website) opens the series of reports to comparative analysis. The choice of tables reflected the original aims of FFS, which could be put under two broad headings: family was at least as important as fertility as a topic; biographies and their interrelationships were the approach chosen for understanding individual behaviour in a birth cohort perspective.

A. THE STANDARD COUNTRY REPORTS AND THE MAIN FFS OBJECTIVES

There was a strong focus on partnership, not only *per se*, with the frequency, timing and form of first union, and its possible dissolution, but also in conjunction with fertility tables showing partnership status at first birth. Leaving the parental home was another typical family issue. A total of eight tables, some of them multiple and complex, are devoted to these family topics.

There is great similarity in presentation of the FFS biographical statistics despite the varied content of the tables. All the selected facets of personal history are present in one or more standard tables: leaving school and parental home, first sexual intercourse and contraception, first partnership and birth, live births and induced abortions, first employment. The only omission is the residential history, which was optional in the model questionnaire and was not surveyed by most countries. Most of the events are detailed by age group, so that their timing is documented together with their total frequency. Only the ages at first intercourse and first contraception are summarised by their medians. Also, associations are made

between biographies: first birth and partnership; first intercourse and contraception; studying or working and having children. Revealing linkages between facets of individual histories was one of the challenging objectives of the FFS.

Most of these behavioural aspects could only be elucidated through survey data collection. On the one hand, the development of unregistered partnerships has deprived statistical offices – long considered as the main source for the study of family formation and dissolution (including, of course, fertility) – of much of their relevant data. On the other hand, the wealth of census data, covering a wide range of topics concerning individuals and their families (place of residence, education, occupation, etc.), remains generally limited to static information that at best summarises life-long experiences but tells nothing about their life-course. The FFS gives access to a much more dynamic information package and the SCRs give a detailed picture of international diversity from this perspective.

But although broadly in line with the spirit of the FFS, the SCRs have remained somewhat reticent on all these matters. While partnership features more prominently in the reports compared to pre-1980 surveys, it is still covered to only a limited extent. Fertility remains the main focus of the reports with 18 tables, more than double the number of the more specifically family tables. The latter aspect is still only poorly covered. Only first partnership is shown, with nothing on first marriage; only separation from the first partner, with nothing on divorce or later unions; only first birth and partnership status, with nothing on children and separation or children in successive unions. In other words, the SCRs give information on the earliest phases of family life, but

gloss over other major and rapidly developing family forms such as one-parent and reconstituted families, which are more frequent at later stages of life.

More generally, the biographical approach tended to confine itself to first events, paying little heed to subsequent episodes, except for dissolution of first partnership and successive births after the first one. This reduces the probability of observing connections between phenomena. Fertility (first and later births) may be associated with economic activity (all job spells), without much correlation between first employment and the birth of a first child. That is why the SCRs appear so tentative on the relationships between biographies. Either the different dimensions of individual life have simply been placed side by side with no attempt to connect them; or the dynamics of one or both phenomena have been forsaken for a classical association of fertility (or having children) with partnership, student or activity statuses. The list of disregarded topics is a formidable one: leaving parental home could have been associated with first job or first partnership; partnership with educational career or employment; links between fertility and other biographies could have been extended to men, etc. Even the technically simple correlation between attitudinal variables and various careers has been omitted. However, if more topics had been included, the reports would have been considerably longer and so even more time-consuming to prepare and less digestible to read.

It is likely that the designers of the SCRs were aware of their self-imposed limitations. In particular, the decision to favour description over explanation was probably a hard but judicious one. Whatever the ambitions of a programme aimed at clarifying changes in family and fertility throughout the UNECE region, knowledge must be built up one brick at a time, starting from limited but original statistics, moving on to derived statistics and modelling through somewhat imperfect and debated tools. Given the novel information gained from the FFS data in most countries, it was probably beneficial that many of the FFS project's aims were put aside when designing the SCRs, which for the purpose of international comparisons, offer only a partial view of the FFS data content and a mostly descriptive approach to it.

B. THE COHORT APPROACH AND OTHER ISSUES

The emphasis placed on retrospective biographies rightly made the cohort approach predominant in the SCRs. All the standard tables have the respondent's year of birth as an entry - in classical five-year groupings for most countries, and every fifth single year cohort in Norway and Sweden. Most tables also took age or duration for recording the timing of events: age at parental home-leaving for each cohort, age at first partnership or first birth, duration since first partnership at first separation, duration between first, second and subsequent births etc. Most of the statistics are tabulated as a frequency distribution by year (age or duration), though some are merely summarised by median ages.

Most of these choices are straightforward and proper, and afford scope for fair international comparisons. Others are more questionable, due to the definition of the cohorts and the use of duration variables in describing careers in the cohorts.

The use of age at survey as a proxy for year of birth was considered earlier: country-to-country differences in field survey dates mean that the same age groups commonly refer to different birth years. The choice of a unique set of birth cohorts (eg. 1945-1980 in 5-year bands) for the production of the standard tables in all SCRs would have been more consistent with the FFS cohort approach and would have facilitated future cross-country analysis.

The use of age as an analytical variable for the timing of various events partly solves the problem. Consider the

case of two countries that took their surveys five years apart, say France (1994) and Greece (1999). In the standard tables, the French results at age 30-34 and the Greek results at age 35-39 refer to the same birth cohorts, but the proportions of women who had ever had a birth cannot be compared, because they were sampled at different ages. However, since the timing of the first birth is detailed by mothers' age, the proportion of women who had had a first child before the age of 30 can be calculated and compared in the two countries. A five-year birth cohort surveyed in two countries at a five or ten-year interval affords a valid comparison, if controlled by age. That property adds to the importance of such tables in the country reports.

By contrast, failure to include the age variable or its use as a derived statistic (median) severely limits the use of some standard tables. A five-year birth cohort surveyed at different moments in time was unequally exposed to risk. That is the case, for example, for the number of ever-born children or the median age at first intercourse. With such tables, the cohort approach should not be used for international comparisons.

On somewhat similar grounds, the use of duration variables other than age is debatable. Let us look at the problems for cross-cohort comparisons in one country or for cross-country comparisons for one cohort surveyed at different dates. Take the first case, with two cohorts identified by their age at survey, respectively 25-29 and 35-39, for a study of partnership dissolution by partnership duration. Older interviewees were able to initiate their partnership at older ages than the younger respondents; the comparability of the two groups is, therefore, affected, because partnerships formed at older ages are more stable than at younger ages. For the comparison to be valid, age at partnership should be used as a control. Similar reasoning points to similar conclusions for international comparisons of birth cohorts surveyed at different dates. For this reason, standard tables that refer to the conversion of consensual unions to marriage, the dissolution of partnerships or

the sequence of births can be difficult to compare fairly country to country. Probably conscious of that risk, the designers of the standard tables chose to focus their analysis on first events when a sequence would have been possible: first leaving home, first sexual intercourse, first partnership, etc. This led their description towards younger-adult behaviours.

Some reservations about the SCRs have already been voiced in earlier chapters. The sampling design, generally inadequately described in the published results, does not allow the calculation of confidence intervals, which is essential to an appreciation of the statistical significance of country-to-country differences. Despite the painstaking preparation of the SRFs, which were the basis for the tables, it was not a requirement to add any country-specific footnotes to draw the readers' attention towards database peculiarities which might have implications for the international comparability of the results. Neither was there a required footnote to explain the reasons for possible size variations in the effective sample for the same age groups between tables. These variations may be attributed to non-responses, and clarity would have been gained by explicitly stating their number. Finally, there is no footnote on the potential discrepancies between the results published by the UNECE in the SCRs and those published elsewhere by the survey authors from their national databases. This problem was acknowledged by some countries. These omissions are other signs of under-documentation from which the comparative database suffers.

More generally, few of the reservations expressed have any bearing on the cogent and unique description which each report gives of changes in family and fertility in the various countries. Our main concern here and throughout this report remains the comparative validity of the compilation of standard products for the UNECE region. From this point of view, the value of the reports would have been greatly enhanced if they had included certain statistics and footnotes which would

enable users to know their many strengths and their few weaknesses.

C. AN OVERVIEW

The SCRs were designed after the SRFs. They provide a first step towards comparative analysis. They provide a systematic set of tables that describe the main features of fertility and partnership in the FFS countries. The use of sex and year of birth as a general frame for the construction of most tables gives a solid gender and cohort approach. The production of 24 such national reports will constitute an impressive set of snapshots of the situation of the family in the 1990s across the industrial countries.

While the picture of some original aspects like age at leaving parental home or first partnership is quite detailed, there are also glaring omissions, such as on divorce and separation. More generally, the focus is almost exclusively on first events – i.e., on younger ages – and is descriptive rather than explanatory. The most ambitious aims stated by the FFS – especially the association of biographies, as dependent and independent variables – are heavily under-represented.

Nonetheless, description is always a first key step towards more comprehensive analyses. It is doubly important as international standardisation of reported statistics paves the way for instructive comparative analysis. One might, however, wish for an accompanying clear statement of reservations, which could hinder absolutely fair comparisons from being made. That is why documentation must be a major goal for the final phase of the FFS. This should be in tandem with a more intense effort to encourage research in the direction of causal interpretation. This should be the main aim of the comparative analysis of the international database.

VII.   CONCLUSION

Compared to its predecessors, the FFS project had a more comprehensive coverage of the UNECE region. The 24 countries in the project included parts of the former USSR (Baltic countries) and overseas countries (Canada, New Zealand, USA). However, some populous countries such as Great Britain, Romania, Russia, Turkey and Ukraine did not participate.

Compared to previous studies, the core scientific aim of data collection and analysis shifted from a firmly fertility-oriented project focused on married women to a broader family perspective, which included sampling respondents of both sexes and of all marital statuses. As in the WFS, the control framework was loose, and two key tools – the sampling frame and the questionnaire – remained purely for guidance, leaving countries ample scope for national adaptation. Designing the SRF to be provided by every participating country produced a truly comparative database. Comparative analysis was no longer confined to a predetermined, closed group of researchers. Instead each participating country had a stake in the results by the production of their national SCR. Free usage of the international data base was offered to scientific researchers who submitted requests.

A. THE COMPARABILITY ISSUE

1. Comparability of survey and sample designs

1.1. Survey design

It was decided at the outset to give the survey a family rather than fertility focus, and to put family building in a life-event perspective through the collection and simultaneous analysis of multiple retrospective biographies. Whereas previous surveys had focussed almost exclusively on women, and generally married women, in this project they were no longer the sole universe sampled and fertile ages were no longer a criterion for inclusion. The gender approach resulted in discrete male and female samples. Nevertheless, men were under-sampled in most cases, probably from being regarded as less reliable informants than women, and for having less intense bonds with their children than mothers do. It was also decided not to have both partners in couples interviewed, unless countries took a positive decision to do so. These sub-samples aside, all marital statuses were put on an equal footing in all countries, without differentiated probabilities or even stratification on this characteristic.

Notwithstanding the family perspective, the age limits of samples remained confined to fertile ages: under age fifty for women and sometimes five years older for men. Some countries even set a lower ceiling, for instance forty years, which was unfortunate.

1.2 Sampling design

Many technical aspects of the sampling, albeit highly disparate in the FFS surveys, are probably not significant for the comparability of the data collected. They are second-order considerations when compared to more fundamental issues like sample size and, even more importantly, response rates.

1.3 Sample size

A critical discussion of sample sizes is possible only if they are set against the general objective of the FFS: a biographical analysis of birth cohorts. The consensus was that these cohorts should be in five-year bands and the standard country tables were designed on this basis. The average sample size of the gender-specific cohorts, whether in five-year bands or every fifth

single year, gives a fair idea of the uncertainties associated with the sampling procedure.

In the female samples, the average number of respondents per cohort was over 800 in Belgium, Finland, Italy, the Netherlands, Portugal and the USA. However, the average number was below 500 in the Czech Republic, Latvia, Lithuania, Slovenia, Greece and New Zealand. Taking all the female samples, the difference between the largest and smallest sample sizes are not great and indicate an acceptable degree of accuracy and comparability. In contrast, for the male samples, the situation is less favourable. In the best cases, the average cohort size was just under 800 (the Netherlands and Norway), but barely over 200 in three countries (Austria, Italy, Latvia) and even below that in two (Czech Republic and Greece).

1.4. Response rates

In some countries, non-response rates were not published or were difficult to interpret. In a number of cases, the non-response rates were high enough to raise issues about the representativeness of the survey results; in various (and sometimes the same) countries, the procedure for dealing with non-responses was unclear or doubtful. Complexity of sample design is a major obstacle to information about non-responses. Explanation of the non-response rate should be as comprehensive as possible, so as to include the different phases of the fieldwork, from screening to substitution, preferably with a specific rate at each stage. While the initial stratification had mostly been based on geographical aspects like regions or settlement sizes, post-stratification also introduced various demographic aspects such as age at survey (or year of birth), marital status or household characteristics. The substitution procedures described in the SCRs were often rather vague, making it impossible to come to firm conclusions about their statistical relevance.

2. Comparability of the questionnaires

2.1. The model questionnaire

Biographies were collected independently from one another, except for "other pregnancies" which were explicitly linked to live births. Data quality in contraceptive biographies could have been improved had they been more systematically linked to partnership or pregnancy dates. Similarly, making explicit links between residential and occupational biographies or, at least for women, between occupations and births, would also have been beneficial.

The FFS adopted chronological order for the organisation of biographies. This is a "natural" tendency, but not one endorsed by all survey practitioners. Some prefer to start from the most recent events and move backwards to more remote times. This is not common practice, and we know of no comparative evaluation of the two methods. Some researchers, based on psychological experiments, conclude that independent events (exam dates) are better recalled in reverse chronological order, while the remembrance of events possibly linked by a causal order (successive visits to medical doctors) is better organised by chronological order.

2.2. The national questionnaires

Only seven of the 24 countries adhered to the exact, or near-exact, model questionnaire (Czech Republic, Greece, Hungary, Latvia, Lithuania, Slovenia and Spain). In some countries, their survey took place before the model questionnaire became available. But in most cases the reasons for discrepancy lay elsewhere: either it was felt necessary to adapt the questionnaire to specific national attributes, or the survey was part of a series and priority was given to consistency between the current questionnaire and those of past surveys, for comparability purposes.

Some countries tried to facilitate and systematise respondents' efforts to remember and organise their biographies, by listing reference dates in a table, chart or

sheet. In a less systematic and formal way, other questionnaires intertwined a small number of biographies to reinforce the consistency of each, where factual links exist between episodes in respondents' life courses. Associated biographies varied from country to country.

Biographies that were collected as one piece of information in the model questionnaire were sometimes split into two or more units. Partnership biographies were split into extra-marital unions and marriages, birth histories into own children and other children, etc.

Although the aim was to obtain comparable data from the 24 countries that participated in the FFS project, the questionnaires to glean it sometimes differed widely in structure. When observing contrasting results from different countries, it is difficult to prove whether these are true differences, or whether they originate from non-comparable data. Caution must be exercised when interpreting such results.

3. The Standard Recode File and the international database

A model file was designed - the so-called Standard Recode File – that corresponded to the model questionnaire. Transforming the national information as derived from the national questionnaires into standard information was the key technical challenge for the FFS. The PAU staff wrote the instructions and codebook for the SRF to enable each country to prepare the file. In some cases, the PAU team was deeply involved, especially in the initial phases of testing the process. In the later stages, it stayed in close contact with the countries to maximise the internal consistency of results. Even so, it was taxing work for countries whose questionnaires departed significantly from the model.

The SRFs for each country were produced by the representatives responsible for their national surveys, who were, therefore, fully aware of their national peculiarities and conditions of production.

A minimum guarantee for their informed use by outsiders must be to have the questionnaires and codebooks distributed together with the files and supplemented with other users' comments on discrepancies and pitfalls in the database.

The steps recently taken by the PAU to archive these documents for future users are the most conclusive evidence that the programme intends to remain a high quality public service for the scientific community.

B. RECOMMENDATIONS

The FFS may be regarded as a success story, but not yet a completed one. Further steps could still be taken that would enhance the programme's value for the users of its products. Looking beyond the FFS, lessons can be learned, so that future programmes build on the most positive aspects of the experience gained in the 1990s.

1. To bring FFS to a successful conclusion

While this report was in progress, the PAU made archiving the FFS a priority, with the help of some European population institutes. The outcome has been very positive and has resulted in a completely redesigned, reorganised and expanded FFS website. In addition to general information on the FFS programme and results extracted from the databases, most of the unpublished material that was compiled into this present report has now been made available to potential users. National questionnaires have been reproduced and the PAU compliance tables point out discrepancies between the information expected in the SRFs and the actual inputs provided by the countries. This puts present and future users in a good position to evaluate the validity of the data at their disposal.

But archiving is not a once-for-all procedure. Regular updating is required. New users of the FFS data will make their own assessments of the strengths and weaknesses of the information released.

This information has to be made available to everybody. A website is a good way of doing that, if users are told about its existence and contents, and are regularly encouraged to add progress reports on their work.

At the end of this evaluation, we are aware of its shortcomings. Its focus on the comparability of the international database sidelines various aspects of the FFS programme that also need evaluation. Two important issues come to mind.

- Our evaluation was done at the international level, and so tended to gloss over national aspects. One question worth investigating would be: what was the country-specific contribution of the FFS to statistical practice and demographic knowledge? Diverse international practice in the traditions of taking fertility and family surveys means that further investigation of this could be highly relevant.

- The second issue is that no evaluation could be made of the scientific output, the main reason being that this report was completed before the effective end of the programme. The publication of the SCRs and the call for requests for data for comparative analysis were welcomed, but it was too early to come to firm conclusions about the effectiveness of these two initiatives. Our concern with data comparability drives us to wonder what comparative knowledge the FFS has produced which could not have been gained otherwise; we would like to know whether the FFS's decentralised procedure – involving major data harmonisation efforts by the countries themselves, and in which an important part was played by researchers initiating comparative data analysis – will prove to be more or less effective than previous, more centralised projects, such as the CFS in the 1970s and the WFS in the 1980s.

2. Lessons for future programmes

The FFS was an instructive experience, and it is to be hoped that new FFS-type programmes will be launched in the UNECE region. Preparations for the FFS involved much reflection on the scope for setting up a comparative survey and harmonising its outputs. Evaluation of the procedure has given rise to more thought on the same issues. These assets must be built on.

When the FFS was launched, it was known that similar sampling methods could not be adopted across the whole UNECE region and that national methods had to be relied on, provided they were based on a sound random procedure. This was a sensible approach, given the cross-country diversity of sampling bases, but a bigger focus is needed on obstacles to randomness, i.e. non-responses. Clear guidelines are required on a harmonised approach to this issue.

The first and probably most important point is fieldwork. "Good manners" can hardly be codified in such a way that response rates are maximised everywhere. However, certain guidelines might be definable, for instance on issues like the minimum number of visits that must be made to a sampled address before it is classified as a non-response.

The second issue is the standardisation of non-response statistics, which should be defined with sufficient precision for a single index to be shared by the participating countries. It is too important an indicator of data quality to leave its content open to doubt, especially in a comparative perspective.

A third issue relates to certain procedures. Substitution methods should be carefully debated before being accepted and then should be verified and unified in practice. Post-stratification should also be discussed: criteria for the measurement of distortions due to non-responses and criteria used in re-weighting should not be totally country-specific. Given the general objectives of such a survey, there should be some international agreement on a limited set of variables that can ascertain the statistical validity of the information gained from the respondents.

Likewise, it is not really conceivable that all countries in the vast UNECE region could adopt a single model questionnaire without minor or major adjustments. It is rarely possible even in an administered region like the European Union. Competing national objectives (including comparability with previous national surveys) will for a long time be at odds with ideal international comparability.

Two specific difficulties arose within the FFS project: when surveys were taken before the model questionnaire was drawn up, and when surveys were taken without reference to the FFS and were then "hammered into" the FFS tools later. Obviously, this is not a criticism of the countries concerned, whose special characteristics did much to enhance the programme. This was particularly the case with the "pioneers" on whose accumulated experience the model questionnaire was built.

On a more general note, the FFS had to choose between cross-country comparability and geographical coverage. Emphasis on the latter was probably a wise decision, since analysts are always free to drop from their research any countries they consider to diverge too far from any

standard. That said, better co-ordination among the participating countries could have helped reduce the widest deviations.

Overall, these deviations were many and various. The PAU and this report have identified some if not all of them, but have not fully assessed their impact on comparability. There were significant differences in the organisation of questionnaires, the definition of concepts, the wording of the questions and the lists of response-items. However, we do not know how these disparities have affected the results. In future, we should be better informed on these points, so that countries can be advised on what scope exists for diverging from the model. Controlled tests should be set up to help validate choices. Where countries wish to introduce variants in the model questionnaire, could *they* not test them out and share their experience with the other participating countries

The FFS programme has been a "quantum leap forward" in our knowledge of fertility and family behaviours throughout the UNECE region. Adopting the recommendations from this evaluation could be another small step in the same direction.

ENDNOTES

[1] Fertility and Family Planning in Europe around 1970: A comparative study of twelve national surveys, *Population Studies, n° 58,* United Nations, New York 1976, 180 p.

[2] J. Berent, Directions and methods of analysis of World Fertility Survey data in low-fertility countries, *International Population Conference, Mexico 1977,* International Union for the Scientific Study of Population, Liège, 1977, pp. 67-86.

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P. Festy, Making children the focus of family demographics: data collection and analysis, XXIIIrd General population conference (Beijing, China), INED, 1997, pp. 111-119 (*Dossiers et Recherches, 69B*).

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N. B. Ryder, La mesure des variations de la fécondité au cours du temps, *Population*, n° 1, 1956, pp. 29-46.

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[6] A. de Rose, Scelte di fecondita' e di infecondita': i fattori determinanti individuali di contesto, in Secondo convegno dei Giovani Studiosi dei Problemi di Popolazione. *Studi di popolazione. Temi di ricerca nuova*, Roma 25-27 giugno 1996, pp. 31-50.

[7] D. J. Van De Kaa, Postmodern fertility preferences: from changing value orientation to new behaviour, *Working papers in demography*; 74, Canberra: Research School of Social Sciences, 1998, 52 p.

[8] P. De Sandre, A. Pinnelli, A. Santini (a cura di), *Nuzialità e fecondità in trasformazione: percorsi e fattori di cambiamento*, Bologna, *Il Mulino*, 1999, 844 p.

[9] Estonia is a confirmed exception (see Table 3).

[10] L. Kish, Le cumul ou la combinaison d'enquêtes démographiques, *Techniques d'enquête*, n° 2, décembre 1999, pp. 147-158.

J. Cleland and C. Scott in collaboration with D. Whitelegge (eds), *The World Fertility Survey. An assessment*, Oxford University Press, 1987, 1058 p.

[11] J. M. Hoem, *The issue of weights in panel surveys of individual behaviour*, Stockholm Research Reports in Demography; n° 39, 1987, 45 p.

P. Festy, *cited* note 3.

[12] In the Netherlands, several persons could be eligible in each household. Response rates were calculated "at household level", i.e. when at least one person responded. Such a procedure inevitably overestimates response rates at individual level.

[13] A. Marsault, I. Pool, A. Dharmalingam, S. Hillcoat-Nallétamby, K. Johnstone, C. Smith, M. George, *Technical and Methodological Report,* PSC, Technical Report Series, n° 1, December 1997, p. 30.

[14] The Netherlands*, Standard Country Report,* p. 43.

[15] Technical and Methodological Report*, previously cited, p. 34.

[16] Personal communication, Haris Symeonidou, 04/05/2001.

[17] Switzerland*, Standard Country Report,* p. 42.

[18] Only when the interviewee could not remember the year of some event did the interviewer offer to help her with references to other dates already collected: "In case of serious doubts, try to help the respondent "narrow down" the range of possible years by referring to the dates already recorded and asking, "was this before or after event X?"" (*Interviewers' manual,* p. 66, question 108).

[19] Once again, the suggestion is only in the *Interviewers' manual* (p. 70, questions 520-526): "Try to assist him/her, if necessary, by probing for contraceptive use before and after marriage, before and after births, etc.".

[20] See also Groupe de réflexion sur l'approche biographique, *Biographies d'enquêtes. Bilan de 14 collectes biographiques*, Paris, PUF, 1999 (*Méthodes et Savoirs*, 3); N. Auriat, *Les défaillances de la mémoire humaine. Aspects cognitifs des enquêtes rétrospectives*, Paris, INED-PUF, 1996 (*Travaux et documents*, Cahier 136).

[21] See for instance: P. Simon, M. Tribalat, Chronique de l'immigration, *Population,* 1, 1993.

[22] J. Tanur, Some cognitive aspects of surveys, *Journal of Official Statistics,* 4, 1987.

[23] Bulgaria, Italy, Germany, New Zealand, Portugal.

[24] For the impact of the organisation of questionnaires on the content of the answers, see for instance: J.-P. Gremy (1993), Questions et réponses : quelques résultats sur les effets de la formulation des questions dans les sondages, *Sociétés contemporaines*, n° 16, pp. 165-176.

[25] Personal communication from Timo Nikander.

[26] Biography of children that respondent "had ever had in her household" is before the pregnancy biography in Belgium.

[27] The field-guide was not translated into English. The Swedish questionnaire is close to the Norwegian one on this point: "parallel activities" (two jobs or one job + studies) are clearly identified.

[28] A maximum is set as: two interrupted partnerships of each type and the current one.

[29] Some asterisks are missing for some probably incomparable information. There are also some errors or ambiguities in the number of questions which are said to have been used in the production of the SRF.

[30] In Belgium, the interviewers were instructed to record on spells (partnership, job…) that lasted at least 3 months (sources: a letter by R. Schoenmaekers; see also E. Lodewijckx, *Fertility and Family Surveys in the countries of the ECE region. The Standard Recode File for Belgium*, CBGS-documenten, 1996, 2, 36 p. + Annexes).

[31] However, job classification in Germany is very similar to the ISCO definition.

[32] The present job is described at starting date and at survey date.

[33] "That is the job with the highest income, or if there are only unpaid jobs, the job with the highest number of working hours".

[34] According to the instructions, "the meaning of "forced living-apart-together" is that a couple cannot live together because of housing or work conditions."

[35] The date of entry into co-residence is not known, only the date of the end of a relationship.

[36] The questionnaire distinguishes between the date when the "vie de couple" started and that when the partners started living together permanently, but only the former is included in the SRF.

[37] Semi-open questions are those where post-coding was to follow international standard classifications: on education (ISCED1, ISCED2) and on occupation (ISCO).

[38] See E. Dourleijn, A. C. Liefbroer, G. C. N. Beets, *The measurement of educational attainment in the FFS: Comparing the ISCED-classification with information from education histories in 17 European countries*, Paper prepared for the FFS Flagship Conference, Brussels, May 29-31, 2000.

[39] There is probably a mistake in these two cases. How could ISCED be right in Q801 and wrong in Q805?

[40] A note on the "Hungarian Fertility and Family Survey 1993", by F. Kamaras (17-03-2000).

[41] Information from T. Nikander (30-04-2001) : "only a very minor number of codes were difficult to convert to ISCED codes".

[42] The most frequently omitted items were "co-operative" and "other".

[43] E. Lodewijckx, *Fertility and Family Surveys in countries of the ECE region. The Standard Recode File for Belgium*, CBGS-document, 1996, 2, 36 p. + Annexes.

ANNEXES

Annex 1. Differences in biographical items between the national questionnaires and the FFS model questionnaire

COUNTRY (1)	Summary chart (2)	Intertwined biographies (3)	Split biographies (4)	Omitted biographies (5)	Extra biographies (6)	Other peculiarities (7)
AUSTRIA	No			Other pregnancies Contraception		First all start dates are listed (except for marriages), then each biography is detailed
BELGIUM	Yes	Pregnancies & births Pregnancies & last contraception	Marital status, living arrangements, intimate relationships Children, pregnancies	Contraception Education	Activities of current partner Living arrangements Sexual relationship history (Sub)fecundity	Split biographies are partly redundant
BULGARIA	No			Leaving home Partnerships[1] Other pregnancies[1] Contraception Education Occupation		No partnership biography
CANADA[2]	No		Marriages, common-law partnerships	Foster children Other pregnancies Contraception Education Occupation		Current marriage / partnership, then first and second Maximum of 2 marriages and 2 common law unions (+ a 3rd if ongoing)
CZECH REP.[a]	No			Contraception		100% FFS
ESTONIA	Yes			Other children Contraception Occupation[3]	Parents' biographies Household composition Work interruptions[3]	Leaving home is identified from household biography
FINLAND	Yes (F) No (M)		Live births, other pregnancies Live births, other children		Occupation of each husband / cohabiting partner Day care of first three children until school age	
FRANCE[a]	No		Live births, other pregnancies	Other children Contraception Education Occupation		Some questions are not in the questionnaire but in the Labour Force screening survey

(1)	(2)	(3)	(4)	(5)	(6)	(7)
GERMANY	No			Migrations[4] Other pregnancies Contraception Education		
GREECE[a]	No			Contraception		100 % FFS, but the English "retranslation" is just a copy of the model questionnaire
HUNGARY[a]	No					100 % FFS
ITALY[b]	No	Pregnancies & live births, Pregnancies & family planning	Own children, other children	Contraception[5] Education		The English "retranslation" looks more like the model questionnaire than the Italian one
LATVIA	No		Own children, other children	Contraception		
LITHUANIA[b]	No			Other children Other pregnancies[6] Contraception		The English "retranslation" looks different in some respects from the Lithuanian one
NETHERLANDS[a]	No	(?)	Marriages, other partnerships? Own children, other children? (see col. 7)	Contraception	(?)	The Dutch questionnaire is poorly translated and difficult to understand
NEW ZEALAND	Yes			Other children		
NORWAY	Yes	Pregnancies & live births Education, activity & live births		Other children[7] Contraception[8]	Other activities Problems of sub-fecundity	Special questions on cohabitation spells, and on education and activity/inactivity biographies
POLAND	No	Pregnancies & live births Relationships & no. of pregnancies Contraception & pregnancies[9]	Changes of municipality and changes of dwelling conditions	Other children Contraception[9]	Relationship history (including friendship, engagement, etc)[10] Occupational inactivity	The partnership history is inferred from the relationship biography
PORTUGAL	No			Residential moves[11] Partnership Contraception[12] Education Occupation		No partnership biography

(1)	(2)	(3)	(4)	(5)	(6)	(7)
SLOVENIA[c]	(?)	(?)	(?)		(?)	100% FFS?
SPAIN[a]	No					100% FFS
SWEDEN	No	Education, employment, other activities & births		Other pregnancies Other children Contraception	Other activities	Special questions on children, and on education and employment
SWITZERLAND[a]	Yes?[13]	Education, activity and partnerships Pregnancies, live births and last contraception	Own children, other children	Contraception	Other activities	
USA	Yes	Pregnancies & live births Contraception & pregnancies	Marriages, other partnerships Own children, other children		Living arrangements (with father and/or mother) during childhood. Partnerships of separated parents. Vocational training, dropout spells Sexual relationships since 1991	Long and inquisitive questionnaire Redundancy of the biographies on parents and partners

Notes: [a] Questionnaire only available in the original language(s), or poorly retranslated into English, or original English version resubmitted.

[b] In the English retranslation of the questionnaire, the wording looks different from the national version.

[c] Questionnaire not available. Information inferred from the PAU compliance tables.

[1] Bulgaria: The events are catalogued but not dated, except first marriage.

[2] Canada: Only the data from the fertility survey of 1990 were examined.

[3] Estonia: Only the date of the first paid job. However, the table of work interruptions identifies activity spells.

[4] Germany: Only international and inter-länder migrations are in the biographical questionnaire (not in the SRF).

[5] Italy: Questions on contraceptive history were only asked to ever-pregnant women; and only the main method and the last one between each of the first six pregnancies. (not in the SRF).

[6] Lithuania: The questions only deal with the number of pregnancies and their outcomes.

[7] Norway: There are questions on children who spent part of their childhood with the interviewee (not in the SRF).

[8] Norway: There are questions on methods used since 1975 (not in the SRF).

[9] Poland: There are questions on methods used between pregnancies (not in the SRF).

[10] Poland: Each change in the form of any relationship results in a new row.

[11] Portugal: There are questions on the number of residential moves (before and after 15) and on the dates of the first and last moves after 15 (not in the SRF).

[12] Portugal: Only description of the main three methods used for a minimum of 3 months, without dates (in the SRF).

[13] Switzerland: When starting the biographical part of the questionnaire, the interviewer asks the respondent to consult her aide-mémoire sheet.

(?) Refers to comments in column (7)

Annex 2. Definitions of events and minimum durations

COUNTRY	Parents' separation	Independence	Residential history	Partnerships	Start and end of partnership
FFS Model Questionnaire	Age at parents' (first) separation or divorce: no distinction between these, no minimum duration	Respondent first leaving parents to start living "on his/her own", or parents leaving, or respondent acting as head of household	Different addresses at which respondent lived for 3 months or longer, since reaching 15 years of age	Living in the same household and having intimate relationship	Start and stop living in the same household. Forced LAT is considered as end of partnership
AUSTRIA	Age at parents' or foster parents' separation or divorce	First time leaving parents [1] home	As model FFS	Homosexual partnerships are included	Start and stop living together
BELGIUM	No age at divorce	Date derived from living arrangements biography	No module	Married, and/or living with partner, 3 months minimum	Dates derived from marital status and living arrangements biographies
BULGARIA	As model FFS	No question	No module	As model FFS	No module
CANADA	No question	Age when last lived with parent(s) or last left parents' home [2]	Only total number of moves in the last 10 years, and date of last move	"Common law partnership" = Living together as husband and wife without being legally married	Date of marriage or date of beginning to live together, and date of separation or death of husband/partner
CZECH REPUBLIC[a]	As model FFS	As model FFS	No module	As model FFS	As model FFS
ESTONIA	Age at first separation only if parents were married	Respondent first leaving parents to start living independently, minimum 3 months, economic separations excluded	Some moves during studies and before establishing own family don't count	"Consensual union" = common family life with a partner without formal registration as marriage	Start and end of sharing living space
FINLAND	No direct question; only the situation at the age of 14 is known	Respondent first moved away from parents for minimum one year	Different homes at which respondent lived at least 1 full year since 20	Married or living as married with someone	Date of moving in together, and date when stopped living together
FRANCE[a]	Age at or year of last separation	Date of first leaving parental home (except for nursing and boarding school)	No module	"Vie en couple" 1 month minimum, living together or not [3]	Date of start and end of "vie en couple" (separation or death)
GERMANY	As model FFS	As model FFS	No module	As model FFS	As model FFS
GREECE[a]	As model FFS	As model FFS	No module	As model FFS, but minimum duration of 3 months (Q200)?	As model FFS
HUNGARY[a]	As model FFS	As model FFS	No module	As model FFS	As model FFS
ITALY	Age when separation occurred	As model FFS, but "economically independent" instead of "head of household"	No module	Marriages and consensual unions with cohabitation	As model FFS
LATVIA	As model FFS	Only when respondent first left parents to start living independently	As model FFS	As model FFS	As model FFS

COUNTRY	Parents' separation	Independence	Residential history	Partnerships	Start and end of partnership
LITHUANIA[b]	As model FFS	Only when respondent first left parents to start living independently	Changes of settlement for 3 months or longer	As FFS? (registered and unregistered partnerships)	As model FFS
NETHERLANDS[c]	As model FFS?	Like model FFS?	No module	As model FFS?	As model FFS?
NEW ZEALAND	No question	No question	No module	As model FFS	As model FFS
NORWAY	No question	Date when respondent permanently left parents' home	No module	Marriage or living permanently with a man without a formal marriage	Start and end of cohabitation or marriage[4]
POLAND	Present situation of parents (separated, divorced, deceased), then age when they stopped living together[5]	2 dates: when respondent left parental home for the first time, and when started living independently: which is entered in SRF?	Changes of municipality or dwelling conditions since age 15? No minimum duration	Relationship with co-habitation: living together and/or living-apart-together?	Start of living together, and "end of relationship"
PORTUGAL	As model FFS	Date when respondent left parents' home to live away for the first time, or when stopped living with parents	Changes of place of residence for periods longer than 3 months[6]	No clear distinction between legal marriage and de facto	Only date of start of living with first spouse or partner
SLOVENIA[d]	As model FFS?	As model FFS?	As model FFS?	As model FFS?	As model FFS?
SPAIN[a]	As model FFS	As model FFS	No module	As model FFS	As model FFS
SWEDEN	Year when parents divorced or moved apart, before 16th birthday of respondent	Year when respondent first moved away and lived away from home for at least 6 months	No module	Share common home with a man in a marriage-like relationship	Dates when started and definitively stopped living together
SWITZERLAND[a]	Age at parents' first separation or divorce	Date when respondent had new housing for at least 6 months, including for studies	Change of housing to another "commune" or country for 3+ months	Sharing household with a partner	Date of start and end of sharing household
USA	Age when parents first separated for 4 months or more (because of marital discord)	Date when respondent first lived away from parents/guardians for 4 months, incl. as student and army	No module	Having sexual relationship while sharing the same usual address	Date when started and stopped living together

Notes: [a] Questionnaire only available in the original language(s), or poorly retranslated into English, or original English version resubmitted.

[b] The English retranslation of the questionnaire appears different in some respects from the national one.

[c] Questionnaire only available in Dutch. There is no SRF; information has been inferred from PAU compliance table.

[d] Questionnaire not available. Information inferred from the PAU compliance table.

[1] Austria: Questions 45 and 46 give age at last leaving parental home, but according to PAU compliance table, V107 and V108 were calculated from migration biography.

[2] Canada: According to PAU compliance table, these variables are not in the SRF.

[3] France: Although a date for starting to cohabit was available from answers to question B7 ("A partir de quelle date avez-vous vécu ensemble en permanence, c'est à dire une seule

résidence?"), the variable V218 in the SRF was apparently extracted from the answer to question B4 ("A quelle date avez-vous commencé votre vie de couple?")

[4] Norway: In the national questionnaire, an informal union which transformed into marriage results in two spells; it is not known how the SRF resolves this problem

[5] Poland: When a parent is now deceased, one cannot know if he had separated or divorced before.

[6] Portugal: Although the questionnaire asked for the number of moves (before and after the age of 15) and dates of first and last moves after 15, these variables were not included in the SRF.

COUNTRY	Children	Contraception	Education	Occupation	Gaps
FFS Model Questionnaire	Natural children born alive and adopted, step- and foster-children are distinguished. No minimum duration for "other children"	Respondent or partner doing or using anything to avoid becoming pregnant History: using method for 3+ consecutive months	Attending school after 15. No minimum duration for each period or each interruption. No definition of "next studies"	3+ consecutive months; unpaid work in family business or producers' cooperatives incl.; two simultaneous jobs possible No minimum hours worked No clear definition of change	No minimum duration for gap between 2 jobs; can have jobs for less than 3 months
AUSTRIA	"Born alive" is not specified, natural children are not at the top of the list	Using a method to avoid becoming pregnant No history	Each change of education or training after compulsory schooling	Job for 6 months or longer, whether paid or not	6 months
BELGIUM	6 categories of children are distinguished	Use of contraceptive method (incl. withdrawal and rhythm) No history	Only date when stopped studying full time, and level of highest qualification	No definition of "employment" Minimum 3 months	3 months
BULGARIA	"Born alive" is not specified, natural children are not at the top of the list	As model FFS No history	Only total schooling duration and highest degree	Same definition, but only questions on the present job	Not applicable
CANADA	"Born alive" is not specified, natural children are not at the top of the list, nothing about foster-children	No question	Only highest level of education attained	Only activity (job or self-employment) during the past 12 month	Not applicable
CZECH REPUBLIC[a]	As model FFS	As model FFS No history	As model FFS	As model FFS	As model FFS
ESTONIA	Step and foster-child are only listed, and they must have lived minimum of 6 months in household.	As model FFS No history	Attending school after 14 years of age; courses less than 3 months and on the job training are not included	First job (paid or self-employed but unpaid work on family farm not included) Also current main and second job.	3 months minimum (table of work interruptions)
FINLAND	"Other children" living with respondent for at least 1 year	Using any form of contraception to prevent pregnancy History: no minimum duration, but "regularly"	Studying at least 4 months since elementary, civic or comprehensive school; interruptions less than 1 year don't count	Table of "chief occupation and profession" since 15, no minimum duration for each period	
FRANCE[a]	"Other children": only those less than 18 years still living in the household	Use of a birth planning method: first use for 3+ months. No history	Age at end of initial schooling[1], also highest level and highest degree from all schooling	Age at first job, at least half-time and 3 consecutive months, plus present or last job	Not applicable
GERMANY	As model FFS	Use of contraceptive method No history	Date of highest degree, general schooling or vocational training	As FFS but no minimum duration, and only main job	Minimum 6 months

COUNTRY	Children	Contraception	Education	Occupation	Gaps
GREECE[a]	As model FFS	As model FFS No history	As model FFS	As model FFS, but 10 periods maximum	As model FFS
HUNGARY[a]	As model FFS	As model FFS History: no minimum duration	As model FFS	No minimum duration Simultaneous jobs possible	As model FFS
ITALY	"Other children": 5 categories, no order in the biographies	"Do something personally to prevent conception" 2 methods used most or most often No history in the SRF	Date of the highest degree + further studies after highest degree	Includes seasonal work of less than 3 months for at least 2 years Simultaneous jobs possible	As model FFS
LATVIA	"Other children" are enumerated separately, but are considered with others in biography	As model FFS No history	As model FFS	As model FFS Simultaneous jobs possible?	As model FFS
LITHUANIA[b]	No foster children, no biography for "other children", only dates of birth of own children	As model FFS No history	As model FFS	As model FFS, but unpaid work excluded	As model FFS
NETHERLANDS[c]	(comparability problem according to PAU)	(comparability problem according to PAU) No history	Only highest degree (comparability problem according to PAU)	(comparability problem according to PAU)	Does not exist, according to PAU
NEW ZEALAND	As model FFS; "other children" are only enumerated	As model FFS History: as model FFS	Only year of completion[2], and highest qualification successfully completed	As model FFS Simultaneous jobs possible?	At least 3 months
NORWAY	Only live births	Only methods used during the last 4 weeks No history[3]	Each period of education since the age of 14	Each period of "gainful employment" of at least 10h/week since the age of 14, (no minimum duration)[4]	Each period of "other activity" since the age of 14
POLAND	Only "other children" she/he has at present are counted	Methods or measures to avoid pregnancy No history[5]	Each period of education, by type of school and/or level of education, from primary level	No definition of "occupational activity", no minimum duration	Each period of "occupational inactivity"
PORTUGAL	Nothing on foster children	Respondent/partner takes measure(s) to prevent pregnancy Description of 3 first methods used for minimum 3 months, without dates[6]	Only higher level of education completed[7]	Only age when first "employed" for minimum 3 consecutive months, whether or not receiving salary	Not applicable
SLOVENIA[d]	As model FFS?	As model FFS?	As model FFS?	As model FFS?	As model FFS?
SPAIN[a]	As model FFS	As model FFS	As FFS? (each new "curso")	As model FFS	As model FFS

COUNTRY	Children	Contraception	Education	Occupation	Gaps
SWEDEN	No direct question on live births Nothing on step and foster-children	Nothing on contraception	Each period of education of 3+ months since the year of 17th birthday	Each period of gainful employment of minimum 3 months and 16h/week since the year of 17th birthday	Other activities for at least 3 months
SWITZERLAND[a]	Other children: 5 categories, minimum 3 months of cohabitation 1st departure of minimum 6 months	Respondent or partner takes steps to prevent pregnancy No history	Any schooling or training (full-time or 1+ day per week?) for 3+ months since age of 15[8]	Any spell devoted to employment or other activity (principal activity plus side activity 1+ day per week?) for 3+ months since age of 15[9]	
USA	Other children: 6 categories of "children having lived with respondent under her care"	List of methods used for birth control and to prevent sexually transmitted disease History: no minimum duration[10]	Highest grade attended History: each period of GED class attendance, or of college education?[11]	Every job regularly scheduled for at least 1 month since 18th birthday, (incl. babysitting)[12]	Having no job for at least 1 month[13]

Notes: [a] Questionnaire only available in the original language(s), or poorly retranslated into English, or original English version resubmitted.

[b] The English retranslation of the questionnaire appears different in some respects from the national one.

[c] Questionnaire only available in Dutch. There is no SRF; information has been inferred from PAU compliance table.

[d] Questionnaire not available. Information inferred from the PAU compliance table.

[1] France: The Labour Force Survey only details age at (or year of) end of initial schooling (interruptions not longer than 1 year, except for national service or maternity leave). Fictitious ages were created for the end of a first and a second spell (BEPC: 16 years, Bac: 18 years), for people who moved to higher levels. Age at the end of final spell is age at the end of initial schooling.

[2] New Zealand: Year at highest degree is in the questionnaire, but not in the SRF.

[3] Norway: There are questions on methods used since 1975, but responses are not in the SRF.

[4] Norway: The field guide may indicate a minimum duration but we did not have access to it.

[5] Poland: Methods used in inter-pregnancy intervals are in the questionnaire, but not in the SRF.

[6] Portugal: Contraceptive history is in the SRF, though apparently not complete in questionnaire.

[7] Portugal: Age at end of schooling is in the questionnaire, but not in the SRF.

[8] Switzerland: No overlapping possible for spells of training and activity/inactivity, except for ancillary occupations of 1+ day per week.

[9] Switzerland: The questionnaire enumerates inactivity spells that lasted 3+ months, but "gap" (V815) is not in the SRF.

[10] USA: According to PAU compliance table, variables in the SRF deal with last contraceptive method used before each pregnancy started before January 1991. According to the US code-book, they deal with each method used monthly since January 1991.

[11] USA: According to PAU compliance table, variables deal with GED classes; according to the US code-book, they deal only with spells of college education. According to the US code-book, the file does not include degrees, while they are listed in the compliance table.

[12] USA: According to the US code-book, SRF includes only paid jobs that lasted 3+ months. According to PAU compliance table, they are only full-time jobs, but the US code-book says differently.

[13] USA: The variable is not in the SRF.

Annex 3. An overview of questionnaire comparability

Event under study (1)	Probably comparable (2)	Comparable to some extent (3)	Certainly incomparable (4)	Not in questionnaire or probably not in SRF (5)	No access to readable questionnaire (6)	Comments (7)
Parents' divorce or separation, and age at separation	Austria Bulgaria Czech Rep. Germany Greece Hungary Lithuania Portugal Slovenia (*) Spain Switzerland	Estonia (see definition Annex 2) Italy (5 items) Latvia (4 items) Sweden (7 items) USA: (minimum 4 months)	Finland: situation at 14 France: 5 items; last known situation Poland: present situation, age undefined	Belgium Canada New Zealand Norway	Netherlands	The model questionnaire is unclear (see Chapter IV/B/2)
Respondent first left (foster) parents to start living on own, and month and year when this occurred	Czech Rep. France Germany Greece Hungary Italy Latvia Lithuania Portugal Slovenia (*) Spain	Austria (motive for this) Belgium (change in "living arrangement") Estonia (3 months minimum, economic separations are excluded) Poland (2 dates) Sweden (year of event it occurred, 6 months minimum duration) Switzerland (other address for 6 months minimum) USA (live away for 4 months minimum)	Canada (last leaving) Finland (1 year minimum) Norway (permanently)	Bulgaria New Zealand	Netherlands	The model questionnaire defines no minimum duration
Residential history (Different addresses for 3 months or longer since reaching 15 years of age)	Austria Latvia Slovenia (*)	Estonia (see definition Annex 2) Poland (?) (changes of dwelling conditions or of municipality of residence)	Canada (only last move) Finland (1 year minimum, since the age of 20) Lithuania (changes of settlement) Switzerland (changes of "commune")	Belgium Bulgaria Czech Rep. France Germany Greece Hungary Italy Netherlands New Zealand Norway Portugal Spain Sweden USA		Poland: according to PAU compliance table, the variables were extracted from the two tables

(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*
Partnership history (living in the same household and having intimate relationship)	Czech Rep. Estonia Finland Germany Hungary Italy Latvia Lithuania New Zealand Norway Slovenia (*) Spain Sweden Switzerland	Austria (includes homosexual relationships) Belgium (?) France ("vie en couple") Greece (3 months minimum) Poland (?) USA (marriages and other relationships are separated)	Canada (maximum 2 or 3 of each category of partnership) Portugal (only first)	Bulgaria	Netherlands	Belgium, Poland: questionnaire is too dissimilar to the model (see Chapter IV/B/2)
First partnership: month and year, and nature of partnership (cohabitation/marriage)	Czech Rep. Estonia Finland Germany Hungary Italy Latvia Lithuania New Zealand Norway Portugal Slovenia (*) Spain Sweden Switzerland	Austria (includes homosexual relationship) Belgium (?) Canada (definition of "common law" partnership?) France ("vie en couple") Greece (3 months minimum) Poland (?) USA (marriages and other relationships are separated)	Bulgaria (only age at first marriage)		Netherlands	Belgium, Poland: questionnaire is too unlike the model (see Chapter IV/B/2)
End of first partnership: month and year and reason (1 divorce/separation 2 partner died 3 forced LAT)	Czech Rep. Germany Hungary Italy Slovenia (*) Spain Sweden	Austria (includes homosexual relationship) Belgium (?) (no forced LAT) Canada (no forced LAT) Estonia (6 items, no forced LAT) Finland (4 items, no forced LAT) France (no forced LAT) Greece (3 months minimum) Latvia (7 items) Lithuania (no separation) New Zealand (no reason) Norway (no forced LAT) Poland (?) (6 items, no forced LAT) Switzerland (8 items) USA (?)		Bulgaria Portugal	Netherlands	Belgium, Poland: questionnaire is too unlike the model (see Chapter IV/B/2) USA: no motives listed for the end of consensual unions

(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*
Fertility history (date of each live birth)	Austria Belgium (?) Bulgaria Canada Czech Rep. Estonia Finland France Germany Greece Hungary Italy Latvia Lithuania New Zealand Norway Portugal Slovenia (*) Spain Switzerland (?) USA	Poland (?) Sweden (?)			Netherlands	Belgium: problem with children who died at maternity hospital Poland: problem with twins Sweden: no direct question about pregnancy and live-born children Switzerland: problem with triplets
Own children history (date of birth, death and when the child left parental home)	Austria Bulgaria Czech Rep. Estonia Finland Germany Greece Hungary Italy Latvia New Zealand Portugal Slovenia (*) Spain USA	Belgium (?) France (only year of first separation) Sweden (?) Switzerland (?) (1st departure for a minimum of 6 months)	Canada (only age when left) Norway (only date of death) Poland (?) (no departure date)	Lithuania (no departure date or date of death)	Netherlands	In the model questionnaire the departure date is only for children no longer in parental home: it is last departure. Belgium: problem with children who died at maternity hospital Poland: problem with twins Sweden: no direct question about pregnancy and live-born children Switzerland: problem with triplets
Other children history: 3 categories (adopted, step and foster children) + date of birth, death and when the child came to and left parental home	Austria Czech Rep. Germany Greece Hungary Italy (5 categories) Portugal (2 categories) Slovenia (*) Spain	Belgium (5 categories; no date of birth) Bulgaria (no date of arrival) Canada (no foster, no date of arrival) Latvia (no distinction between each category, no date of birth) Switzerland (see definition Annex 2 + 1st departure for 6 months minimum) USA (see definition Annex 2)	Finland (see definition Annex 2 + no date of birth) France (see definition Annex 2)	Estonia Lithuania New Zealand Norway Poland Sweden	Netherlands	In the model questionnaire the departure date is only for children no longer in parental home: it is last departure.

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Age at first contraceptive use and method used (combination of 2 methods possible, choice of 11 methods)	Austria Bulgaria Greece Hungary New Zealand Portugal Slovenia (*) Spain	Czech Republic (list of methods) Germany (choice multiple methods) Italy (list of methods) Latvia (choice several methods) Lithuania (only one method) Poland (list of methods) USA (list of methods + questionnaire)	Belgium (age is missing) Estonia (age is missing) France (3 months minimum)	Canada Finland (?) Netherlands Norway Sweden Switzerland		Finland: contraceptive history allows calculation of age at first use and first method used
Contraception used in the last 4 weeks, if having sexual intercourse (possible combination of 2 methods, choice among 11 methods) (determination of population exposed to risk of pregnancy)	Bulgaria Greece Slovenia (*) Spain New Zealand	Belgium (list of methods + questionnaire) Czech Rep. (methods) Estonia (methods + questionnaire) Hungary (several methods) Italy (list of methods) Latvia (several methods) Lithuania (choice of methods) Norway (choice of methods)	Austria (?) + list of methods Finland (?) + list of methods France (?) + list of methods Germany (?) + choice of methods Poland (?) + choice of methods Switzerland (?) + list of methods USA (?) + list of methods	Canada Portugal Sweden	Netherlands	Austria, Finland, France, Germany, Poland, Switzerland, USA: the questionnaire was so different that it is difficult / impossible to calculate the population at risk in comparison to the model definition
Contraceptive history: using a method, or combination of 2 methods during 3 consecutive months	New Zealand Slovenia (*) Spain	Finland (no minimum duration + choice of methods) Hungary (no minimum duration + choice of methods)	Norway (?) Portugal (see definition Annex 2) USA (see definition Annex 2)	Austria Belgium Bulgaria Canada Czech Rep. Estonia France Germany Greece Italy Latvia Lithuania Netherlands Poland Sweden Switzerland		Norway: the variables are not in SRF, according to PAU compliance table

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Present education level: highest qualification as per ISCED classification	Finland Spain (?)	Austria (code 9 items) Bulgaria (code 8 items) Czech Rep. (code 10 items) Estonia (code 5 or 10 items) France (code) Germany (code 6 items) Greece (code 8 items) Hungary (code 7 items different) Italy (code 7 items different) Latvia (code 7 items different) Lithuania (code 8 items) New Zealand (code) Norway (?) Poland (code7 items different) Portugal (code7 items different) Slovenia (*) (?) Sweden (code 13 items) Switzerland (code 8 items)	Belgium (no information for current full-time students) Canada (level reached rather than qualification awarded) USA (level reached rather than qualification awarded)		Netherlands	Norway, Slovenia, Spain: data available according to PAU compliance table, but the codes not available to us
Age at the end of initial schooling (= date of the first lasting interruption, duration not specified)	Austria Czech Rep. Estonia Greece Hungary Latvia Lithuania Norway Poland Slovenia (*) Spain	France (apprenticeship is excluded, age or date) Sweden (only after 17)	Belgium (see definition Annex 2 and Chapter IV/B/2) Finland (see definition Annex 2) Germany (date of highest qualification) Italy (date of highest qualification) Switzerland (see definition Annex 2 and Chapter IV/B/2) USA (college only)	Bulgaria Canada New Zealand Portugal Netherlands		FFS: calculated from educational biography
Educational history after 15 years of age (= spells as defined by ISCED)		Austria (code) Czech Rep. (code) Estonia (code) Greece (code) Hungary (code) Latvia (code) Lithuania (code) Norway (?) Poland (code) Slovenia (*) (?) Spain (see definition Annex 2) Sweden (?)	Finland (see definition Annex 2) France (?) Switzerland (see definition Annex 2 and Chapter IV/B/2) USA (from college level only)	Belgium Bulgaria Canada Germany Italy New Zealand Portugal Netherlands		France: biography was derived, not collected Norway, Slovenia: data available according to PAU, but the codes are not available to us Sweden: only from year of 17th birthday

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Age at entry into economic activity (date of first lasting job, minimum 3 months, no minimum hours worked)	Czech Rep. Greece Latvia New Zealand Norway () Slovenia (*) Spain	Belgium () (see definition + Chapter IV/B/2) France (see def.) Germany (see def.) Hungary (see def.) Italy (see def.) Lithuania (see def.) Poland (see def.) Portugal (see def.) Sweden (see def.)	Austria (6 months minimum) Estonia (see def.) Finland (see def.) Switzerland (see def. and Chapter IV/B/2) USA (see def.)	Bulgaria Canada	Netherlands	Belgium: no question for current full-time students Norway: is it possible to be a student and economically active at the same time?
Occupational history (see Chapter IV for definition: simultaneous jobs are possible, no minimum duration for "gap", new spell = change in employer or status, or kind of work in ISCO code)	Czech Rep New Zealand (ISCO code?) Slovenia (*)() Spain ()	Greece (see def.) Hungary (see def.) Italy (status + no ISCO code) Latvia (status + no ISCO code) Norway (see def. and text) (?) Sweden (see def + no ISCO code)	Austria (see def. + Chapter IV + code) Belgium (see def. + Chapter IV) Estonia (table of work interruptions, no status) Finland (chief occupation) France (fictitious date for end of 1st job) Germany (see def. + Chapter IV) Lithuania (ISCO codes + status + gap) Poland () (see def. + no status + ISCO code) Switzerland (see def., Ch. IV + code) USA (see def.)	Bulgaria Canada Portugal	Netherlands	Changes of spell are undefined in FFS (see Chapter IV/B/2) Norway, Slovenia, Spain: data available according to PAU compliance table, but codes not available to us Poland: ISCO code unavailable, status is not in SRF
Present occupation: ISCO code + status: 1. Employer 2. Self-employed 3. Employee 4. Unpaid work 5. Cooperative 6. Other	Czech Rep. Greece Hungary New Zealand (ISCO code?) Slovenia (*)(?)(ISCO code?) Spain (?)(ISCO code?)	Bulgaria (ISCO code) Estonia (no status) France (ISCO code) () Germany (status + ISCO codes) Italy (status + no ISCO code) Latvia (status + no ISCO code) Norway (ISCO code (?) + status code) Sweden (status + no ISCO code) Switzerland (ISCO + status codes)	Austria () (ISCO code?, status code 9 items) Belgium () (ISCO code? + status code) Finland (chief occupation) Canada (see def. + no status) Lithuania (ISCO code + status code?) Poland () (see def. + ISCO code? + no status?) USA (see def.)	Portugal	Netherlands	FFS: calculated from occupational biography Austria, Belgium, France, Norway, Poland, Slovenia, Spain: data available according to PAU compliance table, but codes not available to us
"Gap" in occupation: dates of start and end + situation during the spell: 1. Employed (less than 3 consecutive months) 2. Unemployed 3. Housewife 4. Study 5. Other	Czech Rep. Greece Italy Latvia Slovenia (*) Spain	Belgium (see def. + 7 items) Finland (see def. + 7 items) Hungary (see def. + 4 items) Lithuania (11 items) New Zealand (7 items + gap 3 months) Norway (3 items) Sweden (7 items + gap 3 months)	Austria (6 months + 9 items) Estonia (3 months minimum, 8 items including maternity leave, and non-paid work on farm) Germany (6 months +code situation) Poland (see def. + 10 items) USA (see def.)	Bulgaria Canada France Portugal Switzerland ()	Netherlands	Switzerland: V 815 is not in the SRF

Notes: (*) From PAU compliance tables. The questionnaire was not made available to the authors.

() Refers to comments in column 7.