Introduction
Mr Chairman, Ladies and Gentlemen,

I suppose that I must be glad to have the last word, if only because it means that Jan Hoem cannot give me bad marks afterwards, at least not in public. On the other hand I am also disconcerted that almost everything that could be said, has been said. Every time anyone has stood up to speak, I lose a page of my speech.

Dirk van de Kaa has situated the FFS in the global and European scene; Miroslav Macura has overviewed some results, especially from Eastern Europe; Robert Cliquet has sketched the history; Patrick Festy and France Prioux have given a penetrating statistical critique; John Hobcraft has offered constructive criticism of techniques and built on them a programme for future research; Ron Lesthaeghe, in awarding a very good end of term report, has pointed to some weaknesses to be addressed; Frances Goldscheider has emphasised the need to consider the context in which individuals live and Daniel Courgeau has creatively proposed various methods whereby that difficult task might be accomplished. Finally, Lars Østby has applied balm to any minor hurts thereby inflicted. You, ladies and gentlemen, have actually done the research.

A few crumbs may be left for me.

Evaluating novelty
First, what has the FFS actually told us that we did not already know, at least in general terms? Some have suggested, unkindly and I am sure inaccurately, that much of the FFS achievement is a statistical sophistication of the obvious. To show the real achievements we should invite all authors to submit not more than one page summarizing the novelty of their findings. New knowledge might fall
into four areas: saturation of the effects of contraception, the failure of convergence between regions and countries; the effects upon unions and fertility of family-related policies, and relations between the timing of fertility and union formation and vice-versa. Such summaries might find a place in one of the volumes to be published following this meeting.

The next programme
We seem to be in a rather turbulent period in demography and its funding, with Population Index going off the air, the IUSSP claiming asylum in Paris and the UNFPA supposedly broke. Not, perhaps, a propitious time to urge a further programme of research to develop the work of the FFS. Nonetheless Dirk van de Kaa did so in a recent editorial in the European Journal of Population (1999); Messrs Cliquet, Hobcraft, Lesthaeghe and Lutz have all suggested or implied something similar.

Such a programme should not be confined to national statistical institutes but should involve collaboration with universities and other independent centres of research. International demographic bodies on which representatives of both kinds of institution sit, for example IUSSP and EAPS, should put such a collaborative project high on their agenda. Any further research should be less exclusive. For example, teenage births, excluded from the FFS, area major issue in some countries. Births to immigrants and their descendants, now 10% or more in many European countries cannot be ignored. FFS-type samples may be inappropriate for their study. Perhaps the task is to collate existing national surveys on the fertility of immigrants or foreign populations and synthesise their results, a project never yet attempted, to show how transnational populations are developing throughout Europe.

There is no point promoting future enquiries without information, direct or indirect, on income including welfare, and on housing careers. Economic models are still the most powerful explanatory models we have as long as they include welfare-related transfers as well as pay. FFS surveys cannot test them and are thus excluded from a major area of potential explanatory value.

The completion of the surveys in UN ECE countries which through poverty or isolationism have not yet held them is a further obvious need. The creation of a greater UN ECE area including Japan and New Zealand is a particular achievement of Miroslav and his general staff, one which the world's press
appears not yet to have noticed. For reasons explained below I propose that this UN ECE hegemony, or at least its FFS dimension should be extended to the remaining countries of the developed world, no matter how far they are from Geneva. Explanatory models should fit all relevant populations.

What is demography about - the problem of explanation.
A common theme of many contributions here is the need to move on to explanation, even though the task of adequate description is still far from complete. The need to enhance the explanatory capacity of future surveys by giving much more emphasis to potential explanatory variables, was apparent from many papers. The techniques and variables now available from the FFS at the moment are logically incapable of accounting completely for the fertility patterns so ably analysed in many of those papers. For example, plausible comments are made in a number of them about the effects on fertility of the position of women. Such potentially crucial components of explanation cannot yet formally be integrated into a model based on FFS data. Partly this arises from the 'atomistic' individual nature of the techniques appropriate for the analysis of such surveys, as Courgeau noted. But in addition, few questions are asked which would enable the situation of any individual respondent with respect to partner equality, etc., to be evaluated. The ultimate goal must be to incorporate all potential variables, however currently qualitative, into models which can be tested.

Limitations of demography as an object science
Concerns about the descriptive, not explanatory emphasis of demography raised in the discussions of FFS echo a more general complaint put eloquently last year by Dykstra and van Wissen (1999) in The Hague. According to those critics, demography is an 'object' science defined by its subject matter, not defined by its fundamental underlying theories and their scope. This subject matter comprises three micro - behavioural domains (fertility, mortality and migration) and the manifestations of those domains at macro levels of population. The resulting strength of demography is an emphasis on measurement and number. The downside is weakness of theory and explanation. According to these authors (and I agree) demography has insufficient views of its own about the basic mechanisms behind human behaviour. Instead, other behavioural and social sciences hold the keys to relations between demographic events and behaviour of individuals and systems. What do we do about it?
Micro paramount?
A related issue, following the description/explanation imbalance in demography, relates to the balance between micro and macro studies, and to the new central position of event-history analysis in demography which the FFS surveys reflect and encourage. A few years ago Maire Ni Bhrolchain stirred us all up with a controversial paper disputing the moral and technical superiority of cohort analysis. Today it seems we are confronted instead with 'micro paramount'. Event-history analysis is widely presented as the new demographic paradigm eclipsing all others, moving demography beyond description to explanation. The results of the FFS so far, however, have perhaps emphasised instead the rather limited scope, with current methods and mostly proximate variables, of the explanatory power of what remains essentially an atomistic approach. Exclusive emphasis on micro-approaches risks moving towards 'demography without population'. English cuisine used to be described as 'chips with everything'; under the new dispensation demography may be becoming 'event history analysis with everything'.

 Quite important areas of demography remain where a macro-component is the essence of the problem, and cannot easily be incorporated technically into the context of event history analysis. Population behaviour and other phenomena are not just the aggregate of life-histories. Other levels of processes exist which are important, in some respects more fundamental. In aggregate, the sum of the individual processes on which attention is now devoted have fundamental effects upon age-structure. Population ageing, support ratios and pensions funding which so preoccupy policy makers today are obvious examples, although admittedly they may present no great theoretical or conceptual problems.

 Other issues arising from these aggregate behaviours, however, are less well understood, for example the consequences of various levels of population decline (as opposed to population ageing or zero growth) on the economy, production, social relations and the environment. Even more interesting possible interactions of the macro and micro are the way in which the effects of population ageing, the end of growth, decline, density of occupation and so on, the lagged mass consequences of individual actions in previous years, have an impact on the perceptions, attitudes and behaviour and life-chances of individual now. We might also consider the effects or costs on individuals of so-called 'second demographic transition' behaviour. Do 'new lifestyle choices'
in parenting and divorce tend to transfer the costs of children from parents to other individuals through tax and welfare systems? If, as is sometimes claimed, children's lives are disrupted and damaged by these transitions what effects if any will those have upon the environment in which future cohorts live, forming part of their 'context'? In short, is the 'second demographic transition' sustainable?

Outstanding problems in demography
Turning finally to other and wider matters, I propose that there are three major related problems in demography today. The first is the explanation of the variation of fertility in developed countries over time and space, especially the very low fertility (under 1.5) which has persisted now for years in some countries. The second is whether there are any mechanisms which will tend to induce fertility eventually to stabilise at any defined aggregate figure, especially by some miracle of convenience at a replacement rate of fertility. An answer to that would probably also provide and answer to the third, ultimate question of why any intelligent and educated individual ever has any children at all in our society.

Salvation through welfare - Japan and S Europe
We might start by searching for a path to salvation from low fertility through comparison. In asking about international fertility differences and their problems, should we regard Japan as part of Southern Europe; or alternatively does Southern Europe really belong in South East Asia? Here is the Southern European Co-prosperity sphere, as depicted by a multi-dimensional scaling configuration of 31 developed countries according to their relative position in respect of ten demographic variables in 1995.

Figure 1 MD-SCAL configuration of Japan and S. Europe

This intriguing association may only be a function of an inadequate range of variables, but it has been remarked on by other FFS contributors. While the cultural, religious linguistic and historical gulf between Japan and Southern Europe is large, similarities remain. At present, all share birth rates under TFR 1.4 and low levels of childlessness (except Italy), all have low levels of cohabitation and births outside marriage, late marriage is marked in all, children tend to live at home with parents rather than live independently before union formation. Mortality rates too are low - either in absolute or relative
terms. Parts of Southern Europe, like Japan, have traditional patterns of marriage and household somewhat different from Western Europe, more characteristic of populations 'east' of Hajnal's line. Family support, not external provision, for dependants is the tradition; a tradition now interacting most unhelpfully with exceptionally rapid population ageing.

A common 'familism' is reflected in notably higher levels of time and effort devoted to the care of the parents by the middle generation, especially by women (Bettio and Villa), still not infrequently co-resident. In all cases differentiation between the sexes remains marked, with sharp distinctions of labour in the household economy, and until recent years low levels of female education or work force participation and employment status, and involvement in the political world.

Inequality between the sexes, mentioned on numerous occasions at this meeting and elsewhere, for example in the work of McDonald, Kojima, Atoh and others, seems to me to offer a potent way of accounting for differences in fertility and other demographic behaviour of this kind. According to this view, fertility cannot be expected to rise in such countries until relations between the sexes become more equal, the burden on women is more equally shared and the incompatibilities between workforce participation and childbearing accordingly eased. The paradigm for this, of course, is the Scandinavian countries where some of the highest fertility rates in Europe are to be found, along with the most comprehensive systems of state family support and high workforce participation rates of women. Give the women of Turin and Tokyo the same opportunities as those of Trondheim, and all will be well, is the message. However, this argument, maybe promising, runs headlong against the evidence of another interesting graph.

Figure 2 TFR trends, leading high-fertility countries.

This shows that the high fertility countries of the world, to which we might look for an example of sustainable levels of fertility, are lead by a country to which none of the above considerations appear to apply; namely the United States, with New Zealand not far behind. Any explanation that accounts for high birth rates in Norway and Denmark must also account for that of some of the English-speaking countries overseas. Institutional public-sector family support
may help to explain higher fertility in NW than in S Europe but it can hardly work with the American example.

It may be that as the private sector, in a flexible economy with an unregulated labour market such as that of the US, can respond to new demands for childcare services faster and more efficiently than the more sclerotic socialised systems of Europe. Such private-sector systems might be more sustainable in the face of economic trends. The recent cut-back in the much-cherished Swedish system, part of a worldwide trend, raises the question whether some public-sector institutional systems of child support may not be sustainable, especially if they also face competing demands from an ageing population. I do not know of any comparison of the three different routes to moderately 'high' fertility in the three countries of the US, Norway and New Zealand. It may be that the requisite covariates are difficult to be assembled. But no general explanation of fertility change can be considered satisfactory unless it can embrace these salient cases, as well their opposites in southern Europe and Japan. Those are the kinds of issues which further rounds of the FFS might be designed to accommodate.

Salvation through illegitimacy?
Outside Eastern Europe, the only relatively high-fertility countries in the developed world tend also to have high levels of illegitimacy, high levels of divorce and cohabitation and often high levels of childlessness (Figure 3). Will women only have second or higher order children if they can do it their way, if necessary without husbands or resident men or at least a firm commitment to them? How interesting if, as Kravdal suggests (1998) women are much more interested in children than in men. What on earth are we going to do with half the population? Is Sweden, as Gijs Beets recently suggested, the pioneer of a third demographic transition, where men will become redundant and enjoy a pampered drone-like existence, insofar as they do not do so already?

It has been suggested that in the US it is the private sector which has responded to those pressures and demands from women, that in the Scandinavian countries have been translated into welfare change. In the US, the rise of the service sector and of shift work, the weakening of the requirement that women care for their own children most of the time, the corresponding acceptability and feasibility of having children when single, and with it a weakening of the male role as the usual or main provider, have reduced the contradictions between
childbearing and work. Private, not public sector child-care has advanced accordingly (Presser, 1989; Rindfuss, 1991). As women can earn more, they can afford to support more children through their own efforts via child care. Perhaps the more choice that women can make, the more babies they will have?

Figure 3 Doing it their way - TFR and illegitimacy

Salvation through genetics?
Dirk van de Kaa suggested that we should ask economists, sociologists, political scientists and others to extend our enquiries into the final question as to why anyone has children at all. I agree with Hobcraft and with Hans-Peter Kohler that we should extend this invitation to genetics and to evolutionary biology, the astonishing progress of which we ignore at our peril. We should not fear to break commandments handed down to us by an old man with a beard, especially when he is not God but Durkheim and has no beard but only a moustache, instructing us that 'only social facts are allowed to explain other social facts'. Well, not any more, mon vieux. There is some discussion of this bracing issue in a forthcoming issue of the European Journal of Population; a appear on the same topic by Caroline Foster (a student of mine, but all her own work) will shortly appear in Population and Development Review. Brute creation has known for 1000 million years that for the individual, reproduction is expensive, dangerous and personally futile. It is time we woke up to the implications of that for ourselves. And if it is objected that nothing is known about the genetical co-variates of fertility (irrespective of 'causality'), let us find out. Routine bioassay of individual respondents in surveys need involve nothing more intrusive than licking a stamp. Which will be the first demographic survey to incorporate such sampling as routine?

Thanks
Finally let us give thanks for the FFS and for the success of this successful, stimulating, creative and lively meeting. A moment's reflection will show the impossibility of naming all the hundreds of people involved, including everyone here. Let me therefore just mention a very few institutions to which a vote of thanks is due. First, the CBGS and notably its Director Thérèse Jacobs and her colleagues and staff for making the meeting possible and organising it so brilliantly. CBGS has had a long history of promoting this research; Robert Cliquet its former Director was an FFS godfather. Second, the Population
Activities Unit of the UN ECE, which played the primary rôle in the FFS for 13 years now, first under its late Head Joe van den Boomen, then and now under Miroslav Macura, to whom so much is owed. Perhaps the PAU team will allow me to single out Erik Klijzing to whom the running of the project has been so successfully entrusted, and to his successor Martine Corijn, as deserving our special thanks. Finally let us not forget absent funders, the UN FPA and others. The most fundamental equation in demography as always, remains 0 money = 0 research. I propose the gratitude of this meeting to all those concerned. Let us end this meeting by recording our warmest thanks to them. End.
Figure 1

MD-SCAL, 10 demographic variables, developed countries 1995
Figure 3

TFR, proportion of births outside marriage 1995

Illegitimacy ratio per 1000 live births

Rsq = 0.2427