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### **Household statistics in Europe**

Consequenses of different definitions

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# **HOUSEHOLD STATISTICS IN EUROPE**

## **Consequences of different definitions**

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## Household statistics in Europe: Consequences of different definitions

### 1. PROBLEMS

Several reviews have revealed consistent trends in household and family trends in Europe during the last few decades: decreasing average household and family sizes, growing numbers of one-person households and of consensual unions, more one-parent families originating in divorce and less in widowhood, growing proportions of childless couples, and, quite recently, a higher age at which young adults leave the parental home (Hall, 1986; Roussel, 1986; Keilman, 1988; Schwarz, 1988; Gonnot & Vukovich, 1989; Linke et al., 1990; Höpflinger, 1991). At the same time, many authors noted problems of definition regarding household and family data. These problems apply not only to the household as such but also to the concepts of household head, or reference person: "...In analyzing statistics on households and families, an important factor limiting comparability between countries and even within countries over time is the different ways in which households, families, household head or reference person and institutional population are defined ... (UN, 1989, 4). Moreover, various definitions are usually applied for *specific types of households and families*. This concerns not only the institutional household, as noted above, but also one-parent families and consensual unions (Linke et al., 1990; Duchêne, 1990; Festy, 1990). And finally, various *household members* are defined in different ways: in addition to household head or reference person, we mention in particular the concept of child (Linke et al., 1990; Duchêne, 1990). Given these problems of definitions regarding household and family data it is not surprising that not everyone accepts that trends in household and family composition in Europe point, roughly speaking, into the same direction: "...La complexité des familles et des ménages ne cesse de s'accroître, et les définitions utilisées par les pays lors de leurs recensements ne permettent pas toujours de cerner correctement les convergences et les divergences des tendances ..." (Duchêne, 1990, 116).

The purpose of the present paper is to investigate the consequences of differences in definitions of households, household heads, and household members for household and

family data, and next, for observed trends in this field. We will largely concentrate on information obtained from censuses. Sample surveys are frequently used as well to trace household developments. However, comparisons of household trends between countries and/or over time on the basis of sample survey data are hampered not only by problems of definitions (as it is the case for censuses), but also by problems caused by variations in sample design, in formulation of the relevant questions, and by selective non-response. The focus is on Europe, but the findings of this paper apply equally well to other industrialized countries with comparable data collection systems and household and family trends.

Below we first give a brief review of definitions and concepts of the household, head of household, a few household types, and some categories of household members, as these are practised by the statistical agencies in European countries for their censuses and a few special surveys. Because extensive inventories regarding these problems have been compiled in the past (CES, 1983; UN, 1989; Duchêne, 1990; Festy, 1990; Linke et al., 1990), this review does not include any new findings. Next, in section 2 we consider the consequences of differences in definition for international comparisons. Three approaches are followed: parallel series, rearrangement of data, and simulation. Some countries have collected household and family data according to two different definitions, and the differences between the two *observed* series are analysed. For some other data it is possible to *construct* a second series, according to a variant definition. Analysing such parallel series of observed counts assumes that individuals, although they fall in a different category according to the variant definition, still exhibit the behaviour (expressed by occurrence-exposure rates) of the persons who remained in the original category. For instance, in some countries the census definition implies that a cohabiting couple without children is treated as two single persons. However, the marriage propensities of this couple will be much higher than those of persons living alone. By using *simulation*, the assumption of equal behaviour can be relaxed. A model which simulates household and family dynamics is used to investigate variant definitions concerning a few selected groups: children, consensual unions, and one-parent families.

## 1.1. The household

The United Nations recommended to use the following definition of a household for the 1980 round of censuses: a household is "... either (a) a one-person household, that is, a person who makes provision for his or her own food and other essentials for living without combining with any other person to form a part of a multi-person household or (b) a multi-person household, that is, a group of two or more persons living together who make common provision for food and other essentials for living ..." (see, for instance, UN, 1989, 4). These recommendations are considered to be valid as a guide for census-taking in the 1990 round as well (UN, 1990). The definition formulated above recognizes two important concepts of the household: "housekeeping", i.e. sharing resources to provide household members with food and other essentials for living, and "dwelling unit" or "housing unit". The household concept is closely linked to the specific type of housing of the household members: "...Households usually occupy the whole, part of or more than one housing unit but they may also be found living in camps, boarding houses or hotels or as administrative personnel in institutions, or they may be homeless...". Thus, a distinction is made between *private* (or *domestic*) households and *institutional* households: institutional households are comprised of persons "... living in military installations, correctional and penal institutions, dormitories of schools and universities, religious institutions, hospitals and so forth...". Institutional households are often characterized by the fact that its members are subject to common rules and/or have common objectives. Persons living in hotels and boarding houses do not belong in this category, and they should be counted as members of private (i.e. non-institutional) households.

The United Nations recommended to use both the housekeeping concept and the dwelling unit concept in the household definition at the occasion of the 1980 round of censuses. To what extent did countries follow this recommendation? We found three reviews of the practice of countries in Europe, carried out by the United Nations, by Linke et al. for the Council of Europe, and by the Conference of European Statisticians (CES).

The three reviews give different interpretations to the concept of "housekeeping". In the UN-review, it is clearly stated that the housekeeping concept and the dwelling unit are two building blocks of the recommended household definition. Thus it makes little sense to

define a household solely by the concept of common housekeeping, without requiring at the same time that members of the household live in the same dwelling. (Among the 126 countries or areas for which a definition for a household is available, the UN review reports not more than eight countries, all outside Europe, in which the household is defined only in terms of the housekeeping arrangements among the individuals concerned without a reference to living within a single dwelling.) However, in the reviews of Linke et al. and the Conference of European Statisticians (possibly stimulated by interpretations of other UN-bodies, see, for example, UN, 1987, 33-34), the term "housekeeping unit concept" is attached to the *entire* UN definition: "...This concept of a private household (i.e. the recommended UN definition, NK) is known ... as "housekeeping-unit concept". In some countries a different concept is used which equates the private household with the housing unit and thus defines the private household as the aggregate number of persons occupying a housing unit..." (Linke et al., 1990, 12). Thus we may assume that the housekeeping concept employed by Linke et al. is equivalent to the household definition recommended by the UN (to be referred to as the UN-definition henceforth), which involves both the housekeeping concept and the dwelling unit concept. The same conclusion holds for the CES-review. On the basis of this assumption we adjusted the information contained in the review by Linke et al. and that of the CES.

Table 1 indicates that the majority of the countries follow the UN-recommendation and use both the housekeeping concept and the dwelling unit concept in their household definition. A definition on the basis of the dwelling unit only is being used by four Nordic countries (Denmark, Finland, Norway, and Sweden), by France, and by Spain (only families). Since we have only one source, we can state that this definition is *probably* also used by the Færoer Islands (only families), by Iceland, and by the USSR (only families). For Norway (and possibly for the other countries as well), there are at least two reasons to define the household on the basis of the dwelling unit only. The first one is the fact that it is relatively easy to check and to explain to the census respondents (Johansen, 1990, 45). The second reason is connected to the population register that is used, amongst others, for census purposes in many of the countries that employ the dwelling unit definition. Sometimes the census questionnaire contains preprinted register information (Norway is a case in point), and in other instances the "census" is a mere register count (this is the case

in Denmark). A dwelling unit definition of a household is easier to handle in a register than the UN-definition. As Linke et al. state in their report, Austria collects household statistics according to *two* definitions: the one recommended by the UN, and the one based on the dwelling-unit concept only. This facilitates a comparison between the numbers of households evaluated according to these two different definitions, as will be illustrated in section 2.1.<sup>1</sup> Three countries out of the 35 listed in table 1 show inconsistencies in the sources: Luxembourg, Portugal, and Switzerland.

The data in table 1 suggest that one should be careful when comparing, for instance, household trends in Nordic countries with those in other European countries (except for France). All other things being equal, the dwelling unit definition gives a lower number of (small) households than the UN-definition, because two or more households (according to the UN-definition) which provide for their own housekeeping but which live in the same dwelling are counted as one household in the dwelling unit definition. In section 2 we will try to assess how large the difference is in numbers of households according to the two definitions.

For the international practice regarding the definition of institutional households there is relatively little information. Table 1 reveals that a little over half the countries include the population in boarding houses and hotels in the institutional population, but one should be cautious as the picture is far from complete. Unless one studies the institutional population *per se*, differences in definitions will have virtually no impact on an international comparison, and this issue will not be pursued any further here.

One important aspect of the household definition not discussed so far is the issue how to determine whether an individual lives in a certain dwelling unit or not. Many European countries have some registration system in which persons are linked to addresses. These systems are maintained for administrative purposes, and very seldom they are geared towards demographic research. Therefore it is not surprising to note cases in which a person actually lives (for instance, stays four nights a week) at one address, whereas he or she is registered at some other address. As an example, consider Norway. The Norwegian Population Register has an extensive set of rules for registration, of which we mention two



particular cases (see, for example, SSB, 1985, 4)<sup>2</sup>. (1) A never-married person who resides outside the home of the parents because of education or military service is registered as living at the parents' home. (2) A married person who resides outside the partner's dwelling because of labour, education, military service etc. is registered at the partner's house. Consequently, any demographer who is interested in the *actual* household situation of the population, but who relies on the *formal* figures following from the Population Register, will be confronted with a downward bias in, for example, numbers of young adults living single or living in a consensual union (due to the first registration rule), as well as a downward bias in numbers of spouses who live separated from each other before they divorce formally (due to the second rule).

The examples given here demonstrate that the concept of "living in the same dwelling unit" is far from unambiguous. Unless census information records the actual dwelling situation of household members, and not the formal, strong biases may be expected to occur in household figures, in particular for non-traditional households. In section 2.1.2 we shall give some numerical examples of the underestimation of consensual unions.

## 1.2. Household head

For census purposes, the UN defines as the head of the household that person in the household or the family who is acknowledged as such by the other members. It implicitly involves the person who bears the chief responsibility for the economic sustenance of the household or the family. In a number of European countries, this concept is outdated by now. The UN formulate it quite cautiously: "...In countries where spouses are considered equal in household authority and responsibility or shared economic support of the household, the concept of head of household was no longer considered valid even for family households ..." (UN, 1989, 7). Thus, the concept of household head no longer reflects social reality in many European countries, and, moreover, it is thought to be offensive to a large fraction of the population if they were asked to report one household member as head in a statistical enquiry (Murphy, 1991, 887). Therefore it was suggested that countries might prefer that the members of the household designate one among them as a *reference person* with no implication of headship. Next, the structure of the household

may be explored by tracing the relationship between the remaining members and the reference person, or the household head in countries where the traditional definition is considered appropriate. Following UN practice, the term *householder* is used to denote "household head or reference person".

Table 2 lists the international practice regarding the concept of householder. Whether the terms "reference person" or "head" are used is less important, of course, than the operational definition for the determination of the householder. Table 2 shows quite a good agreement between the two sources from which we have information. Only for Denmark and Turkey there are inconsistencies. However, much more striking is the international heterogeneity in the determination of the householder. For eight countries the members of the household point out the householder themselves: Austria, Isle of Man, Italy, Liechtenstein, Netherlands, Portugal, Spain, and Switzerland. For other countries, table 2 reveals a large variety of decision rules (as far as we have information regarding this issue).

Does this large variability in the international practice concerning household head and reference person render international comparisons useless? Not for all cases, we believe. First of all, in practice, the age distribution of householders seems to differ very little when alternative definitions are used (Murphy, 1986). Second, many households consist either of a married couple (although the proportion is decreasing), a one-parent family, or a single person. In the case of a married couple, the husband will most frequently be denoted as (one of the) householder(s), provided that the country concerned employs decision rules coded by 2, 4, 7, 9, 10, or 11 in table 2. In case a one-parent family is recorded, the householder will often be a woman. In other words, international comparisons are possible for a group of 4-6 countries consisting of Channel Islands, Finland, Hungary, and Poland (and possibly also Denmark and Turkey when the information collected by the UN for these two countries is considered more reliable than that of Linke et al.), provided that one distinguishes between two-parent families, one-parent families, and other households, and that male and female householders are considered separately. When no such distinction is made, the comparison becomes hazardous, in particular for women. Indeed, as the UN-review shows, female headship rates for Austria, Norway, and Sweden are almost consistently higher than those in Italy, Portugal and Spain, and some of the differences

may be interpreted in terms of economic criteria that are used to identify the householder (UN, 1989, 14-16). Countries without a numerical code in table 2 may also belong to the group of 4-6 countries mentioned above, but we have not enough information to add these countries to the list.

### **1.3. Household members and household types**

The scoring of household members has important implications for the breakdown of the overall set of households into households of various types. For instance, when persons over 18 years of age are no longer considered as "children", irrespective of the type of household they reside in or the dependency structure with other household members, we will see a decrease in the number of households with children. In this section we first discuss the concept of "child" (section 1.3.1), and next two types of households: consensual unions (section 1.3.2) and one-parent families (section 1.3.3). This selection of issues does not imply that other types of households and household members do not pose any problems of definition. Consider, for example, the scoring of relatives (parents, uncles and aunts, etc.) in a family household. Various possibilities exist here, e.g. three-generation family, and family with other adult persons. However, we have chosen children, consensual unions and one-parent families because we are able to simulate for these groups the consequences of various definitions and categorizations (see section 2).

#### **1.3.1. *Children***

Defining the concept of "child" in the context of household composition involves not only tracing co-residing off-spring (either by blood or adoption) of adult household members. One should also consider dependency structures in the household, both from an emotional and an economical point of view. But such structures are difficult to operationalize in a census. Therefore, there is considerable variation in the definition of "children". In some cases one takes any direct descendants, whatever their age - in other cases they are counted as part of the family (-household) only if still under 16, or in full-time education, or still

unmarried (Eversley, 1984, 15). Other age limits are possible as well, of course. Meanwhile, the UN-recommendation is to restrict children to those who are never-married, irrespective of age (UN, 1980, 72). This may lead to peculiar situations. For instance, a never-married woman aged 50 living in the same household as, and taking care of, her aged mother will be denoted as "child". Thus it makes much sense to include an upper age limit as well, for instance 18, or 20, or 25 years. Any child staying in the parental household after reaching this maximum age will from then on be counted as "person not member of the nuclear family" (UN, 1987, 38). (The notion of "family" will be defined below.) The consequences of various age limits will be investigated in sections 2.1.1 and 2.2.2.

### 1.3.2. *Consensual unions*

To determine whether a pair of adults form a cohabiting couple is far from easy, of course. Two conditions should be met (Festy, 1990, 80): the persons should live in the same household, and they should live "as husband and wife" without being married (*to each other*). Problems connected with the first condition were discussed more generally in section 1.1. Regarding the second condition, no valid objective criteria can be used (see Trost, 1988, for a review of issues connected to defining cohabitation). Thus, in practice (for instance for Norway, Sweden, France, England - see Festy, 1990, 80-82; and also for the Netherlands at the occasion of the 1985/1986 Housing Survey carried out by the Netherlands Central Bureau of Statistics) it is left to the respondents to determine whether they are cohabiting or not. This is what Trost calls the "phenomenological definition". Sometimes the partners are just asked whether they live as a couple, and combination with marital status results then in a separation between married couples and cohabiting couples. Obviously, using a phenomenological definition will introduce a bias for various reasons (Trost, 1988, 4): social acceptance, or tax avoidance, or due to differences in perception between the partners (one considers the relationship as marriage-like, the other one looks upon it as more casual). As a result, two non-married adults living in the same household may be recorded as a consensual union at one occasion, and as two non-related adults at the other. In case there are dependent children as well in the household, the alternative

registration may be a one-parent family, and a non-related adult living in the same household.

Consensual unions also have implications for international comparisons regarding statistics on families. According to UN-recommendations, a family (or family nucleus, to be more precise) is comprised of persons living in the same household (either private or institutional) who are related as husband and wife or as parent(s) and never-married children by blood or adoption. Couples living in consensual unions should be regarded as married couples (UN, 1980, 72). However, among the 19 European countries for which Linke et al. reviewed the family concept, it turned out that Belgium and the Netherlands do not take consensual unions into account by their family concept, whereas the same was reported for Denmark regarding couples living in a consensual union and having no common children (Linke et al., 1990, 13)<sup>3</sup>. Other things being equal, this implies an underestimation of families in these three countries, as compared with other countries.

### 1.3.3. *One-parent families*

A one-parent family consists of a single parent and one or more co-residing dependent children. Except for the concept of "co-residing child", which was discussed more generally in section 1.3.1, this definition is straightforward, but one is confronted with problems in cases where one or more other adults live in the same household, too. Unless such an other adult is related to the lone parent, for instance his or her father or mother (in law), it may very well be the lone parent's partner. This situation mirrors the one described in section 1.3.2 with respect to consensual unions with children. Höpflinger (1991, 321) refers to a study written by Neubauer published in 1988 which shows that in the Federal Republic of Germany, 10 per cent of women who declared themselves as "lone mother" were, in fact, cohabiting - for "lone fathers" the figure was even 28 per cent. In such cases it is not clear whether one should speak of a one-parent family which includes an other adult in the same household, or of a consensual union with one or more children. A household consisting of a widowed mother, her child from the previous marriage, and her new partner may be counted as a one-parent family in case the man does not take account

of the child (culturally speaking, he cannot be defined as "father"). In fact, there is only one "parent-child unit", and two adults forming a "conjugal unit" (Trost, 1990, 29). A consensual union with a child would imply a conjugal unit and *two* parent-child units. As Duchêne (1990, 119) points out, in Belgium (and in many more countries as well, she contends), an unmarried cohabiting couple with one or more children is counted as one-parent family. In sections 2.1.3 and 2.2.4 we discuss some numerical consequences.

## 2. CONSEQUENCES

There are, in principle, three approaches to show the possible impact of alternative definitions on comparative household analyses between European countries. The first one is to look for data from countries that have collected information according to various definitions, and hence have compiled two or more time series for the same variable for some while. From the remainder of this paper it will become clear that such data is available for a few cases only. The second approach is to identify a shift in definitions, and investigate whether any shift in observed trends can be noted in parallel. This is much less convincing than the first approach, but still useful. The third approach is to model household trends and compare model results for variant projections, according to alternative definitions. Thus, instead of *observed* parallel time series of data as in the first approach, one analyses in this case *simulated* series. We have employed all three approaches in this paper, although comparing the trends in parallel series (first approach) had to be restricted to a few isolated cases. We used the LIPRO household projection model and applied it to the Netherlands, to simulate time series of household trends according to variant definitions. The parameters of this model (i.e. occurrence-exposure rates for household events) may be interpreted as indicators of underlying individual behaviour. This facilitates assuming that individuals, after regrouping, adopt the behaviour of the new category. For instance, in one of the simulations, children over 20 years of age are not counted as "children", but as "other adults" in the household, and they are exposed to the household formation and household dissolution rates of these adults, and not to the rates of the "children" aged 20+.

## 2.1. Parallel definitions and rearrangement of data

Below we give two examples of countries for which we have numbers of households according to both the UN-definition and the dwelling-unit definition.

In Austria in 1981, 2.764 million households were observed according to the UN-definition. By using the dwelling-unit definition, one arrives at 80 thousand less households - a difference of 2.9 per cent.<sup>4</sup> In Norway in 1980, the difference between the number of households according to the UN-definition and that on the basis of the dwelling-unit definition may be estimated as roughly 30 thousand (see Ås, 1990, 57), or some 2 per cent of the total number of households (according to the UN-definition). Given the fact that the average growth in the number of Norwegian households was 1.62 per cent *per annum* during the years 1970-1980, the difference between the number of households according to the two definitions may be considered small. The current dwelling-unit definition was introduced at the occasion of the census of 1970. Before 1970, the UN-definition was used (Ås, 1990, 54). In order to assess the impact of this change in definition on observed numbers of households we ran a linear regression against time on the figures contained in table 3. The dependent variable was the number of households, and independent variables were the year concerned, a dummy variable D70 to account for the introduction of the dwelling-unit definition (having the value 0 for the years 1930-1960, and 1 otherwise), and a dummy variable D90 for the fact that the 1990 number applies to private households only (D90 equals 1 in 1990, and 0 in remaining years). Contrary to what could be expected, the estimate of the coefficient of D70 was positive (16.6 thousand households), but its estimated standard error indicated a non-significant contribution (t-value of 0.3). (The coefficient of D90 was significant and strongly positive, indicating an acceleration in the growth of the number of households in recent years.) The two examples for Austria and Norway suggest that historical and international comparisons concerning the total numbers of households are not obscured by differences in defining the concept of a household.

Most of the examples in the subsequent sections where we have rearranged observed data according to various definitions apply to a single point in time. However, for the Netherlands we are able to rearrange data in a long time series of household statistics,

spanning some 65 years. The data are not observed, but they are the results of a simulation carried out with the help of the household simulation model LIPRO. In this section we report on several rearrangements of this data set according to different definitions and concepts concerning children, consensual unions, and one-parent families. In section 2.2 we shall run variant projections according to alternative definitions.

LIPRO (Lifestyle PROjections) is a multidimensional model (and corresponding computer program) developed at the Netherlands Interdisciplinary Demographic Institute for the projection of a population broken down by age, sex, and an additional third characteristic (Van Imhoff & Keilman, 1991). In LIPRO-applications so far, household position and marital status have been used for this third characteristic, but the model is flexible enough to facilitate other choices, for instance region of residence, labour market status, or educational level. In this paper, we shall use the model's variant which focuses on household position.

The model simulates events that individuals experience as they move between household positions: not only events due to household formation and household dissolution, but also birth, death, emigration and immigration. Interactions between individuals who (will) belong to the same household (e.g. marriage, start of consensual unions, divorce, leaving the parental home) are taken care of by the model. At each point in time, numbers of households of various types are derived from numbers of persons broken down by household position.

The following set of private household positions was used for individuals for each combination of age and sex:

1. CMAR child in family with married parents
2. CCOH child in family with cohabiting parents
3. C1PA child in one-parent family
4. SING single (one-person household)
5. MAR0 married, living with spouse, but without children
6. MAR+ married, living with spouse, and one or more children
7. COH0 cohabiting, no children present
8. COH+ cohabiting, with one or more children
9. H1PA head of one-parent family
10. NFRA non family-related adult (i.e. an adult living with family of types 5 to 9)
11. OTHR other position in private household (member of a multiple family)



household; multiple single adults living in the same household)

The 11 household positions which individuals may occupy at any point in time result in the following 7 types of private households:

- A. SING one-person household
- B. MAR0 a married couple without dependent children, but possibly with other adults
- C. MAR+ a married couple with one or more dependent children, and possibly with other adults
- D. COH0 a cohabiting couple without dependent children, but possibly with other adults
- E. COH+ a cohabiting couple with one or more dependent children, and possibly with other adults
- F. 1PAF a one-parent family, possibly with other adults (but no partner to the single parent!)
- G. OTHR other household, such as multiple family household, or co-resident adults without partner relation

Numbers of households of types A-F follow straightforwardly from numbers of adults in households positions 4-9. The number of OTHR households is found as the number of individuals in household position OTHR, divided by the average size of this household type (2.82 in the Netherlands in 1985).

In table 6 (to be discussed later) we give some summary results of a projection, for which most of the occurrence-exposure rates for household events and vital events (broken down by sex and five year age group) were estimated from the 1985 Housing Demand Survey of the Netherlands. This survey contains information on current and past household status of some 47,000 private households. The parameters were kept constant for the entire projection period 1985-2050.<sup>5</sup> (The LIPRO program gives the user the possibility to employ time varying rates, but for the purposes of the present paper this is not necessary.)

### 2.1.1. *Children*

A variable upper age limit for the definition of a child can easily be applied when we have data about children in households broken down by age of the child (provided the oldest age group is not too low).

Duchêne (1990, 116) reports, for the case of Belgium (probably applying to the year 1981), a drop in the proportion of one-parent families (among all families) from 14.7 per cent to 10.7 per cent as a result of introducing an upper age of 21 years for children who belong to a family, instead of the current practice of using no upper age limit. However, in Denmark, where one-parent families are more frequent, and perhaps more similar to two-parent families, than in Belgium, shifting the upper age of children has a somewhat more limited effect: in 1988, 21.0 per cent of the families with one or more children under 26 are a one-parent family (some of these one-parent families are, in fact, consensual unions with children, see the discussion of table 7 below), and still 18.0 per cent of the families with one or more children under 18 (Danmarks Statistik, 1988, 6). For the case of France, table 4 illustrates very clearly sudden shifts in indicators of family composition as a result of an upper age limit for children of 25 years, instead of 17 years. The proportion of families without children shows a slow but steady rise, but it drops by more than ten percentage points when elderly children are included. On the other hand, the declining proportion of families with four or more children (from 6.5 to 2.7 per cent between 1968 and 1982) suddenly goes up by 2.3 percentage points. For Norway we observe an increase of a few percentage points in the proportions of families with children (both married couples and lone parents), when no age limit for children is taken into account, as compared to the situation in which children can be no older than 20 years of age, see table 5. However, the trends in the various proportions for the period 1974-1989 are not affected by introducing an age limit: proportions of married couples (both with and without children) go down, and proportions of single parent families grow.

In panel 1 of table 6 we present household simulations for the Netherlands in which children are defined without taking any upper age limit into consideration. This follows the practice for the definition of a child as used in the Housing Demand Survey. The implication is that the age distribution of children has a relatively long, but very flat tail at high ages: 3 % for the age group 25-29, 0.9 % for 30-34, 0.5 % for 35-39, 0.2 % for both 40-44 and 45-49, and finally 0.1 % for age groups 50-54 and 55-59.

The trends indicate a steady increase in the number of private households which ends around 2030, and a slight decrease thereafter. When considering households by type, we

observe a relatively strong and continuous growth in the share of one-person households, a decline in the proportion of households consisting of a married couple and one or more co-residing children, and for one-parent families first a rise in their relative number, followed by a modest fall in the first decade of the next century. However, as total numbers of households increase until around 2030, the absolute number of one-parent families does not fall until the year 2015, and in 2050 the number of one-parent families (425,000) is considerably higher than that observed in the mid-1980s (311,000). When we look at the proportion of households with children (columns headed by MAR+, COH+, 1PAF) we note a fall in the proportion from 46 per cent in 1985 to 31 per cent in 2030. This decrease by 15 percentage points over a period of 30 years is a direct continuation of the trend observed during the years 1960-1985, namely a fall by 17 percentage points (Kuijsten, 1990, 44; Van Imhoff and Keilman, 1990, 69). These developments are largely consistent, at least qualitatively, with those observed for other European countries, see section 1.

To investigate the consequences of variable age limits for co-residing children, we removed, for each projection year, numbers of children who are aged 25 or over, and who live in one of the following three household types: two married adults and co-residing child(ren) (MAR+), two cohabiting adults and co-residing child(ren) (COH+), and one-parent family (1PAF). Numbers of these three types of households were reduced accordingly. Some of these old children are the only child in, say, a MAR+ household. For each of these young adults who is no longer considered as child, the number of MAR+ households is reduced by one, and the number of MAR0 households goes up with one. However, some of these old children will be the eldest child in a multi-children household, and removing those young adults has no (or little) implications for the number of MAR+ households. On average, the number of MAR+ households has to be reduced by the number of children aged 25 and over, divided by the mean number of children in a MAR+ household. The number of MAR0 households was increased with the same amount. Similar operations were carried out for children in COH+ households (which led to an increase in the number of COH0 households), and for one-parent families (implying a growth in the number of one-person households). The second panel of table 6 shows results of such a rearrangement of data in case children cannot be older than 25, and in panel 3 the age limit is set to 20.

What do these variable age limits for children imply for major household trends? Total numbers of households remain unchanged, of course. Comparison of panels 1-3 in table 6 indicate that the upward trend for one-person households remains the same, but that it occurs at a level which is a few percentage points higher. Also the general trend for MAR+ households is little affected. The largest implications can be observed for one-parent families: the initial upward trend has almost disappeared, in particular when the age limit is set to 20 years. Measured in percentage points, the difference between the three variants for the proportion of this type of household are similar to those for types SING, MAR0, and MAR+ - however, since the percentage of one-parent families is rather low, the latter household type is more easily affected than the former three. Indeed, in contrast with the Benchmark variant, the absolute number of one-parent families at the end of the simulation period is *lower* than at the beginning: 183,000 with an age limit of 20 years, and 262,000 with one of 25 years. There are two reasons why a change in the maximum age of co-residing children has larger consequences for one-parent families than for two-parent families. First, on average, there are only 1.71 children living in a one-parent family in the Netherlands in 1985, whereas the mean number of co-residing children in a two-parent family is 1.93. Second, children in one-parent families are relatively old: 31 per cent are over 20 years of age, 14 per cent over 25, and still 8 per cent are over 30. For two-parent families the corresponding proportions are much lower: 17, 4, and 1 per cent, respectively. The relatively high mean age of children in one-parent families in the Netherlands is, no doubt, a consequence of the fact that the 1985 Housing Demand Survey contained no clear instructions as to how to define a child. As a result, many elderly lone parents, who were dependent of a co-residing adult child for reasons of health or economy, will have been reported as head of a one-parent family.

A general conclusion of this section is that trends in most household types are relatively insensitive to a particular choice for the highest age at which young adults can still be regarded as children belonging to the household. The consequences for one-parent families, however, can be substantial, in particular when families of this type have relatively few co-residing children, and/or when these children are relatively old. To avoid a bias in international comparisons, one should control for the maximum age of these children.

### **2.1.2. *Consensual unions***

To investigate issues of definition connected to consensual unions, two analyses will be carried out on the basis of rearrangement of data. First, we look at the consequences of the practice followed by Belgium and the Netherlands, where consensual unions are not included in the definition of the family. Second, the impact of an underestimation of consensual unions caused by registration of the formal dwelling situation for each of the partners instead of the actual one (see sections 1.1 and 1.3.2) is analysed. The issue of whether a household consisting of two adults and one or more children should be counted as a consensual union with children, or rather as a one-parent family plus an additional non-related adult, will be taken up in section 2.1.3 when we investigate one-parent families.

In case consensual unions are not included in the family definition, trends in numbers of families of various types are only affected when numbers of consensual unions (with or without children) are of substantial importance, compared to numbers of other families. This is the case in Sweden and Denmark - for instance, for the latter country, the number of cohabiting couples has risen quickly from about one-eighth of the number of married couples in the mid 1970s to nearly one-fifth in 1985 (Manniche, 1990, 88). In other countries, consensual unions are less frequent, and the consequence for family developments of disregarding consensual unions from families are only small. Consider, for instance, the case of the Netherlands in the first panel in table 6. When we add the proportion of COH+ families to that for 1PAF (and the proportion of COH0 families to that for OTHR households), the main trends change only very little. But for Denmark, where the proportions of one-parent families and consensual unions (with or without children) are much larger, the shifts are considerable, see table 7.

In section 1.1 we noted that there may be a downward bias in the number of consensual unions recorded in population censuses as a result of problems with registration of the actual dwelling place of the respondents. This underestimation is illustrated with figures for Norway, France, and England and Wales.

Sample surveys carried out in Norway in 1977 and 1984 revealed that among all women

aged 18-44, 5 and 11 per cent, respectively, lived in a consensual union in Norway (Østby and Strøm Bull, 1986, 142-143). In 1988, the figure was 18 per cent (SSB, 1991a, 42). For the age group 20-24, the figure rose from 12 per cent in 1977 to 19 per cent in 1984 (Festy, 1990, 84), and for women aged 22 the trend continued to 34 per cent in 1988 (SSB, 1991a, 42). These developments can be explained quite well on the basis of what we know about consensual unions in Norway. In spite of the increase between 1977 and 1984, the 1980 census resulted in the *same* figure for women aged 18-44 (5 per cent) as that in 1977 - for the age group 20-24 it was even *lower*: only 7 per cent. An important reason for the underregistration in Norway is the fact that only persons registered at the same address *according to the Population Register* are to be recorded as belonging to the same household. (A second reason may be the relatively good "rappport" between interviewer and respondent in the surveys, as a result of which census information regarding specific issues is somewhat less reliable than survey information.) Østby and Strøm Bull suggest, on the basis of certain adjustments in the raw census information, that the underestimation of consensual unions (for all ages) amounted to *at least* 30 per cent, and probably more. This figure is largely consistent with what one would expect on the basis of a linear interpolation between the figures for 1977 and 1984. It should be noted, however, that (an unknown) part of the bias may be the result of the sampling method, possibly selective non-response, and/or different wording of the relevant questions in the sample surveys. Festy (1990, 84-85) finds that the number of consensual unions in a French survey in 1982 is twice as high as that found by an entirely comparable analysis on the basis of census data. Penhale (1989, 12) reports for England and Wales an underestimation of roughly 40 per cent in the proportion of women who are cohabiting according to the 1981 Census.

To look at the consequences of such a bias we assumed numbers of consensual unions (both COH0 and COH+) twice as high (in other words, an underregistration of 50 per cent) as the ones simulated with LIPRO<sup>6</sup>. Panel 4 in table 6 displays the results of calculations in which it was supposed that each additional COH0 household was erroneously recorded as two SING households, and that each COH+ household is found by combining households of types 1PAF and SING. In panel 5 we assumed that one half of the additional households stem from SING-households, and the other half from households of types MAR0 and MAR+. For each married person who lives, in fact, in a consensual union

with a partner (not the formal spouse), his or her spouse should be registered as SING, and in case the household is of type MAR+, it becomes 1PAF. The assumptions underlying panels 4 and 5 are quite bold - they are certainly not the most plausible ones possible, but on the other hand they do not reflect an entirely impossible situation either. The way we proceed here facilitates to explore the boundaries of *possible* trajectories for household trends, but not *the most probable* one.

In spite of the rather drastic assumptions, the trends displayed by panels 4 and 5 are the same as or parallel to those noted in the Benchmark calculations. Total numbers of households are a little lower in panel 4 (because two SING households are combined into one COH0 household, and each COH+ household is formed out of a SING household and a 1PAF household), and they remain the same in panel 5 (for each new COH0 household, one SING household disappears, and one MAR0 household is split in two, and similarly for new COH+ households - in fact, a partner in a formal union is merely replaced by one in a consensual union). Because numbers of households of types MAR0, MAR+, and OTHR are not affected by the rearrangement in panel 4, their shares in all households are a little higher than in the Benchmark. The proportion of one-person households is relatively low in panel 4, but also here it rises strongly. As a direct consequence of the assumptions we used, numbers of consensual unions are much higher than in the Benchmark variant, but their development over time remains unchanged.

### 2.1.3. *One-parent families*

Table 8, compiled by Höpflinger (1991, 323), shows that on average, roughly 80 per cent of the one-parent families in the countries concerned is comprised of only the lone parent together with one or more children. On the basis of this average percentage we assumed that 10 per cent of the heads of one-parent families, or, in other words, half of the lone parents with other adults in the household should, in fact, be regarded as cohabiting with a partner. Thus, in panel 1 of table 6 for the year 1985, 31.1 thousand households were moved from 1PAF to COH+. Where did we find the partners to these quasi lone parents? In the Netherlands in 1985, 60.4 thousand persons were recorded as a non-related adult living with a family, for instance a lodger, a distant relative, etc. (Van Imhoff & Keilman,

1990, 69). Many of them will not be the partner of a lone parent. For instance, 52 per cent of these adults are aged over 60, whereas for lone parents the percentage is only 18. Thus it is reasonable to assume that many of these adults are an elderly father or mother of (one of) the adult(s) in the household. We assumed that half of the 31.1 thousand required partners were erroneously recorded as a non-related other adult living in a one-parent family (and even this proportion is probably quite high), while the remaining 15.6 thousand partners are to be found in households of type OTHR (in which some 250 thousand individuals reside). On the basis of these rearrangements of individual household positions and household types, panel 6 of table 6 was constructed. The results demonstrate that the proportion of consensual unions with one or more children doubles, but that it remains of minor significance only. The proportion of one-parent families is reduced somewhat, as compared with panel 1. For all household types, the development over time is left unchanged.

## 2.2. Simulation

### 2.2.1. Approach

For a proper understanding of the simulation results in the following sections it is essential to know that the LIPRO model simulates the behaviour over time of *individuals*. An initial population, broken down by age, sex and household position, is projected over a unit time interval (here we chose 5 years). It is exposed to risks of not only childbearing, death, and migration (as in usual cohort-component models), but also of household formation and dissolution. Occurrence-exposure rates for all relevant events are transformed into a transition probability matrix, which is multiplied with the initial population. This results in a new population, 5 years later. Successive multiplication of population structure and transition probabilities facilitates simulation of the population over the entire projection interval. Thus household dynamics are in terms of *events experienced by individuals*. Numbers of households are only computed at fixed points in time, by a proper arrangement of the number of individuals in the various household positions: household developments are in terms of comparative statics.



### 2.2.2. Children

To trace the consequences of an upper age limit for children of 25 years, we adjusted the initial population and the parameters of the household simulation. For the initial population, children above 24 years of age were transferred to the household position "non-family related adult" (NFRA), i.e. they were considered as an other adult living in the household of their parents. At the same time, some parents were transferred from MAR+ to MAR0, from COH+ to COH0, and from 1PAF to SING. It was assumed that the age difference between children and parents is 25 years. Numbers to be transferred were taken equal to numbers of children transferred out of households of types MAR+, COH+, and 1PAF, divided by the mean number of children in these households. For one-parent households, numbers of male heads to be transferred to SING were taken proportional to the fraction of lone fathers among all lone parents. For the parameters, all occurrence-exposure rates *into* the three relevant child categories were set to zero for ages above 24. Rates *out of* child categories into the position NFRA were given an arbitrarily high value of one (jump per person-year). Finally, immigrating "children" aged over 24 were assumed to enter the position NFRA, instead of one of the three child positions.

Results of the simulations are presented in table 9, panel 1. They are to be compared with panels 1 and 2 of table 6. The simulations show, very strikingly, a relatively strong growth in the number of households. The increase over the period 1985-2030 is 58 per cent, compared to only 33 per cent in table 6. To a large part, one-person households are responsible for the relatively strong growth in the number of households in table 9. Elderly children were transferred to the household position NFRA, and the data observed for the Netherlands as of the mid-1980s indicate that at ages above 24, entry from NFRA into the position SING is more likely than that from "child" categories. For example, rates for jumps between NFRA and SING are 0.160 and 0.082 for females aged 25-29 and 30-34, respectively - for the entry into a one-person household from the position "child in a MAR+ household", the corresponding rates are 0.085 and 0.065, respectively. For males the situation is similar.

The proportion one-parent households grows stronger in the simulations than in the results in table 6 obtained by rearrangement of data. However, the differences between panel 1 of

table 9 and panel 2 of table 6 (or panel 1, for that matter) are not very large - approximately four percentage points after 65 years of simulation. The growth in one-person households has a negative effect on the proportions MAR0 and MAR+, but the absolute numbers of these two types of households develop along a trajectory very close to that of panel 2 in table 6. For instance, the number of MAR+ households in 2050 is 1.315 million in table 9, and 1.328 million in panel 2 of table 6. The trend in the proportion of one-parent families lies in between the two lines in panels 1 and 2 of table 6.

Results of simulations obtained by setting the maximum age of children living with their parent(s) equal to 20 years are shown in the second panel of table 9. It will not come as a surprise that the increase in the number of households is even stronger than in the first panel: 70 per cent over the period 1985-2030, or 12 percentage points higher than in panel 1. However, this strong growth is not only caused by the trend in one-person households (the absolute number develops close to that in panel 1), but also by that in households of type MAR0, MAR+, and OTHR. This can be explained as follows. Setting the age limit of children as low as 20 years increases the number of NFRA adults, and, subsequently, numbers of persons in SING households, as was discussed in the previous paragraph. Compared to young adults living with their parents, it turns out that young SING adults are more likely to marry, and that young NFRA adults have much higher propensities to enter a household of type OTHR.

In general, one may conclude that the introduction of an upper age limit for children co-residing in a family household accelerates a few of the existing trends in household dynamics: the growth in the total number of households, and in that for types SING and OTHR. Downward trends in numbers of households consisting of a married couple (both with and without children) become steeper. The acceleration in the trends becomes stronger, the lower the age limit for co-residing children is set. Consensual unions are hardly affected. The shares of one-parent families and households defined here as "other" may undergo relatively large shifts, but their absolute numbers remain modest.

### 2.2.3. *Consensual unions*

Panels 3 and 4 of table 9 illustrate the results of a model simulation in which the initial population was adjusted, but in which input rates remained the same as those in the Benchmark calculation. For the initial population of panel 3, the number of persons living in a consensual union without children (COH0) was doubled for each combination of age and sex, and numbers of persons in a SING household were decreased accordingly. Also numbers of persons living in a COH+ household were made twice as large as those in the Benchmark, but only for ages under 65. Each extra COH+ household was constructed by combining a one-parent family and a person in a SING household. It was assumed that 90 per cent of the additional 1PAF households were headed by a woman, and 10 per cent by a man <sup>7</sup>. In each age class, numbers of children to be transferred from 1PAF to COH+ were found as the number of adults who are 25 years older and who make the same transition, multiplied by the average number of children in a 1PAF household (0.73 for girls, 0.99 for boys). The initial population for the simulations of which the results are reported in panel 4 was constructed similarly, although the rearrangements between household categories were somewhat more complicated. Each additional consensual union with children (for ages below 65 only) was found by splitting up one MAR+ household into a 1PAF (90 per cent headed by a female, and 10 per cent by a man) and a SING household. Half of these 1PAF's were transferred to COH+, and the original partner became SING. The other half of the 1PAF's remained in that state, and the original partner was transferred to COH+. This required a similar operation for the other sex, of course. All households in panels 3 and 4 of table 9 show a development that could be expected on the basis of what we know from previous analyses, except for COH0 and COH+. The initial large proportion of these households disappears quickly in both panels, and the trend is close to that for the Benchmark in table 6. The reason is that for many Dutch couples, cohabitation is an intermediate stage, rather than a full alternative to marriage. This makes the positions of COH0 and, in particular, COH+ rather unstable - a substantial part of the additional cohabiting couples moves on quickly to positions MAR0 and MAR+. For countries like Denmark or Sweden the high proportions of cohabiting couples would have persisted much longer (but the ergodic theorem of demography tells us that, in the long run, the impact of the initial population on the proportion in each household position

would have disappeared for these countries as well).

#### *2.2.4. One-parent families*

The results of a model simulation in which it was assumed that ten per cent of the one-parent families (headed by a parent under 65 years of age) should, in fact, be considered as a consensual union with children are shown in panel 5 of table 9. Half of the partners which are required for the additional COH+ households were recruited from NFRA, the other half from OTHR. Appropriate numbers of children were moved from C1PA to CCOH. As in panels 4 and 5, the initial increase in numbers of COH+ households disappears very quickly. The total number of households is slightly larger than that in the Benchmark calculations, because adults living in a consensual union with children have death rates that are a little lower than lone parents.

### **3. CONCLUSIONS AND DISCUSSION**

In this paper we have looked at the international practice regarding definitions for household and family concepts, and we have investigated possible consequences for international comparisons of the variety in definitions that are actually employed. The focus was on information obtained from population censuses, and we analysed the following issues: (i) the concept of the household (dwelling-unit and housekeeping unit); (ii) household head or reference person; (iii) a maximum age for co-residing children; (iv) consensual unions; and (v) one-parent families. The international practice with respect to issues (i) and (ii) was reviewed on the basis of earlier inventories carried out in the recent past. In order to trace the consequences of different definitions regarding issues (iii)-(v), we rearranged observed and simulated numbers of households of various types, and variant simulations were carried out for household structures in the Netherlands, using the LIPRO household simulation model. Our conclusions may be summarized as follows. The overall development in European countries during the past few decades towards small average household and family sizes, large numbers of one-person households and of

consensual unions, many one-parent families originating in divorce and few in widowhood, and high proportions of childless couples, is little distorted by different definitions regarding the household, a co-residing child, a consensual union, or a one-parent family. Some trends may be accelerated, or retarded, but their direction remains the same. Moreover, defining the household according to the dwelling-unit concept or to the housekeeping concept (or both, as the UN recommends) has a very limited impact on the total number of households. On the other hand, when the focus is on a specific type of household, or of household members, large differences may arise, when variant definitions are applied. Headship rate patterns are very sensitive to the way in which economic criteria are used to identify the householder, in particular in countries where females and males are considered to play equal roles with respect to household responsibility and economic support. Thus we recommend *not* to compare headship rates between countries, unless one controls for the type of householder definition, or, when this not feasible, for the sex and the household type of the householder. Furthermore, in case one lowers the maximum age for co-residing children, the number of one-parent families diminishes rather strongly, in particular when families of this type have relatively few co-residing children, and/or when these children are relatively old. At the same time the upward trend in one-person households which is already present when no age limit is practised becomes even steeper. Finally, a large proportion of consensual unions is erroneously recorded as two one-person households, or as a one-parent family and a one-person household. Correcting for the underregistration of consensual unions (underregistrations of 50 per cent are not unlikely) may reduce the number of one-person households by up to one third.

The general conclusions formulated here must be regarded as tentative. The present analysis is only partial, for two reasons. First, the effects of variant definitions for only a limited number of types of households and of household members were simulated: children, consensual unions, and one-parent families. Different definitions for the concept of the householder may be simulated by more sophisticated models than LIPRO. For instance, a micro simulation model which includes household and income structures may be used to investigate the consequences of definitions of types 1, and 3-9 in table 2. Second, the simulations were only applied to the case of the Netherlands, and this country is certainly not representative of the general household situation in Europe (nor is any

other single country). Fitting the model to data from more than just one country would possibly give a much firmer ground to our conclusions, or perhaps refute them.

Meanwhile, the analysis in this paper has shown that different definitions have little impact on overall household trends, but levels may be shifted upwards or downwards. This makes a cross-sectional analyses hazardous, unless it is combined with a time series analysis. In other words, many European countries move into the same direction, but in order to distinguish forerunner countries from those starting later, we need data collected according to the same definitions.

The effects of different definitions are better understood the better knowledge one has of underlying household behaviour. Examples are the mean number of children in a one-parent family and their age distribution (section 2.1.1), the stability of consensual unions (section 2.2.3), and the likeliness of starting a one-person household from the position child with parents, or as an other adult in a family household (section 2.2.2). But it is ironic that in order to increase our understanding, we need accurate and unambiguous data!

## NOTES

1. Richard Gisser of the Demographic Institute in Vienna points out to me that dual information can most probably be collected for many more countries in table 1, just by appropriate processing of the household information collected in the census. The fact that, in the report by Linke et al., only Austria appears to collect household information according to a dual definition may be due to a misinterpretation (by the other countries) of the relevant question in the questionnaire which was used by Linke et al.
2. To a large extent, these rules are the same in other Nordic countries.
3. It should be noted, however, that the category "living in consensual union" is present in Denmark's family statistics.
4. The help of Richard Gisser of the Demographic Institute in Vienna in providing these numbers is gratefully acknowledged.
5. We applied the so-called linear model with the harmonic mean consistency algorithm. The unit projection interval was 5 years (equal to the width of the age brackets), and the scenario type was "fixed".
6. Because the data used for the LIPRO simulations stem from a survey, and not from a census, numbers of consensual unions are to be considered quite reliable (for reasons explained earlier in section 2.1.2). Thus, these numbers should, in fact be reduced by 50 per cent. Instead we decided to make them twice as high, in order to give a clear picture of the consequences of an underregistration. The real effect will be much less for the Netherlands.
7. In reality, the proportion is 14.8 per cent for men, but application of that percentage would have led to negative numbers of lone fathers in ages 20-35. The reason is that lone fathers are older than lone mothers - the difference in average ages is 6.7 years -, partly due to the fact that relatively many of these fathers are widowers, rather than divorced.

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Table 1. Household definitions in the 1980-round of population censuses, various countries in Europe

	General households			Institutional households
	(1)	(2)	(3)	(4)
Austria	B	B	B	E
Belgium	B	B <sup>1</sup>	B	-
Bulgaria	B	-	B	-
Channel Islands	B	-	-	I
CSSR	B	-	B	-
Cyprus	-	B	B	-
Denmark	D	D	D	-
Færoer Islands	D <sup>1</sup>	-	-	-
Finland	D	-	D	-
France	-	D	D	-
FRG	-	B	B	-
GDR	B	-	-	I
Greece	-	B	-	-
Hungary	B	-	B	-
Iceland	-	D	-	-
Ireland	B	B	-	I
Isle of Man	B	-	-	-
Italy	B <sup>1</sup>	B <sup>1</sup>	-	-
Liechtenstein	B	B	-	I
Luxembourg	D	B	-	E
Malta	-	B	-	-
Netherlands <sup>2</sup>	-	B	B	-
Northern Ireland	B	-	-	-
Norway	D	D	-	-
Poland	B	-	B	E
Portugal	D <sup>1</sup>	B <sup>1</sup>	-	-
Romania	-	-	B	-
Scotland	B	-	-	-
Spain	D <sup>1</sup>	D <sup>1</sup>	D <sup>1</sup>	-
Sweden	D	D	D	-
Switzerland	D	B	B	-
Turkey	-	B	B	-
USSR	-	-	D <sup>1</sup>	-
UK	B	B	B	I
Yugoslavia	B	-	-	-

*Meaning of codes* D: dwelling unit concept

B: both housekeeping and dwelling unit concept

I: including boarding houses and hotels

E: excluding boarding houses and hotels

-: no information available

*Sources* columns (1) and (4): UN (1989)

column (2): adapted from Linke et al. (1990, 19-20), see text

column (3): adapted from CES (1983), see text

*Notes* 1) Families only

2) Household concept used in Labour Force Surveys; most recent Census taken in 1971

Table 2. Householders defined as head or reference person in 1980-round of censuses, various countries in Europe

	(1)	(2)
Austria	R,1	R,1
Belgium	H	H
Channel Islands	H,2	-
CSSR	H	-
Cyprus	-	H
Denmark	R,9	R,3
Finland	R,4	-
France	R,5	R,5
FRG	-	R,6
Greece	H	-
Hungary	H,7	-
Iceland	-	H
Ireland	R,6	H,R,6
Isle of Man	R,1,8	-
Italy	H,1	R,1
Liechtenstein	R,1,8	H,1
Luxembourg	-	H
Malta	-	H
Netherlands <sup>1</sup>	-	R,1
Norway	R,9	R,9
Poland	H,10	-
Portugal	-	R,1
Spain	H,1	R,1
Sweden	R,9	R
Switzerland	-	H,1
Turkey	H,11	R,1
UK	H,6	R,6

*Meaning of codes*

- H: Head of household
- R: Reference person
- 1: Person being pointed out by the members themselves
- 2: Person responsible for payment of rent
- 3: For couples with children the woman is the reference person, for all other families the oldest person is reference person; no reference person for households
- 4: Person with the highest income subject to taxation
- 5: A predetermined person depending on the family composition of the household, see UN (1989, 33)
- 6: Person entered first on the census form
- 7: Family head (i.e. husband in case of married couple, parent in case of one-parent family) in case of single-family household. Otherwise oldest active earner, or, if there is no such person, oldest pensioner
- 8: Joint headship in case both husband and wife are economically active
- 9: Oldest person
- 10: Person who administers the finances
- 11: Person responsible for earnings and expenditures of the household

*Sources* column (1): UN (1989)  
column (2): Linke et al. (1990)

*Notes* 1) see note 2 of table 1

**Table 3. Households in Norway<sup>1</sup>**

	1930	1950	1960	1970	1980	1990
			in thousands			
	653	964	1139	1296	1524	1769 <sup>2</sup>

*Notes* 1) 1930-1960: both housekeeping and dwelling-unit concept  
 1970-1990: dwelling-unit concept only  
 2) Private households only; provisional figure

*Sources* SSB (1991b); Ås (1990)

**Table 4. Distribution of families by number of children, France**

	1968 <sup>1</sup>	1975 <sup>1</sup>	1982 <sup>1</sup>	1982 <sup>2</sup>
	per cent			
0	48.7	49.2	51.7	41.0
1	20.9	21.9	21.4	23.0
2	15.8	16.8	17.7	21.8
3	8.0	7.3	6.6	9.3
4	3.5	2.7	1.7	3.0
5	1.6	1.1	0.6	1.1
6 and over	1.4	0.9	0.4	0.9

*Notes* 1) Children under 17 years  
 2) Children under 25 years

*Source* Rallu (1991, table 5)

Table 5. Families by type, Norway

	no age limit for children				age limit of 20 years for children				TOTAL <sup>1</sup> (=100%)	
	MAR0	MAR+	SMOT	SFAT	MAR0	MAR+	SMOT	SFAT		
	per cent									in thousands
1974	18.9	39.8	5.5	1.2	24.0	34.6	3.5	0.6	1,590	
1977	18.7	38.9	6.0	1.1	24.0	33.6	3.9	0.6	1,629	
1980	18.3	37.1	6.6	1.2	23.6	31.8	4.5	0.6	1,684	
1982	18.0	35.6	7.0	1.3	23.2	30.4	5.0	0.7	1,737	
1984	17.6	34.1	7.4	1.3	22.8	28.8	5.4	0.8	1,784	
1987	16.7	31.7	8.1	1.6	22.1	26.2	6.1	1.0	1,858	
1989	16.2	29.7	8.8	1.6	21.7	24.2	6.8	1.0	1,930	

*Meaning of codes* MAR0 married couple, no children  
 MAR+ married couple with children  
 SMOT one-parent family headed by a single mother  
 SFAT one-parent family headed by a single father

*Notes* 1) Including other family types, for example cohabiting couples with common children, and one-person families.

*Source* SSB (1991c, tables 1 and 2).

Table 6. Private households by type, the Netherlands; rearrangement of data

	SING	MAR0	MAR+	COH0	COH+	1PAF	OTHR	TOTAL (=100%)
	per cent							in thousands
<b>1. Benchmark variant</b>								
1985	26.7	22.0	39.3	4.0	0.8	5.6	1.6	5,567
2000	34.3	22.9	30.1	2.8	0.7	7.9	1.3	6,620
2015	40.5	23.7	23.8	2.6	0.7	7.5	1.3	7,213
2030	45.7	22.7	20.8	2.4	0.6	6.5	1.3	7,413
2050	47.1	21.7	20.5	2.5	0.6	6.2	1.3	6,809
<b>2. Children's upper age limit 25</b>								
1985	27.5	22.8	38.5	4.0	0.8	4.8	1.6	5,567
2000	36.7	24.3	28.7	2.8	0.7	5.5	1.3	6,620
2015	43.3	24.9	22.6	2.6	0.7	4.7	1.3	7,213
2030	48.2	23.7	19.8	2.4	0.6	4.0	1.3	7,413
2050	49.6	22.7	19.5	2.5	0.6	3.8	1.3	6,809
<b>3. Children's upper age limit 20</b>								
1985	28.5	25.3	35.9	4.1	0.7	3.9	1.6	5,567
2000	38.2	26.1	26.9	2.8	0.7	4.0	1.3	6,620
2015	44.7	26.5	21.0	2.6	0.6	3.3	1.3	7,213
2030	49.4	25.0	18.5	2.5	0.6	2.8	1.3	7,413
2050	50.7	24.1	18.2	2.5	0.6	2.7	1.3	6,809
<b>4. Consensual unions doubled, recruitment from SING and 1PAF</b>								
1985	18.8	23.1	41.3	8.4	1.7	5.0	1.7	5,300
2000	29.0	23.7	31.2	5.8	1.5	7.5	1.3	6,388
2015	35.7	24.5	24.6	5.4	1.4	7.0	1.3	6,982
2030	41.5	23.4	21.4	4.9	1.2	6.1	1.3	7,191
2050	42.9	22.4	21.2	5.2	1.2	5.8	1.3	6,591
<b>5. Consensual unions doubled, recruitment from SING (50%) and from MAR (50%)</b>								
1985	26.7	18.0	38.5	8.0	1.6	5.6	1.6	5,567
2000	34.3	20.1	29.4	5.6	1.4	7.9	1.3	6,620
2015	40.5	21.1	23.1	5.2	1.4	7.5	1.3	7,213
2030	45.7	20.3	20.2	4.8	1.2	6.5	1.3	7,413
2050	47.1	19.2	19.9	5.0	1.2	6.2	1.3	6,809
<b>6. Ten per cent of 1PAF regarded as COH+</b>								
1985	26.7	22.0	39.3	4.0	1.4	5.0	1.5	5,561
2000	34.3	22.9	30.1	2.8	1.5	7.1	1.2	6,611
2015	40.5	23.7	23.8	2.6	1.5	6.8	1.2	7,211
2030	45.8	22.7	20.8	2.4	1.3	5.9	1.2	7,404
2050	47.2	21.7	20.5	2.5	1.2	5.6	1.2	6,795

*Meaning of codes*

SING	one-person household
MAR0	married couple, no children
MAR+	married couple with children
COH0	cohabiting couple, no children
COH+	cohabiting couple with children
1PAF	one-parent family
OTHR	other private household (multiple family household, or alternatively two or more adult persons who have no partner relation or parent-child relation to each other, for example several students living in one dwelling, or a brother and a sister who stayed behind after the death of their parents)

Table 7. Families by type, Denmark, 1985

MAR0 (1)	MAR+ (2)	1PAF (3)	COH0 (4)	COH+ (5)	TOTAL (6)
in thousands					
472.4	588.3	163.6	139.4	78.4	1,442.0

*Sources* columns 1-3: Danmarks Statistik (1988, 3)  
columns 4 and 5: Danmarks Statistik (1988, 3) gives 50.1 thousand families consisting of a cohabiting couple with *joint* children. According to Manniche (1990, 90) these couples form 64 per cent of *all* cohabiting couples with children, whereas there are 1.8 as many COH0 couples as there are COH+ couples.

Table 8. One-parent families

		(1)	(2)	(3)	(4)	(5)	(6)
		per cent					
Austria	1987	10.2	8.9	12.7	1.6	1.2	25.0
Belgium	1981	7.7	6.7	13.0	1.9	1.5	21.0
Denmark	1981	9.9	6.6	33.3	1.5	1.2	20.0
France	1982	5.2	4.4	15.4	0.9	0.7	22.2
FRG	1981	7.9	7.0	11.4	1.5	1.3	13.3
Ireland	1981	10.1	8.2	18.8	2.6	2.1	19.2
Italy	1981	7.5	6.1	18.7	3.0	1.6	46.7
Luxembourg	1980	7.7	5.9	23.4	1.6	1.1	31.3
Netherlands	1981	6.8	6.0	11.8	1.3	1.1	15.4
Spain	1981	6.7	5.4	19.4	1.5	1.1	26.7
UK	1981	9.0	7.3	18.9	2.5	1.5	40.0

*Meaning of codes*

- (1) All female headed one-parent families, as a percentage of all family households
- (2) Female headed one-parent families without others, as a percentage of all family households
- (3) Difference between columns 1 and 2, as a percentage of column 1
- (4) All male headed one-parent families, as a percentage of all family households
- (5) Male headed one-parent families without others, as a percentage of all family households
- (6) Difference between columns 4 and 5, as a percentage of column 4

*Source* Höpflinger (1991, 323)



Table 9. Private households by type, the Netherlands; model simulations

	SING	MAR0	MAR+	COH0	COH+	1PAF	OTHR	TOTAL (=100%)
	per cent							in thousands
<b>1. Children's upper age limit 25</b>								
1985	27.5	23.5	37.7	4.0	0.8	4.8	1.6	5,567
2000	37.7	20.9	27.3	2.6	0.7	7.3	3.6	7,068
2015	45.4	20.6	20.3	2.4	0.6	6.7	3.8	8,264
2030	51.0	20.0	16.9	2.2	0.6	5.7	3.7	8,783
2050	53.5	18.9	16.0	2.2	0.6	5.3	3.6	8,217
<b>2. Children's upper age limit 20</b>								
1985	28.6	28.5	32.6	4.1	0.7	4.1	1.6	5,585 <sup>1)</sup>
2000	37.8	20.8	25.4	2.8	0.7	6.9	5.7	7,491
2015	42.8	20.0	21.1	2.6	0.7	7.1	5.6	8,784
2030	46.8	19.8	18.4	2.4	0.7	6.6	5.3	9,516
2050	49.0	19.1	17.6	2.3	0.7	6.2	5.1	9,475
<b>3. Consensual unions doubled, recruitment from SING and 1PAF</b>								
1985	18.8	23.1	41.2	8.4	1.6	5.1	1.7	5,300
2000	33.7	23.2	31.0	2.7	0.7	7.7	1.3	6,581
2015	39.9	24.0	24.0	2.6	0.7	7.5	1.3	7,218
2030	45.4	22.8	20.9	2.4	0.6	6.5	1.3	7,448
2050	47.1	21.8	20.5	2.5	0.6	6.3	1.3	6,866
<b>4. Consensual unions doubled, recruitment from SING (50%) and from MAR (50%)</b>								
1985	26.0	18.3	40.0	8.0	1.5	5.0	1.6	5,524
2000	34.8	22.8	29.7	2.8	0.8	7.7	1.3	6,627
2015	40.7	23.7	23.7	2.6	0.7	7.4	1.3	7,179
2030	45.8	22.7	20.6	2.4	0.6	6.4	1.3	7,371
2050	47.1	21.7	20.6	2.5	0.6	6.3	1.3	6,747
<b>5. Ten per cent of 1PAF regarded as COH+</b>								
1985	26.8	22.0	39.3	4.0	1.3	5.1	1.5	5,560
2000	34.3	22.9	30.2	2.8	0.7	7.8	1.3	6,620
2015	40.5	23.7	23.8	2.6	0.7	7.5	1.3	7,215
2030	45.7	22.7	20.8	2.4	0.6	6.5	1.3	7,415
2050	47.1	21.7	20.5	2.5	0.6	6.2	1.3	6,810

<i>Meaning of codes</i>	SING	one-person household
	MAR0	married couple, no children
	MAR+	married couple with children
	COH0	cohabiting couple, no children
	COH+	cohabiting couple with children
	1PAF	one-parent family
	OTHR	other private household

*Notes* 1) The total number of households is slightly higher than that in panel 1, because the ratio between children aged 20-24 and women aged 45-49 was larger than the average number of children in MAR+ households. Following the procedure described in the text for these women would have led to a correct total number of households, but to a negative number of women in household type MAR+ aged 45-49. Therefore, their number was set to zero.

