

MEASURES OF UNRECORDED ECONOMIC ACTIVITIES IN FOURTEEN COUNTRIES

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Responsibility for the statistical data lies with the national contributors as quoted in the table sources, while the commentary and opinions expressed herein are, unless otherwise indicated, the responsibility of the two authors. January 31, 1995

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1. INTRODUCTION

Part of the goods and services consumed by the population are produced and consumed without undergoing monetary transactions; this non-monetised consumption and the corresponding productive activities go unrecorded in labour statistics and in the national accounts. This is so, for instance, for the goods and services provided to the household by unpaid household members ; S. Kuznets already pointed out in the 1930s, that

"housewives' services" (as they were called at the time) constituted the largest single item left out of the national accounts. Other unrecorded economic activities include repairs of household premises and equipment, basket making, weaving, knitting, sewing, etc. for own-consumption. The data presented in this paper show the order of magnitude of the unrecorded economic activity : measured in hours of work, it is, in industrialised countries, as large as the recorded activity.

How does this non-monetary sector of the economy compare with the recorded economy? How does it compare in size, in value, in contribution to human welfare? How do the monetary and non-monetary sectors interact ; in other words, how, why and when do production and manpower leave the household for the market, and vice-versa. What do these transfers mean in terms of personal welfare and of the nation's "extended income" (monetary plus non-monetary income)? How are these transfers affected by labour-market factors such as market rigidities, shortage of manpower in periods of economic growth or concern for unemployment or underemployment in periods of recession? Should we account for the non-monetary sector in economic statistics, in economic analysis, in economic and social policy formulation? What is the impact of economic development and of increased monetisation on household production, on the distribution of the nation's manpower between the market and non-market sectors? In industrialised economies, what would the impact be, for instance, of a major reduction of working hours on the labour supply, on the production of goods and services for self-consumption, on the consumption of market goods, on time available for personal activities such as education, leisure and so on? Most of these questions cannot be answered in the present state of the art. The non-monetary sector, historically the oldest, is new from the point of view of economic studies: it was until recently almost totally neglected.

The world over, women are responsible for the major part of domestic activities ; this is why the 1995 Human Development Report puts some emphasis on this aspect of women's activity. Domestic activities must, however, be seen in context: the context of other non-monetised activities and the broader context of all economic activities. This perspective is adopted in the most recent studies assessing the economic dimension of unrecorded economic activities in industrialised countries : they try to capture not only domestic activities but all non-market production performed by households, including the "do-it-yourself" activities largely performed by men as well as unpaid work for the community ("voluntary" work) and market-oriented activity.

Boundaries

Human activities can be grouped into three main categories :

- (a) personal activities (non-economic) ;
- (b) productive non-market activities (mostly for own-consumption) ;
- (c) productive market-oriented activities.

The boundary between (a) and (b) is drawn by means of the "third-person criterion" which states that an activity is to be deemed productive if it may be delegated to a person other than the one benefiting from it. For instance, to listen to music is a personal activity because no one else can do it for me ; to prepare a meal is productive because some one else can do it for me.

The boundary between (b) and (c) roughly corresponds to the "production boundary" defined in the United Nations System of National Accounts (SNA). The presently available national accounts are constructed along the recommendations of the 1968 SNA . The 1993 revision of the SNA, only introduced minor changes to the production boundary ; as a result, a few items (goods produced by households for own-consumption and water-carrying) will eventually be added to the national accounts, but the bulk of domestic activities remains outside the realm of the accounts. A similar situation prevails in labour statistics.

In this report, we call "SNA activities" those falling within the production boundary of the 1968 SNA. (At least as a first approximation, because there are minor points of overlap which still need to be sorted out. For instance, labour inputs into own house construction appear in time-use studies as production for own consumption and are therefore accounted for among non-SNA activities, thus filling a gap of official labour statistics. However, the output of this activity is accounted for in the SNA production account. These problems will have to be sorted out ; however, they do not affect the orders of magnitude which are our concern in this report).

While leaving domestic and related activities (non-SNA activities) outside the main framework, the 1993 SNA proposes to record households' non-market production in a "satellite account", i.e. in a supplementary system of the accounts.

The product of the non-SNA sector can be measured in physical units. For instance, so many millions of meals prepared by households, so many tons of clothes washed, so many siblings or aged persons cared for at home, and so on. Such data would be useful for studying trends in consumption of goods and services ; they would permit comparisons showing the relative share of the monetised and non-monetised sectors in the provision of a specific good or service.

Physical units however have serious limitations: for instance, amounts of washed clothes cannot be compared to, or aggregated with, number of children taken care of. In order to overcome this kind of difficulty, it is customary in economics to aggregate the corresponding monetary values ; by convention, the value of a commodity is the price at which it is exchanged. However, in non-SNA activities there are no prices: labour is unpaid and the product is not sold; here lies the difficulty of accounting for these activities.

In the studies presented in this report, the measurement of labour inputs is the first step: labour inputs are measured in physical units of time (section 2). A limited number of

countries pursues the measurement in monetary units, measuring the value of labour inputs and, sometimes, the value of household production (section 3).

2. TIME-USE

The study presents time-use data from fourteen countries for which relatively recent measurements are available, representative of the total national population:

Australia, Austria, Bulgaria, Canada, Denmark, Finland, France, Germany, Great Britain, Israel, Italy, Netherlands, Norway and United States.

This sample is not exhaustive : similar data may be available from other countries. What is provided here is an illustration of the economic magnitude of non-SNA activities, and in particular of domestic activities.

2.1 Time use : Methodology

There are many differences between the available time-use studies. In order to interpret their results, one has to be aware of the factors bearing on the averages, such as, for instance, the demographic structure of the population. However, there are also important differences deriving from surveys' methodology. As we were working, post factum, with existing data, we tried to eliminate some of these differences by a standardisation exercise ; other differences cannot be eliminated once the study is finished.

Differences which cannot be eliminated are, for instance, those relating to :

- data collection methods (diary, yesterday recall or other);
- handling of seasonal variations ;
- degree of representativeness of the sample, among which, handling of non-response ;
- handling of transportation time ;

Differences which it was possible to eliminate, at least in part, were those relating to :

- time units ;
- age groups under observation ;
- categorisation of activities.

Time units. We adopted hours and minutes per day because they are closer to the readers' daily experience than the other units we encountered in the national studies (minutes per day, per week, per year; hours and decimals).

Age. We had requested data for the population aged 15 and above. Most of our correspondents were able to meet this requirement. Others however could only give data for the population aged 10 and above, or only for the total population (i.e. aged 0.1 year and above), while still others had at their disposal only data with an upper age limit (74 or 79 years).

The Finnish and German data were available for ages above both 10 and 15 (See appendix 2). This enabled us to evaluate the impact of this single factor on the results : the inclusion of the 10 to 15 years age group decreases the average proportion of economic time of 1 to 2 percentage points for the 24 hours break downs ; it modifies of less than 1 percentage point the break down of non-SNA activities. We therefore decided to present the data of the studies dealing with age 10 and up along with the other studies.

Categorisation of activities. In the different national studies, diverse categorisations have been adopted for non-SNA activities, making very difficult the assessment of common orders of magnitude. For the present review, we therefore proposed to use standardised categories largely based on the European Time Use Survey proposals (See appendix 1). It was thus possible to achieve an acceptable degree of homogeneity for the categorisation of activities thanks to the willingness of our national correspondents, either to re-allocate their own categories in order to meet our standardised classification, or at least to provide the necessary information for us to perform the re-allocation.

However non-negligible differences remain ; for instance, the inclusion or exclusion in SNA time of breaks or even of meals taken at the work-place, etc. One important difference lies in the handling of transportation time : in some studies, it is pooled with the related activity ; in other studies, it is associated with the related activity, but it can be isolated from it ; in others still, it is pooled into one large transportation category. French data show that transportation time for non-SNA and personal activities amounts to 3 per cent of the 24 hours day ; the inclusion of transportation time in one or another category of activities has therefore a non-negligible impact on the presentation of the time-use structure. (See appendix 3).

The fundamental differences between time-use studies have been analysed in detail by researchers in the field ; the consensus is now that, in order to ensure cross-national comparability, the forthcoming projects ought to be coordinated from the start and should use compatible methodologies.

Meanwhile, in this report, **we absolutely have to refrain from making cross-national comparisons with the available data.** The only permitted exercise, given the differences mentioned above, is to analyse, within the single countries, the structure of time-use and to determine the orders of magnitude and trends over time when available.

2.2 Time-use : Recent measurements

Basic structure of time-use

TABLE A shows the distribution of time between economic and non-economic activities, for all persons, in the fourteen countries.

In all of these countries, on average for the seven days of the week, **economic activities require less than one third of the 24 hours day** while over two thirds of the day are spent on non-economic activities. Economic time ranges, from country to country, **between 6:16 and 7:34 hours and minutes per day.**

Economic activities include SNA and non-SNA activities ; non-economic activities include physiological and recreational activities and education. The latter is an investment in human capital, as are also investments in health ; they produce returns in all activities, SNA, non-SNA and personal. Although they may have economic consequences, they do not meet the third person criterion (nobody can learn for someone else) and are therefore to be classified as personal activities.

It is important to stress that these are arithmetic averages calculated over the population under observation (see 2.1, age) and over 365 days ; they document orders of magnitude which are relevant from the macro-economic point of view.

From the social point of view, studies performed in different countries document the very large impact of many variables on the actual time-use structure of population sub-groups : household composition (number of adults in the household, number of children, age of the youngest child), life-cycle stage, occupational and employment status, male or female, urban or rural, day of the week, season of the year, etc. An unfavourable combination of these factors leads some sub-groups to a time structure quite different from the overall averages given above. Although we do not have at our disposal statistical data documenting the combined impact of all these variables, it is likely that the most stressed time-use structures (those with the smallest amount of personal time) would be found among men and women, employed full-time, raising at least one child below school age.

TABLE B gives the distribution of time between economic and non-economic activities, by gender, in the fourteen countries.

In five countries, gender equality is achieved, on average, in amount of economic time and, thus, in amount of time available for personal activities. In all other countries but one, women work more than men, the largest difference amounting to 1:45 hours and minutes per day (6:07 hours and minutes per day, for men ; 7:50 for women).

Average economic time ranges, from country to country,

- for men, **between 6:17 and 7:38** hours and minutes per day;
- for women, **between 6:15 and 7:50** hours and minutes per day.

TABLE C shows the distribution of economic time between SNA and non-SNA activities, for all persons, in the fourteen countries.

The time absorbed by non-SNA activities ranges, among the 14 countries, between 32 and 65 per cent of total economic time. For 12 of the countries, non-SNA time amounts to 50 _ 6 per cent of total economic time. Considering the reservations made in section 2.1 on the differences between national time-use studies, one may say that grosso modo non-SNA time amounts to half total economic time, or, in other words, that **non-SNA activities absorb as much labour time as SNA activities**.

TABLE D gives the distribution of economic time between SNA and non-SNA activities, by gender, for the fourteen countries.

In all of these countries, **men spend a larger share of their economic time in SNA activities**, the proportions differing from country to country, SNA activities absorbing between 55 and 79 per cent of men's economic time; **women spend more time in non-SNA activities**, the proportions differing in a wider range than for men, from 42 to 81 per cent of women's economic time.

TABLE E shows the overall distribution of time among non-SNA activities, in thirteen countries.

In all but one of the thirteen countries, **food related activities consume the largest proportion of non-SNA time**, the proportions ranging, from country to country, between 19 and 44 per cent and the amount of time ranging between 0:48 and 1:43 hours and minutes per day. (It should be remembered that these large ranges may be explained by differences in survey methodology as well as by cultural differences).

In second position, depending from the countries, we find either child care, or upkeep of dwelling and surroundings, or management and shopping (with ranges from 13 to 24 per cent of non-SNA time).

TABLE F gives the distribution of time among non-SNA activities, by gender, in thirteen countries.

Gender differences in amount and proportion of time allocated to the various non-SNA activities illustrate cultural values about women's and men's roles. In all countries women

spend appreciably more time than men on food related activities, textiles, upkeep of dwelling and surroundings and care of persons (adults and children), while men spend more time than women on construction and maintenance; all these are gender specific activities.

2.3 Time-use : Historical perspectives

TABLES C: We have data on the distribution of the 24 hours day between SNA, non-SNA and non-economic activities, at different points in time, for three countries:

Great Britain: 1961, 1974 and 1985

Norway: 1971, 1981 and 1991

Bulgaria: 1977 and 1988.

Trans-temporal comparisons should however be handled with extreme caution because even small methodological differences between the successive surveys, may cause the apparent differences not to be significant. We shall therefore limit our comments to the larger changes.

TABLE G1. In Great Britain, between 1961 and 1985, SNA and non-SNA time both decreased, causing a decrease of total economic time from 33 to 29 per cent of the 24 hours day. This global decrease is due to a drastic decrease of men's SNA time (minus 8 percentage points) and to a sizeable decrease of women's non-SNA time (minus 4 percentage points).

TABLE G2. In Norway, between 1971 and 1991, the stability of the overall SNA time (15 per cent of the 24 hours day) hides in fact a major change in the distribution by gender : a decrease of 4 percentage points for males and an increase of 4 percentage points for females. A decrease of 7 percentage points in females' non-SNA time, only partly compensated by an increase in males' non-SNA time, results in a general decline in total economic time.

The relative proportion of non-SNA time to SNA time decreases.

In these two industrialised countries, Great Britain and Norway, one thus observes:

- a decrease in total economic time and in the economic time of each gender;
- an equalisation of genders' contribution to total economic time ;
- a trend pointing in the direction of an equalisation of genders' contribution to SNA and non-SNA activities respectively.

TABLE G3. In the Bulgarian data, the average amounts of time per person are not comparable for the two years because the averages are calculated on two different population bases : ages 6 and above for 1977, ages 0.1 and above for 1988. The age group 0.1 to 6 (males and/or females) does not contribute any labour time (Time Use Studies World Wide, 1990, pp. 496-499) ; its inclusion, in the averages, results in a decrease of average labour time and in an increase of non-economic time. It is therefore not possible to compare amounts of time in the two years. However, in a given year, we may calculate the ratio male/female for different activities. It is then possible to compare these male/female ratios for 1977 and 1988, as they are unaffected by the age group 0.1 to 6.

In Bulgaria, between 1977 and 1988, the male/female ratio for total economic activity decreases from 0.85 to 0.83 . (In other words, males were already contributing less total economic time than females in 1977; by 1988, the difference is further aggravated). This decrease is the result of :

- a decrease in the male/female ratio for SNA activities, where males' contribution remains higher than females: but the difference between genders decreases from 1:55 in 1977 to 1:39 in 1988 ;
- a decrease in the male/female ratio for non-SNA activities, where females' contribution remains higher than men's, but the difference between genders is further aggravated : 0:52 in 1977, 0:49 in 1988.

In the gender perspective, the trend points thus in the opposite direction than the one observed in Norway and Great Britain. In Bulgaria, women's work-load relative to men's increased in total economic time, in SNA time and in non-SNA time.

TABLES H. We have data on the distribution of time among non-SNA activities, for three countries at several points in time :

Canada: 1961, 1971, 1981, 1986 and 1992

Great Britain: 1961, 1974 and 1985

Norway: 1971, 1981 and 1991

For Norway, the data are presented according to our standardised categorisation ; for Canada and Great Britain, the categorisation is the original national one.

The same reservations about trans-temporal comparisons apply as for tables G ; we therefore limit again our comments to the larger changes.

TABLE H1. In Canada, between 1961 and 1992, the average time in non-SNA activities, in hours and minutes per day,

- remained stable overall, between 3:15 and 3:12 (-0:03)
- increased for men from 1:41 to 2:14 (+0:33)
- decreased for women from 4:49 to 4:08 (-0:42)

Women's time in females' traditional activities decreased, mostly in meal preparation (-0:37) and clothing care (-0:15), but also in cleaning and child care. For these activities, there is essentially no increase in men's contribution.

Both genders' contribution increased in marketing (+0:11 each) and in repairs/maintenance (+0:09 for women; +0:23 for men).

During this period,

- meal preparation
 - : consumes less time in 1992 (0:47) than in 1961 (1:04),
 - : remains one of the two largest time-consuming categories of non-SNA activities (24 per cent in 1992, while it was the single largest one with 33 per cent in 1961);
- marketing
 - : consumes more time in 1992 (0:45) than in 1961 (0:33),
 - : rises to ex-aequo with meal preparation (24 per cent in 1992; 17 per cent in 1961) ;
- repairs/maintenance
 - : consumes more time in 1992 (0:35) than in 1961 (0:18),
 - : rises in third time-consuming position (18 per cent in 1992; 9 per cent in 1961);
- cleaning, child care and clothing care time decrease ;
- the largest decrease is in meal preparation (-0:17) ;
- the largest increase is in repair/maintenance (+0:17).

The increase in repair/maintenance occurs mostly between 1986 and 1992, counteracting the steady 1961-1986 decline in non-SNA time.

TABLE H2. In Great Britain, between 1961 and 1985, the daily average time in non-SNA activities, in hours and minutes per day,

- decreased overall from 3:26 to 3:15 (- 0:9),

- increased for men from 1:38 to 2:12 (+ 0:34),
- decreased for women from 5:14 to 4:18 (- 0:56).

The trend however was not continuous, a large fluctuation appearing in the 1975 data, due to a time-lag between women's sharp decrease (- 0:48 in 1975) and men's sharp increase (+ 0:41 in 1985).

The overall decrease between 1961 and 1985 was due to a sharp decrease of women's time in two of women's traditional gender-specific activities (cooking/washing up and housework) not compensated by men's increases in these activities.

During this period,

- cooking/washing up
 - : consumes less time in 1985 (0:58) than in 1961 (1:08),
 - : remains the largest time-consuming category of non-SNA activities (30 per cent in 1985; 33 per cent in 1961);
- housework (upkeep of dwelling and textiles)
 - : consumes less time in 1985 (0:44) than in 1961 (0:59),
 - : remains the second largest category of non-SNA time (23 per cent in 1985; 29 per cent in 1961) ;
- shopping and odd jobs
 - : witness slight increases and are in third position in 1985 (15 per cent each);
- child care
 - : consumes more time in 1985 (0:21) than in 1961 (0:13), i.e. slightly more than one-third of the time devoted to cooking/washing-up,
- the largest decline is in housework (- 0:15); the largest increase is in odd jobs (+0:11)

TABLE H3. In Norway, between 1971 and 1991, the daily average time in non-SNA activities

- decreased overall from 3:54 to 3:36 (- 0:18),

- increased for men from 1:54 to 2:28 (+ 0:34),
- decreased for women from 5:36 to 4:31 (- 1:05).

The overall decrease was due to a drastic reduction of women's time in women's traditional gender-specific activities (food, textiles, upkeep of dwelling), not compensated by men's slight increase in these activities. Half of men's increased contribution went into child care.

During this period,

- food related activities
 - : consume less time in 1991 (1:07) than in 1971 (1:24) ;
 - : remain the largest time-consuming category of non-SNA time (31 per cent in 1991 ; 36 per cent in 1971) ;
- child care
 - : consumes more time in 1991 (0:37) than in 1971 (0:24) ;
 - : becomes in 1991, the second largest time-consuming category, consuming a little more than half the time devoted to food related activities ;
- upkeep of dwelling, care of textiles and management/shopping each consumed in 1971 more time than (or as much time as) child care ; they are relegated behind it in 1991;
- the largest declines occur in textiles and upkeep of dwelling ; the larger increases, in child care and, to a lesser degree, in management and shopping. (It should be noted that child care would come in third position if, as in Great Britain above, upkeep of dwelling and textiles were lumped together).

For these three countries, the common trends are :

- an overall decrease in women's time in traditional women-specific activities, not compensated by men's increase in these activities ;
- less time, and a smaller proportion of non-SNA time, for food, textiles and upkeep of dwelling;
- a larger amount, and a larger proportion of non-SNA time, for management/shopping.

The common trends thus seem to go towards :

- a decrease in production time for traditional household goods and services, with the exception of child care increasing in Great Britain and Norway;
- an increase in management/shopping time.

In Canada and Great Britain ,

- an increase in construction/maintenance.

2.4 Time-use : Cross-national comparisons

The ESRC British Time-Use Project produced comparative data for seven of the countries included in our study. The national surveys were conducted independently in the first half of the 1980s ; in order to achieve the comparisons, all surveys were extensively re-weighted. The population base is aged 20 to 60.

A large project is now under way, under the auspices of the Statistical Office of the European Union (EUROSTAT), for the introduction of harmonised time-use surveys in the European Union. The pilot surveys are scheduled for the Winter 1996 and the main surveys for 1997 (European Union, Statistical Office, 1994b).

For this report, we decided to use data directly provided by 14 countries, based on recent representative national surveys of the second half of the 1980s and early 1990s. As explained in section 2.1, only a limited amount of standardisation could be achieved; some initial fundamental differences between the surveys could not be cleared out.

A small number of coordinated studies have been carried out on a bilateral basis. Among them, a comparative study between Bulgaria and Finland that we present here as an illustration of what results may be achieved by comparative studies (Kirjavainen, Anachkova, Laaksonen, Niemi, Pääkkönen and Staikov, 1992). The purpose of this cooperative research project was to generate comparative data on women's and men's housework time. Carried out in Bulgaria in 1988 and in Finland in 1987-88, it used compatible methodological solutions for the two countries ; it is close to the definitions set out in our report for national representativeness, age of population and categorisation of activities . In the next section, we draw heavily on the chapter by Iris Niemi and Bistra Anachkova (1992).

Bulgaria / Finland

Basic structure of time-use

TABLE I. The basic structure of time-use (population aged 10 and above) shows that, compared to their Finnish counterparts, people in Bulgaria spend, on average,

- more time on economic activities ;
- more time on SNA activities ;
- more time on non-SNA activities ;

and, as a consequence, have less time at their disposal for personal activities.

When comparing women's and men's time, the usual pattern is apparent in the two countries : women invest more time in housework than men do, men spend more time in paid work.

For each gender, the work load is higher in Bulgaria than in Finland.

The total work load is higher for females than for males in both countries ; but the difference between genders is larger in Bulgaria.

The heaviest work load is carried by Bulgarian women : 35 per cent of the 24 hour day, compared to 28 per cent in Finland, that is, on average, 1.5 hours greater.

Analysing the gender issue from another perspective, Niemi and Anachkova point out that

- in Bulgaria, women contribute 55 per cent of the total amount of work,
- in Finland, women contribute 53 per cent.
- in Bulgaria , women contribute 42 per cent of SNA work,
- in Finland, women contribute 41 per cent.

TABLE J. From the point of view of housework, Bulgarians and Finns spend the same amount of time on food preparation. This was unexpected, because earlier comparisons between Finland and Eastern European countries such as Hungary, Latvia and Russia have shown that Finns tend to spend less time on preparing food (Babarczy, Harcsa and Pääkkönen, 1991 ; Niemi, Eglite, Mitrikas, Patrushev and Pääkkönen, 1991).

Bulgarians spend more of their time on washing up, laundry and clothes upkeep, as well as on gardening and preserving food, than Finns do. (Dish washers and automatic laundering machines are more prevalent in Finnish households). Bulgarians spend a lot of time making and repairing clothes compared with their Finnish counterparts, who tend to buy clothes ready made rather than making their own. More time is spent on helping family members, neighbours, relatives and friends in Finland.

Compared with Finnish women, Bulgarian women spend more time on all housework activities except shopping; one hour more each day on total housework.

- in Bulgaria, women do 68 per cent of all housework ;
- in Finland, women do 64 per cent.

The comparative study presents analyses by family cycle, education, socio-economic status, day of the week, age, etc. which it is not appropriate to report in detail here. In addition, the study introduces an interesting perspective on sharing (gender perspective) that we shall briefly present in the next paragraphs.

Sharing housework

Full-time employment is almost as common among women as among men in both countries. This means that gainful work is more equally shared than in the average Western European country.

For housework, social norms seem to define the differentiation of activities into male and female activities. In order to measure the level of sharing, Niemi and Anachkova use a ratio expressing women's share as a percentage of the total time spent by both sexes on housework. A high percentage for a specific activity means that the activity is female-segregated and a low percentage means it is male-segregated. A medium percentage shows that the activity is equally shared between men and women.

TABLE K. Preparation of food and housekeeping are typical female jobs in both countries. Although the total time spent on cooking does not differ, the sharing differs considerably. Food preparation is more female-dominated in Bulgaria than in Finland. Washing up is shared more equally than food preparation in Bulgaria, but not so in Finland.

Niemi and Anachkova distinguish three categories of housework, grouped according to gender segregation :

- female-segregated housework : food preparation, dish washing, indoor cleaning, laundry and clothes upkeep and child-care ;
- male-segregated housework : maintenance in which the most strongly male dominated are house building and repairs, repair and maintenance of household equipment and vehicles, and do-it-yourself production of articles for the home;
- housework not segregated by gender : shopping and errands.

In conclusion, the authors notice that female-segregated housework is somewhat more equally shared in Finland in comparison with Bulgaria. As possible explanations, they offer existing differences in the type of housework : in Finland, the standard of household technology of the average home is higher and there are commercial services geared to the needs of private households. Another explanation is related to social norms associated with housework sharing : the debate on questions of equality may have contributed to a more equal sharing in Finland ; this view is supported by the fact that higher socio-

economic status increases the probability of men's participation in female-segregated housework activities. Men's participation in housework activities is obviously dependent on the time available ; men are more likely to participate in housework when they have time off from paid work. That is why older men and men who are not employed tend to participate more in housework than men in their middle age and currently employed.

Sharing of male-segregated housework activities occurs on more equal terms in Bulgaria than in Finland. Women spend more time doing typically male tasks in Bulgaria than in Finland. Albeit that this seemingly enhances equality, it also means that Bulgarian women do a greater amount of all types of housework activities. They do more of both female-segregated and male-segregated tasks than their Finnish counterparts. This results in Bulgarian women carrying a greater responsibility for the total housework burden compared to women in Finland.

2.5 Time-use : Other analytical perspectives

Time-use studies performed **in Bulgaria** use additional approaches for the collection and analysis of time-use data (Staikov, 1982a and b).

Data on the use of time were collected, in 1988, on the entire resident population (0.1 year and above). Averages per resident are obtained by dividing the total time data by the total number of residents (all, or male or female).

TABLE L shows the basic structure of time-use. Considering the entire resident population, thus children included, in 1988 :

- 29 per cent of time was devoted to production, equally divided between SNA and non-SNA activities;
- 71 per cent was available for non-economic activities.

If these figures are compared to those of table A (population aged 10 and above), one sees that, as expected, the inclusion of children aged 0.1 to 10 lowers the average economic time from 32 to 29 per cent.

Expressed in absolute figures, one can say that the 1988 Bulgarian standard of living was achieved with an

average labour input of 7 hours per day per resident.

This method of averaging production time over the entire resident population has the advantage of placing "average production time" in a perhaps less misleading perspective than other arbitrarily chosen ages (above 10, 15, 18 and/or below 60, 65, 70, etc.). Its main advantage is however to draw attention to the consumption perspective.

TABLE M shows the average time required daily from and for the residents for several categories of non-SNA activities. For instance, food preparation requires, on average, from each resident 51 minutes of daily labour. Seen from the other end, for every resident fed, 51 minutes of labour are consumed. This is an illustration of what we may call **the double perspective : production/consumption**.

TABLE N gives the estimated time expenditures during an average human life, under the conditions (demographic and time-use structure) prevailing in the survey year. On average, over their life-span, 1988 Bulgarian males will dispose of 596731 hours and females of 654985 hours.

Over their life span,

females will thus dispose of 10 per cent more total time than males.

However

because they work much more in non-SNA activities (120 per cent more than men) while carrying an important load in SNA activities (only 21 per cent less than men).

Over their life-span, the 1988 residents of Bulgaria, for every 1000 hours of life, will have spent

- 294 hours in economic activities, of which :
 - : 143 hours in SNA activities and
 - : 151 hours in non-SNA activities

- 706 hours in non-economic activities.

We recognise here, expressed differently, the proportions given in tables A and C for Bulgaria.

2.6 Time-use : Conclusions

Labour statistics are misleading

Time-use measurements clearly have a potential for assessing the economic dimensions of human labour. Perhaps the most important indication they give is that, on average, the labour inputs into non-SNA activities are of the same order of magnitude as the labour

inputs into SNA activities. Labour statistics however record only the latter ; because of this enormous gap, labour statistics give a distorted image of how even industrialised societies utilise the available labour resources to achieve their standard of living.

At present, the comparison between the time invested in SNA and non-SNA activities can only be achieved by means of time-use data. Labour statistics provide data on "hours worked" (in SNA activities) which cannot be compared to time-use data because of entirely different data collection methods (sources, definitions, etc.). Labour statistics also provide data on the number of "homemakers", a residual category of non-employed women assumed to be working full-time in domestic activities. The work performed in non-SNA activities, by both women and men counted as "active" in labour statistics, is totally unrecorded.

Measurements in time units have the following characteristics which qualify them as a satisfactory tool for the economic assessment of non-SNA activities :

- they are the result of direct observations and do not require any theoretical assumptions;
- they are eminently fit for international comparisons, the time unit being the same around the world.

However they do not measure human effort, i.e. they make no difference between one hour worked in harsh circumstances and one hour worked in more comfortable circumstances: one hour of laundering in the cold water of a stream or the same amount of time spent in operating an electric washer-dryer are very different from the human point of view. To our knowledge these qualitative differences have never been measured on a large scale, neither for SNA nor for non-SNA activities.

Cross-national comparability : still some way to go

Time-use research is, at least in Eastern and Western Europe and in North America, a mature field of study. Researchers regularly exchange their experiences within the professional International Association for Time Use Research. In order to ensure cross-national comparability of time-use data, work was done on guide-lines for codification and classification of activities (Harvey and Niemi, 1994) and on joint (or at least comparative) cross-national studies. The European Time Use Study (ETUS) project of EUROSTAT will produce the valuable data necessary for the full performance of time-use studies in the economic assessment of non-SNA labour ; Eastern-European, North-American and Japanese researchers should not encounter major problems of integration with ETUS procedures.

In other countries, a certain number of time-use studies have been produced, although in dispersed order, mostly by anthropologists. INSTRAW is funding some research on the measurement of women's economic contributions. Connections with the research

discussed in the preceding paragraph exist ; steps are being taken to develop them in order to avoid an excessive imprint of Western culture while preserving, for the future, world-wide comparability.

Amount of personal time : an indicator of human development ?

If cross-nationally comparable data were available, amount of personal time (i.e. non-economic time) could be used as an indicator of human development. It could be calculated as a national average over the entire population ("resident population", as we called it in section 2.5).

Within one country, personal time is unevenly distributed among sub-sets of the population. The indicator should therefore account for differences between genders, age groups, employment status, employment sector (agriculture, industry, trade, the services), etc. In addition, if the indicator is to be used for cross-national or trans-temporal comparisons, it should account for differences in the demographic structure of the populations : a large proportion of children increases the average non-economic time ; a low life expectancy (i.e. a small proportion of people beyond working age) increases the average economic time.

Economic and social policy

Personal time indicators, calculated for sub-sets of the population, would throw light on population groups carrying a particularly heavy work load and in need of economic and social alleviative measures.

A series of such measures have already been considered and even enforced for alleviating the work load of population groups in the child-bearing ages, the ages presenting the heaviest work loads :

- for SNA economic activity : legal and contractual provisions effectively ensuring flexibility (exit and re-entrance, part-time, continuity of social security provisions, etc.) for both men and women in connection with child-birth and child-raising ;
- equal opportunities (education, employment, wages) for men and women, so that both can effectively choose to benefit from these provisions ; as

long as males are paid higher wages and are the "main wage earners", households cannot give up the "main" monetary income, and neither males nor females can really choose between SNA and non-SNA economic activity, nor equally share them ;

- for non-SNA activities : provision of public or private alternative services.

In economic policy, employment creation has often been seen as a means to draw into "productive" activity, "inactive" population groups. Such statistical terminology is borrowed from economics schools of thought which consider as "economic" only the monetised (i.e. market-oriented) activities. This misleading concept and its related misleading terminology have been applied, in particular, to Third World women. With, in some cases, disastrous effects on their work load and on the quality of life of their households.

In order to avoid these pitfalls, it is necessary to **consider human work as a whole, SNA plus non-SNA**. Employment creation can contribute to an increase in the quality of life. At the micro level, it is perceived as giving access to monetary means for purchasing goods or services only available through market channels or produced at a lower human cost in the market rather than in the household. At the macro level, it should correspond to a division of labour and specialisation process towards increased labour productivity. However, the goal (increase in the quality of life) is not achieved and employment creation becomes counter-productive from the human development point of view, if it merely adds to the total work load (SNA plus non-SNA) of those who already carry a full work load. Employment creation (i.e. in SNA activities) should be paralleled by an innovative supply (private or public) of goods and services alleviating the non-SNA work load.

Such innovative supply initiatives are also sources of employment creation ; they amount to a transfer of production from non-SNA to SNA. This transfer can occur spontaneously but chaotically, with unnecessary human costs in the time-use structure of individuals. It could be smoother if two kinds of analysis were available :

- a thorough sociological analysis of aspirations and constraints bearing on individual choices between SNA, non-SNA and non-economic activities;
- a thorough analysis of economic requirements for supplying households with alternative, good quality, market commodities produced under higher productivity circumstances than in households and therefore at an accessible cost.

3. MONETARY VALUATION

3.1 Monetary valuation : Methodology

The physical output of households is not sold ; it therefore has no price. However it is necessary to express its value in monetary units so that the output of the various non-SNA activities can be aggregated and compared to the national accounts aggregates.

In order to ensure compatibility with national accounts procedures, non-SNA output should be valued at the market price of equivalent market products. However, in

industrialised countries, **such output-based valuations** have only been performed occasionally and on a limited number of activities.

The available monetary valuations of non-SNA activities (and in particular of domestic activities), established on a national scale in industrialised countries, are **input-based**. All these studies first determine the value of the labour factor ; some studies stop there, while others pursue the valuation by adding the value of the other inputs, in order to obtain the value of household production at cost of inputs.

The value of the unpaid labour factor is obtained by imputing a market wage to the hours invested in household production. Several kinds of market wages have been used, in earlier studies, for this imputation. The most frequently used are :

- wages for equivalent market functions, i.e. wages of workers producing, in *market enterprises*, the goods or services produced by unpaid household members ;
- wage averages, i.e. average wages of all market workers or average wages of subsets of workers (women, service enterprises, etc.) ;
- wages of substitute household workers, polyvalent, i.e. workers who could perform, *within the household premises*, all (or most) of the productive activities performed by unpaid household members.

In the present study, we decided to leave out the "wages for equivalent market functions" alternative because they correspond to productivity circumstances in market enterprises (mass production, streamlining, capital intensiveness, etc.) which are entirely different from those prevailing in households ; the wages paid in a market enterprise correspond to its productivity and the value of unpaid household labour is overstated, at least in the production of goods, if counted at this wage rate.

We decided to also leave out average wages of subsets of workers (subsets defined by characteristics commanding different wage levels) as used in some studies as a proxy for "opportunity cost of time". These average wages are inappropriate for macro-economic valuations for several reasons. The opportunity cost of time approach is derived from the micro-economic theory of time allocation ; it imputes to household work time the wage the unpaid household worker would earn in the market if he/she would choose to give up household work and take up employment. The micro-economic theory of household behaviour rests on a number of assumptions : rational behaviour of utility maximising well-informed individuals, having choices and choosing freely in a competitive market, reaching equilibrium conditions, etc. ; in practice these assumptions are rarely verified because of labour market and household functioning constraints. One disturbing result of evaluations based on opportunity cost of time is that a same household activity commands different values depending on who performs it ; for instance, the value of dish-washing is higher if the person performing the activity is a university graduate or only attended primary school.

The valuations, provided by the countries participating in the present HDR study, are based on the wages of substitute household workers.. They appear as the most appropriate for imputing a monetary value to unpaid household work because they correspond to the market value of labour performed in household productivity circumstances. The best wages (inclusive of payments in kind, paid holidays, fringe benefits, etc.) on which to base the imputation are those of polyvalent substitutes with household management responsibilities. Alternatively, the wages of housekeepers performing several different tasks may be used, adjusted in order to account for the additional responsibilities and for the continuous availability of unpaid household workers.

Net or gross wages ? There is no general agreement as to which are best. We think that the choice between the two depends on the use to be made of the valuation results: net wages reflect the economic fluxes actually generated by non-SNA activities; gross wages reflect which fluxes would be generated and how SNA aggregates would be affected, if production was transferred from households to the market. For inclusion in the household sector satellite account, the estimates based on net wages are therefore more appropriate ; they cannot, however, be compared to "compensation of employees"

Net wages are defined in the same way in our source studies while gross wages are defined in different ways : they always include income taxes, but sometimes they include, in addition, employers' social security contributions, which in some countries amount up to 40 per cent of the wages. (We call these all inclusive wages "extra gross" wages). In other countries social security is financed from public funds. The impact of these differences on the imputed value of labour is illustrated by data available from a few countries, using the same data set and more or less inclusive wage bases of polyvalent household substitutes (See [table O](#)). In the French and German data, the "extras" raise the estimates respectively of 3 and 9 percentage points compared to gross wages. In the Danish and German data, the estimates based on "extra gross" wages are respectively 16 and 23 percentage points higher than those based on net wages.

Other differences certainly exist from country to country in the way the hourly wages of substitute household workers are determined : for instance, on the basis of monthly rates, counting hours actually worked or contractual hours (Schäfer and Schwarz, 1994), or on an hourly basis where hours not worked are not counted .

All these examples illustrate the impact of certain choices made for the evaluation and thus contribute to partly explain the range of results obtained in the different countries.

Our standardisation efforts (choice of the same category of wages for the imputation, distinction between net, gross and "extra-gross" wages) reduce the very large diversity of valuation methods previously used in the various studies ; the valuation picture is thus somewhat clarified. However, although the valuations of labour presented in this study are expressed in the same language, the language has not yet been codified : each study still uses its own dialect.

Because of differences in wage determination and because of differences in the basic time-use data (see section 2.1), the values of non-SNA labour thus obtained are not cross-nationally comparable; a fortiori, the same is true of the valuations of household production based on these labour factor valuations. Similar problems and differences characterise the measurement of capital consumption which enters into the calculation of value added. Different concepts of what should be included as capital consumption in household production yield different results ; one example is given by German estimates for 1992: the inclusion of imputed rents from owner-occupied dwellings raises the value of household production of four percentage points (Schäfer and Schwarz, 1994).

The same comment thus applies here as in chapter II : **we should absolutely refrain from making detailed cross-national comparisons.**

3.2 Monetary valuation : Recent measurements

TABLE O shows the value of labour and the value of production at cost of inputs, in non-SNA activities. Because of the reservations made in the preceding section, **the available data allow us only to situate orders of magnitude, or even only their lower bound.** We can define orders of magnitude when values appear to be in similar ranges ; this is the case of labour values. When values give very distant results, we have to "play it safe" and point at the lower bounds ; this is the case with production values.

a) Imputed market value of non-SNA labour, based on gross or "extra gross" wages

The value of non-SNA labour is not an entity comparable to GDP ; we use here GDP merely as a measuring rod.

Six countries provide a total of eight estimates of the value of non-SNA labour based on gross or "extra-gross" wages ; they all are larger than one third of GDP. The estimates range between 33 and 72 per cent of GDP. The median values obtained with extra-gross wages in seven estimates from five countries situate the

value of non-SNA labour at 43 _ 10 per cent of GDP.

The value of non-SNA labour (at "extra-gross" wages) can be compared to the national accounts item "compensation of employees" (which is also calculated at "extra-gross" wages). In one country, the value of non-SNA labour inputs is higher than SNA labour inputs (compensation of employees) ; in the other countries, they are lower.

b) Imputed market value of non-SNA labour , based on net wages

The previous estimate, based on "extra-gross" wages, includes fluxes (taxes, social security contributions) which actually are not generated by household production.

c) Imputed value of non-SNA production, at cost of inputs, using extra-gross wages.

Four estimates are available from four countries. The two lower ones yield values of 50 _ 5 per cent of GDP ; the two other ones, some 85 per cent.

We can therefore say that the lower bound estimates give a

value of non-SNA production close to half the value of GDP.

As said above, these estimates include fluxes which are not generated by household production ; however they use extra-gross wages, as do SNA calculations leading to GDP, our measuring rod.

d) Imputed value of non-SNA production, at cost of inputs, using net wages.

Two estimates are available from two countries, respectively at 32 and 47 per cent of GDP. Depending on the use to be made of the valuation (see section 3.1), these can be considered **underestimates** of the value of non-SNA production because they are calculated on net wages, while the measuring rod (GDP) is calculated on extra-gross wages.

We can say that the lower bound estimate yields a

value of non-SNA production equal to one third of GDP.

If one looks up from the table, these summarised results may appear contradictory, the lower bound value of non-SNA labour obtained in some studies being larger than the lower bound value of production obtained in other studies. This observation takes us back to the reservations made in 3.1 : different choices made during the valuation process may have a large impact on the results (Schäfer and Schwarz, 1994). The **range of values** is such that, in the present state of the art, one can only draw two rudimentary conclusions :

- the value of non-SNA production is very high ;
- the value of non-SNA production can be calculated, but in order to achieve cross-national comparability, methodological recommendations have to be developed internationally.

3.3 Monetary valuation : Historical perspectives

TABLE P. We have data on the value of labour or on the value of production in non-SNA activities at different points in time, for four countries :

Bulgaria: 1971, 1977 and 1988

Denmark: 1964, 1975 and 1987

Finland: 1979/82 and 1990

Norway: 1972, 1981 and 1990.

Keeping in mind the same reservations as for trans-temporal comparisons of time-use data, the value of labour in non-SNA activities, expressed as a percentage of GDP seems to have increased over time in Denmark and decreased in Finland and Norway. The value of non-SNA production seems to have increased in Bulgaria.

3.4 Monetary valuation : other perspectives

Extended private consumption

TABLE Q shows the contribution of non-SNA activities to extended private consumption. Three different aggregates are considered :

- "modified" SNA private consumption (i.e. minus goods and services consumed in non-SNA production : intermediate inputs and some consumer durables) ;
- non-SNA contribution to private consumption (gross value added at the cost of inputs) ;
- "extended" private consumption : i.e. modified SNA plus non-SNA private consumption.

We have data from three countries ; their results are close :

non-SNA production contributes some 60 per cent of extended private consumption

If and when cross-nationally comparable data will become available, it will be possible to compare extended per capita consumption in the different countries, expressed in US \$ at purchasing power parity (PPP).

TABLE R shows the contribution of non-SNA activities to per capita extended private consumption in Bulgaria. Although the data are based on a rule of thumb estimate of PPP, they provide an **illustration** of the comparisons such data would permit ; in this case, the comparison is trans-temporal.

Keeping this and the earlier reservations in mind, the contribution of non-SNA production to extended private consumption per capita in Bulgaria, appears to have

decreased from 65 to 58 per cent between 1971 and 1988.

Standardised extended per capita consumption

Data on per capita extended private consumption can be integrated to data on total economic time, in order to achieve more meaningful cross-national comparisons. The reasoning is as follows : a given consumption level may be achieved in one country with more labour inputs than in another. The country achieving this consumption level with lower labour inputs may be considered to be in a more favourable position from the human point of view, because less economic time means availability of more personal time. In order to achieve such integrated comparisons it is necessary to standardise labour time and to calculate what we call standardised extended per capita consumption. The procedure consists of choosing a common labour time for all countries (for instance, a median labour time) and calculating what per capita extended consumption would have been in each country if total economic time had been equal to the chosen standard. This procedure was used in Malaysia by Kusnic and Da Vanzo (1980).

TABLE S presents data integrating per capita extended private consumption in US \$ and per capita total economic time. Bulgaria provided the data enabling us to make the calculations on a trans-temporal basis in order to **illustrate** the procedure. We arbitrarily chose to standardise total economic time to 8 hours, i.e. to approximately the median length of economic time for the period 1971 to 1988. The same reservations apply as to table R on PPP estimates and monetary fluctuations.

Between 1971 and 1988, in Bulgaria, per capita extended consumption declined of 22 percentage points (from US \$ 2736 to US \$ 2137)

During the same period, total economic time decreased from 8:40 to 7:03 hours and minutes per day.

The standardised data indicate that the decline in consumption is strongly related to the decrease in economic time : if Bulgarians had worked the same amount of time (8 hours) in both years, the decline in consumption would only have been of 3 percentage points.

In other words, extended per capita consumption does not tell the whole story ; it has to be related to the amount of labour required for achieving it. The same procedure could be applied to cross-national data and would permit a more integrated appraisal of levels of living.

3.5 Monetary valuation : Conclusions

Extended production accounting

The revised SNA (1993 SNA) has formally recognised that non-SNA activities are productive and that they contribute to the "well-being" (we prefer the term "consumption") of the population. It recommends to handle the measurement of these activities in a satellite account, which is a flexible frame where monetary units can be presented alongside physical units, for instance time units. However, in order to be compatible with measurements of SNA activities, a different measurement methodology than the one presented in this report will have to be used : the valuation will have to be output-based, that is it will have to start with the physical measurement of household output and then value it at market prices. (Goldschmidt-Clermont, 1987, 1989, 1993). Unfortunately very little experience is available, as yet, with this approach at the national levels ; it should, however, not be more difficult to develop than the refined strategies developed for the traditional sectors of the national accounts.

At the national level, interesting results are already apparent : for instance, the information yielded by trans-temporal data or by the data gathered for the construction of the German satellite account of household production, the first of its kind. They illustrate the feasibility of constructing such monetary data, which would provide an important contribution for economic and social analysis purposes.

Once data will be available, measurements of **the contribution of non-SNA activities to extended private consumption** will provide an important missing element for the understanding of national economies. In the meantime, cross-nationally, we have to satisfy ourselves with indications (upper and lower bounds) of the orders of magnitude. Clearly, the values are not negligible : non-SNA activities increase at least by half the value of private consumption.

Cross-national comparability: still a long way to go

There is still a long way to go before monetary valuations of non-SNA production can be used in a human development index.

Some monetary valuations were performed in different countries since already many years, but the field lacks coordination : it progresses in dispersed order. The first and (to our knowledge) only international conference on the subject was held in 1993 in Ottawa at the initiative of Statistics Canada.

As we saw in this chapter, data are definitely not comparable cross-nationally even for the valuation of unpaid labour which is the item on which most of the valuation efforts have been concentrating.

Standardised consumption: an indicator of human development ?

Comparisons between countries or between sub-sets of a population will be further enhanced by the integration of consumption figures and time-use data into a measure we called "*standardised private consumption*". At equal consumption levels, two countries or population categories may have expanded different amounts of labour ; the purpose of this measure is to account for this difference in the comparisons.

Agenda for the future

This chapter should probably conclude on an agenda for the future :

o increased contacts, systematic exchange of information and coordination between those involved in the monetary valuation of household production, in a similar way and in contact with those involved in time-use measurements;

- development of the output-based approach ;
- allocation of the necessary financial resources for this new sector of economic accounting which was neglected until now.

The positive reaction of the national statistical offices, from which we requested data within short delays and at a time of year when they are involved with heavy routine work, shows that there is interest for the subject of non-SNA activities. We may therefore be hopeful for the future !

4. GENERAL CONCLUSIONS

This report is mostly based on statistical data contributed, at our request, by national sources from fourteen countries :

Australia, Austria, Bulgaria, Canada, Denmark, Finland, France, Germany, Great Britain, Israel, Italy, the Netherlands, Norway and the United States.

With the exception of a coordinated study by Bulgaria and Finland, the national surveys from which the data originate, were performed independently and it was therefore not possible to achieve, a posteriori, cross-national comparability. It was however possible to achieve a normalised presentation of results which revealed some common orders of magnitude and trends.

Because the time-use data presented here are not satisfactorily comparable cross-nationally and because the valuation data are not comparable at all, this report should be seen more as an illustration than as a compilation of results.

A fundamental approach adopted in our analysis is that human labour should be considered in its integrality, whether invested in SNA or in non-SNA activities ; a similar approach is adopted towards production. This position is a departure from traditional economic and statistical approaches which apply the concepts "economic", "labour" and "production" only to SNA activities.

Orders of magnitude

In all of the above-mentioned countries,

- total economic time, i.e. SNA plus non-SNA, averaged over all days and over the population aged 15 and above, amounts to less than one third of the 24 hours day, ranging, from country to country, between 6:16 and 7:34 hours and minutes per day ;
- non-SNA statistically unrecorded activities absorb as much labour time as recorded SNA activities ; by excluding non-SNA activities, official labour statistics present a statistical gap amounting to one half of human labour: for purposes of economic and social policy formulation, official statistics are misleading ;
- food related activities consume the largest proportion of non-SNA time.

Only a few of our national sources could provide monetary valuation data. The median values obtained with gross wages in seven estimates from five countries situate the

value of non-SNA labour at 43 _ 10 per cent of GDP.

The lower bound values obtained in three estimates from two countries situate the **value of non-SNA production around half the value of GDP.**

Data available from three countries indicate that

non-SNA production contributes some 60 per cent of extended private consumption.

Gender perspective

In five countries, gender equality is achieved from the stand-point of average time in economic activities and, thus, of time available for personal activities. In all other countries but one, women work more than men, the largest difference amounting to 1:45 hours and minutes per day.

Men spend a larger share of their economic time in SNA activities than in non-SNA activities; the proportions vary, from country to country, between 55 and 79 per cent. Women spend a larger share of their economic time in non-SNA activities than in SNA

activities ; the proportions vary more widely, from country to country, than men's, between 42 and 72 per cent.

In all countries, non-SNA activities are gender-specific : women contribute a larger proportion than men of the time required for food related activities, care of textiles, house-cleaning and care of persons; construction and maintenance are men-specific activities. The sharing ratio varies from one country to another.

With the valuation methods presently used which are based on the value of inputs, the only possibility for valuating separately genders' contribution would be to allocate the value of production to each gender proportionately to its labour time contribution. Not a meaningful exercise, which would not take us any farther than where we stand with time-use data alone.

The available data indicate that both SNA and non-SNA activities are necessary, even in industrialised countries, for meeting consumption requirements. The contributions of these two categories of activities are complementary. Non-SNA activities make possible the performance of SNA activities and vice-versa ; together they determine final extended consumption. The same is true of genders' contributions.

Gender specificity of activities may be seen as the equivalent, in the household, of specialisation in the market sectors of the economy. Sharing of activities, often considered a goal towards gender equality, is necessary as a means for ensuring interchangeability and economic security, in the face of the changing position of women in society and of perturbations in the labour market.

Trends

In the industrialised countries for which we have data at different points in time, the trends over the last three decades seem to point in the direction of :

- a decrease of economic time, overall and for both genders ;
- an equalisation of genders' contribution to total economic time ;
- an equalisation of genders' contribution to SNA and to non-SNA time ;
- a large decrease of women's time in traditional women-specific activities, not compensated by men's increase in these activities ;
- a smaller amount of time, and a smaller proportion of non-SNA time, for food, textiles and upkeep of dwelling ;
- a larger amount and a larger proportion of non-SNA time, for management and shopping.

Without data on the physical output of households, it is not possible to determine whether the decreases in time inputs correspond to decreases in the amount or quality of

household production or whether the time decreases correspond to higher labour productivity in the household.

A cross-national comparison is available between two countries having reached different levels of living. Some of the trends in the basic structure of time observed in the historical perspective presented above, also appear when comparing Bulgaria to Finland: in Finland, less time is devoted to economic activities and to non-SNA activities, and there is overall more sharing of non-SNA activities between genders. These differences are probably correlated to a pattern of economic development ; however, the Finnish data indicate that economic factors interplay with social factors in influencing time allocation.

Looking at the future

In order to progress in our understanding of unrecorded non-SNA economic activities, the first priority is ...to record them. We thus need cross-nationally comparable data sets on time-use, permitting the analysis of labour allocation. We also need monetary valuations of households' output compatible with national accounting data. These two data sets, combined in the household production satellite account, would enable us to understand the inter-face between the monetised market sector and the households' non-market sector. These data would also constitute a precious basis for economic and social policy formulation.

Time-use methodology is progressing rapidly towards coordination and comparability ; this is not the case of households' product accounting methodology. Although still susceptible of improvements, time-use is, for the time being, the best available tool for the economic assessment of non-SNA activities and for their comparison with SNA activities.

Three kinds of measures were identified, in this report, as potential indicators of human development :

- average amount of personal time and its distribution among the population;
- average extended (i.e. generated by SNA plus non-SNA activities) per capita consumption;
- standardised consumption, i.e. a measure integrating extended labour time and extended consumption in order to relate consumption levels with the labour input required for achieving them.

The first one may hopefully materialise in a not too distant future. The two other ones may take much more time, ... unless statistical bodies are prepared to invest, in the measurement of presently unrecorded activities, staff and financial means commensurate with the economic weight (labour time and consumption value) of these activities.