

**UNITED NATIONS SECRETARIAT
Department of Economic and Social Affairs
Statistics Division**

**ESA/STAT/AC.59/2
11 November 1997**

English only

**Expert Group Meeting on
Methods for Conducting Time-use Surveys
13-16 October 1997
New York**

An alternative approach to the time use activity list*

By

**Eivind Hoffmann and Adriana Mata
Bureau of Statistics
International Labour Office**

* This document is being reproduced without formal editing.

Table of contents

Table of contents.....	2
1. Introduction and background.....	2
2. Criteria used to make Distinctions at the Different Levels of the Trial ICTUA.....	3
3. Methodological considerations	4
4. Illustration of an alternative set of time use relevant classifications	6
5. Concluding remarks	6
6. References.....	7

1. Introduction and background

1. This note will try to present a different and, we hope, simpler approach to the construction of an *International Classification for Time Use Activities (ICTUA)* than the one used as basis for the trial ICTUA presented in *UNSD (1997)*. The ideas presented here are based on reported experiences with such classifications in national time use surveys, see the references in *UNSD (1997)*, as well as on our own work on issues related to the measurement of working time and with other types of classifications and their use for describing and analysing the world of work, see e.g. *Hoffmann (1981)* and *(1994)*, and *Mata (1992)* and *(1993)*.

2. The trial ICTUA presented in *UNSD (1997)* represents a serious effort to provide specifications for the activities which takes place in "paid employment" or "at work". In general classifications of time use activities (CTUAs) have treated as a "black box" this one fourth to one third of the time use of the majority of the adult population. The effort is very laudable and it is evident that the trial ICTUA has required a lot of work. However, the categories defined for the trial ICTUA reflect both the 'type' and the 'context' of time use activities². The latter is generally used as the main similarity criterion for activities, but the criteria are not applied in a consistent way at the different levels of the classification. The result is that the categories defined represent a mix of 'type of activity' and a large number of 'context' variables, see the box on p. 2. This has lead to many duplications. These duplications, together with the need to ensure consistency with the concepts and classifications used in SNA-93 and the use of different similarity criteria in different parts of the classification, have also resulted in a confusion about the nature of the type of activities to be classified in the various parts of the proposed classification. We find that for example: (i) "learning" which takes place at work is classified in MG1, but when in the context of school or free time it is classified in MG7; (ii) "eating" or "having coffee" is classified in MG1 when at work, in MG8 when socializing and in MG9 otherwise; (iii) "caring" for family members is classified in MG4, while "caring" for non-family members through an organisation is classified in MG6; (v) "baking", "repairing", etc. for own household is in MG2, while doing the same for other households is in MG6; (vi) "talking on the phone" will be classified in MG4 if connected to child care, in MG8 if socialising, but in MG1 if done at work.

2. Criteria used to make Distinctions at the Different Levels of the Trial ICTUA

	1-digit	2-digit	3-digit
MG1	"purpose of the activity"	organization of working time (whether it is overtime or not); location of activity (eg., at home or not); main/secondary job; status in employment (e.g. paid work, home based work, self-employment work and unpaid work); whether domestic work or other work	"type of activity"
MG2	"purpose of the activity"	"type of activity"	"type of activity"
MG3	"purpose of the activity"	"type of activity"; one group of children's activities	"type of activity"
MG4	"purpose of the activity"	"for whom"	"type of activity".
MG5	"type of activity"	type of goods or service purchased; "type of activity"	type of goods or service purchased
MG6	"purpose of the activity"	"type of activity"	"type of activity"
MG7	"type of activity"	formal/informal studies; one group for children's learning activities	when studies are formal, "type of activity"; for other type of studies, "type of course" followed; no clear criteria to distinguish within children's minor group.

MG8	"type activity" of	"type of activity"	for some minor groups, "with whom" or "where"; for other minor groups, "type of activity"
MG9	"type activity" of	"type of activity"	"type of activity" and "where"
MG0	"type activity" of	"purpose of the activity"	"type of activity". No specification is made as to whether the person is driving or being driven.

3. One conclusion must be that because so many of the things we do when working for 'pay, profit or family gain' are of the same type as what we do in other contexts, the presence of the context criterion in the activity list makes it very difficult to create specific categories for the 'work' component of time use without adding significantly to these duplications. This also is amply demonstrated by the trial ICTUA. If the "context" criterion were withdrawn from the activity list, similar activities with respect to "type of activity" could then be classified together in the same MG. To identify activities currently distinguished in the TUS activity list, the "location" and "for whom" variables would be used. This would result in an activity list with fewer categories (i.e. easier to code) and it would be simple to incorporate more detailed "work" activities. Those "work" activities which are similar to unpaid activities could be coded into the already existing categories of the activity list: food preparation, household upkeep, child care, eating, drinking, talking, transport activities, studying, reading, etc. They would be differentiated on the basis of the "location" and/or "for whom" variables. We would therefore argue that a CTUA should not consist of a single value set (typology) for one complex multi-dimensional variable, but of several value sets, one for each of the variables needed to provide a description of the time use activities which will answer the questions posed by the various users of time use statistics.³

3. Methodological considerations

4. All classifications used when collecting and presenting statistics represent discrete value sets for one or more of the variables (to be) measured in statistical data collections, or for which statistics are to be presented. Some of these value sets can be very simple, such as the set [*male, female*] used for the variable 'sex', while others can be quite complex with a large number of categorical values. The latter classifications are often multidimensional and hierarchical, as exemplified by the *International Standard Classification of Occupations*

(ISCO-88) and the *International Standard Industrial Classification of All Economic Activities* (ISIC, rev.3) as well as by the classifications of time use activities (CTUA) used in national time use surveys.

5. While the presentation and analysis of statistics may require the use of multi-dimensional variables with corresponding value sets, both data capture and explanations of how measurements are made will normally be facilitated by the use of one dimensional variables and value sets, which can be combined to create the multi-dimensional variables needed for description and analysis of results.

6. The unit of observation in a TUS is a (normally short, e.g. 5 or 10 minutes) time interval (a "slot" to use the terminology of *Harvey (1990)*), about which the respondent is requested to record 'what' they were doing as well as the 'context', see e.g. *Eurostat (1996b)*. As answer to the 'what', the respondent is asked to describe the 'main activity', and sometimes a 'parallel activity', with a few words which will be used as the basis for assigning the code of a time use category to that slot (or two codes if a parallel activity is also recorded).

7. Despite the slightly confusing terminology which will result it seems useful to accept the conventions that (i) "whatever an individual spends time on is considered an activity in the time use context" and that (ii) "productive activities are those whose performance can be delegated to another person with the same desired result", see *UNSD (1997)*, and that the latter activities can be designated as "work"⁴. Having done so it is clear that "economic activities", defined as 'those activities which are considered as inside the production boundary defined for the *System of National Accounts (SNA-93)*, see *Inter-Secretariat Working Group on National Accounts (1993)*, is a sub-set of all productive activities and that 'market activities', defined as "those activities which are carried out for pay in cash or kind or for (the expectation of) profit", will be a sub-set of all economic activities. These sub-sets of the productive activities must be distinguished from the 'context' in which they are performed. They cannot be defined only on the basis of **what** it is that is being done.⁵

8. The work related activities to be classified by any CTUA must be activities which are undertaken by persons, and which directly describe what the persons do, and not e.g. the contractual situation of the activities or the ultimate outcome of them, which are the criteria used in the trial ICTUA to distinguish between minor groups within major groups 1 and 2 respectively. Such aspects of the activities are better described with reference to the 'job' which all employed persons hold, by definition. The contractual situation of jobs are described directly by the 'status in employment' variable, see *ILO (1993)*, and jobs can be classified by the 'industry' variable through their link to 'establishments', see *United Nations (1990)*. Both these variables have value sets which are consistent with categories used in SNA-93 for the corresponding variables defined there. 'Jobs' can also be described by the variable 'occupation', which is determined by 'the main tasks and duties' which a person has to perform in the job, see *ILO (1990)*.

4. Illustration of an alternative set of time use relevant classifications

9. Since it seems logical to use as basis for the specification of work-related activities in a CTUA those tasks and duties which are to be performed at work, i.e. in jobs, it follows that it is the task specifications of a classification of 'occupations' which are most likely to provide a list the type of activities which are performed at work and therefore should be included among 'productive activities'. The occupational classification best known to us is ISCO-88, which therefore has been used as the main source for the tentative list of work specific activities in an *Alternative Classification of Time Use Activities (ACTUA)* presented in Annex I as an illustration of the alternative approach to typologies for time use activities which is advocated in this note.

10. To illustrate the contents of the groups presented in the ACTUA we list, whenever relevant, the detailed categories proposed for the trial ICTUA. Note, however, that these detailed categories do not necessarily provide a complete picture of the content of a particular group as proposed by us, and for some of our groups we have not found any relevant group in the trial ICTUA, see e.g. ACTUA-235, ACTUA-31, ACTUA-32 (except for 3229), ACTUA-84 and ACTUA-043. Nor are the subdivisions proposed for the trial ICTUA necessarily relevant in an elaboration of this ACTUA, as most of them reflect context variables⁶.

11. It may be convenient to incorporate into the ACTUA some context variables which are both important and very specific to one or a few types of time use activities. Thus the ACTUA and the list of relevant, separate context variables should be developed together. The most important context variables incorporated into the trial ICTUA are listed in Annex II. We feel that they should be identified separately from the list of time use activities, and that internationally agreed value sets should be developed also for them, to facilitate international comparisons of national TUS results and to serve as models for corresponding national value sets. Other variables will be needed e.g. to describe further the type of jobs and training activities undertaken. Some of them already have internationally agreed value sets, e.g. 'occupation' (ISCO-88), 'industry' (ISIC, rev.3), 'status in employment' (ICSE-93), 'institutional sector of employment (in SNA-93)' and 'educational activity' (ISCED).

5. Concluding remarks

12. It is clear that the approach to the classification of time use activities advocated in this note will represent a break with the CTUAs which have been used, successfully, by the TUS carried out in many countries since the pioneering work of Szalai (1972). However, we do not see this observation as an important argument against the approach proposed by us, for these reasons: (i) The trial ICTUA tries to introduce a necessary and long overdue extension of the traditional CTUAs to specify specific work related activities. This in itself represents a significant break with the traditional CTUAs, and it brings out in a fairly dramatic way some of the inherent weaknesses of the approach used before, such as the duplications. These weaknesses were not seen as important in the past, but they are likely to become very important with an extension to work related activities, such as in the trial ICTUA. (ii) Comparability with the results of earlier surveys is an important objective which will not be jeopardized by the adoption of the approach to the classification of time use activities proposed

in this note. What is important for comparability over time of survey results is not that the structure of the past classification be maintained, but that users of new classifications are able to reconstruct the old classification by combining and reorganising the component parts of the new instruments. In that way tables can be constructed which are consistent with tables made from previous surveys.

6. References

Eurostat (1996a): *Pilot survey on time use 1996: activity list*. Statistical Office of the European Communities, Luxembourg, 1996.

Eurostat (1996b): *Pilot survey on time use 1996: diary*. Statistical Office of the European Communities, Luxembourg, 1996.

Harvey, A.S. (1990): *Guidelines for Time Use Data Collection*. General Social Survey Working Paper #5. Statistics Canada, Ottawa, 1990.

Hoffmann, E. (1981): "Accounting for time in labour force surveys", in *Bulletin of Labour Statistics*. 1981-1.

Hoffmann, E. (1994): "Mapping the world of work: an international review of the use and gathering of occupational information", in Chernyshev, I., ed.: *Labour Statistics for a Market Economy*. Central European Universities Press, Budapest, 1994.

ILO (1990): *International Standard Classification of Occupations (ISCO-88)*. International Labour Office, Geneva, 1990.

ILO (1993): "International Classification of Status in Employment (ICSE-93): Resolution adopted by the 15th International Conference of Labour Statisticians" *Bulletin of Labour Statistics*, 1993-2.

Inter-Secretariat Working Group on National Accounts (1993): *System of National Accounts 1993*. Eurostat, IMF, OECD, United Nations, World Bank. Brussels/Luxembourg, New York, Paris, Washington D.C., 1993

Mata, A. (1992): *An integrated framework for the measurement of working time*. Working Paper 92-2. Bureau of Statistics, International Labour Office, Geneva 1992.

Mata, A. (1993): "Time use surveys: Their role in labour force statistics", in Harvey, A.: *Time use methodology: Towards a consensus*. Istituto Nazionale di Statistica. Roma. Note e relazioni edizione 1993 n.3.

Szalai, A. ed. (1972): *The Use of Time: Daily Activities of Urban and Suburban Populations in Twelve Countries*. Publication of the European Coordination Centre for Research and Documentation in the Social Sciences. Mouton, The Hague. 1972

United Nations (1979): *The development of integrated databases for social, economic and demographic statistics*, Studies in Methods, Series F, No. 27, (New York, 1979).

United Nations (1990): *International standard industrial classification of all economic activities*. Third revision. Studies in Methods, Series M, No. 4, Rev.3. (New York, 1990).

United Nations Statistics Division (1997): *Trial International Classification for Time Use Activities*. Report to the Expert Group Meeting to Review Trial International Classification for Time Use Activities. New York, 13-16 October 1997.

1. Note prepared for discussion at the Expert Group Meeting to Review Trial International Classification for Time Use Activities (ICTUA), 13-16 October, New York. The views expressed in this note are those of the authors and do not necessarily reflect those of the International Labour Office or its Bureau of Statistics. The authors apologize for all errors and omissions, and would welcome comments and suggestions for improvements and correction. Address: CH-1211 GENEVE 22, Switzerland; Fax: + 41 22 799 6957; e-mail: mata@ilo.org and hoffmann@ilo.org

2. The 'context' is multi-dimensional, consisting of e.g. 'where', 'for what purpose (or 'for whom') and 'with whom' the activity has been undertaken; the 'status in employment' of those carrying out some work activities, nature of studies, type of goods and services purchased, etc.

3. In what follows we shall try to use CTUA as designation for the classification of 'type of time use activities' and the set of typologies for time use as designation for a set of classifications which includes both the 'type' and the 'context' variables.

4. Note however, that we will follow standard ILO terminology and use "workers" as designation for all persons who engage in 'economic' activities, i.e. who can be classified as either 'employed' or 'unemployed', see e.g. Hussmanns et al (1990).

5. In UNSD (1997) it is also proposed to distinguish "household production" and "household work" from other productive activities, where "household production ... (is) ... all production which takes place within the household, ... [while] ... household work ... [is] ... only the non-economic production (of services)." To be implemented this typology must also be based on the 'context' variables for the activities. That these distinctions cut across the nested typology of 'economic' and 'market' activities is not made clear, nor that the household activities as defined in this context are different from the activities of the "household sector" as defined for the SNA. (It may also be noted that activity "(d) Services of owner-occupied dwellings for own consumption" in the list of "household production" activities, cannot be a time use activity as no human effort or time use is involved.)

6. *When preparing the ACTUA list we felt handicapped by never having seen an in-depth discussion of the criteria to be used to decide what it is that constitutes different 'activities' at the most detailed level in the classification scheme, nor of the main similarity criteria to be used for creating more aggregate groups in the classification schemes: i.e. should 'reading' for entertainment, information and learning be regarded as the same or as different 'activities', and should they all be included in one more aggregate group "reading", or in three different aggregate groups "entertainment", "information" and "learning"? The design of the classifications to be used should try to accommodate more than one 'answer' to these questions, and it seems to us that this can best be achieved by regarding 'reading' as the operational 'type of activity' characteristic, and 'entertainment', 'information' and 'learning' as characteristics of a context variable 'purpose'.*