

MEASURING TIME USE: AN ASSESSMENT OF ISSUES AND CHALLENGES IN CONDUCTING TIME-USE SURVEYS WITH SPECIAL EMPHASIS ON DEVELOPING COUNTRIES

METHODOLOGICAL INCONSISTENCIES,
HARMONIZATION STRATEGIES,
AND REVISED DESIGNS



**MEASURING TIME USE:
AN ASSESSMENT OF
ISSUES AND CHALLENGES
IN CONDUCTING TIME-USE
SURVEYS WITH SPECIAL
EMPHASIS ON DEVELOPING
COUNTRIES**

**METHODOLOGICAL INCONSISTENCIES,
HARMONIZATION STRATEGIES,
AND REVISED DESIGNS**

Measuring Time Use: An assessment of issues and challenges in conducting time-use surveys with special emphasis on developing countries.

Methodological Inconsistencies, Harmonization Strategies, and Revised Designs.

United Nations Entity for Gender Equality and the Empowerment of Women, UN Women.

Produced by The Global Centre of Excellence on Gender Statistics (CEGS).

Lead author: Jacques Charmes.

Mexico City

E-mail: cegs@unwomen.org

Manthra Comunicación · info@manthra.ec · www.manthra.ec

The views expressed in this publication are those of the author(s) and do not necessarily represent the views of UN Women, the United Nations or any of its affiliated organizations.

The content and information in this publication can be used as long as the source is acknowledged. To obtain authorization for reproduction, translation and storage by any form, medium, system or transmission, be it electronic, mechanical, photocopying, recording or otherwise, the request should be addressed to the UN Women office in Mexico.

© 2021 UN Women. All rights reserved

ACKNOWLEDGEMENTS

The objectives and scope of the study were originally discussed with Nancy Folbre, who authors one of the two reports of the study, and Papa Seck, chief statistician at UN Women, at the launch of the Global Center of Excellence on Gender Statistics (CEGS) and First Global Conference on Gender Equality and the Measurement of Unpaid Care and Domestic Work held on September 10-11, 2018 in Mexico City. The UN Women's flagship Programme Initiative "Making Every Woman and Girl Count" (MEWGC) provided the opportunity for this study to take shape.

Papa Seck facilitated relations with Sara Faivre, Programme Management Specialist, ONU Femmes Maghreb in Rabat, Morocco and Mitra Sadananda, Programme Specialist-Gender Statistics UN Women, Dar Es Salaam, Tanzania who provided information on costs of the time use surveys conducted in the regions (Algeria, Morocco and Uganda and Tanzania), as well as metadata on the surveys.

Regular discussions took place with Nancy Folbre with feedbacks on preliminary versions of the report.

Special thanks to anonymous peer reviewers or readers from Eurostat, the ILO Department of Statistics, the UN Statistics Division Expert Group on Innovation on Time Use Surveys (EG-TUS), the UN Women Count Programme statisticians in pathfinder countries, and some other specialists from national statistical offices whose comments allowed improving the report and correcting errors or misunderstandings.

Finally, special thanks to Paulina Grobet, coordinator of the Global Center of Excellence on Gender Statistics (CEGS) in Mexico, who supervised the revision and editing process until publication.

Jacques Charmes

INDEX

	LIST OF ACRONYMS	8
	LIST OF TABLES	10
	LIST OF CHARTS	11
	LIST OF BOXES	13
1	INTRODUCTION	14
2	A BRIEF HISTORY OF THE NOTION OF WORK AND OF TIME-USE SURVEYS	18
	2.1 BRIEF REMINDER OF THE NOTION OF WORK	19
	2.2 BRIEF HISTORY OF TIME-USE SURVEYS	20
3	OBJECTIVES OF TUS	28
	3.1 MEASUREMENT OF TIME POVERTY	31
	3.2 NATIONAL TIME ACCOUNTS AND SATELLITE ACCOUNTS OF HOUSEHOLD PRODUCTION	34
	3.3 DESIGN OF POLICIES AND MEASURES FOR ALLEVIATING THE TIME SPENT BY WOMEN IN UNPAID CARE WORK	38
4	INDICATORS OF TUS	40
5	TYOLOGY OF TUS AND THEIR METHODOLOGICAL CHARACTERISTICS	52
	5.1 TYOLOGY OF TUS	53
	5.2 METHODOLOGICAL CHARACTERISTICS OF TUS	56
6	CLASSIFICATIONS	64
7	DIARIES	72
8	STYLISED QUESTIONS	82
9	OTHER TUS	98

10	ISSUES, CHALLENGES AND RECOMMENDATIONS	114
10.1	COVERAGE AND GENERALISATION	115
10.2	COST OF TIME-USE SURVEYS	116
10.3	ARE DIARIES ADAPTED FOR APPLICATION TO LOW-LITERATE POPULATIONS IN DEVELOPING COUNTRIES?	119
10.4	RAISING POLICY-MAKERS' AWARENESS AND OUTREACHING THE OBJECTIVES AND THE FINDINGS OF THE TIME-USE SURVEYS	120
11	RECOMMENDATIONS	122
12	REFERENCES	126
13	ANNEXES	134
	TABLE A 1: OVERVIEW OF TUS MAIN CHARACTERISTICS ACROSS REGIONS AND COUNTRIES	135
	TABLE A 2: MAIN CHARACTERISTICS OF TIME-USE SURVEYS WITH DIARIES	151
	TABLE A 3: MAIN CHARACTERISTICS OF TIME-USE SURVEYS WITH STYLISTED QUESTIONNAIRES	158
	TABLE A 4: OVERVIEW OF TUS SHORT MODULES IN MULTIPURPOSE HOUSEHOLD SURVEYS AND THEIR MAIN CHARACTERISTICS ACROSS REGIONS AND COUNTRIES	161
	TABLE A5: PARTICIPATING ESS-COUNTRIES AND DATA COLLECTION PERIODS OF HETUS WAVES 2000, 2010, 2020	162

LIST OF ACRONYMS

ATUS	American Time Use Survey
CAPI	Computer Assisted Personal Interview
CATI	Computer Assisted Telephone Interview
CAWI	Computer Assisted Web Interview
CAUTAL	Clasificación de Actividades de Uso del Tiempo para América Latina y el Caribe
CEPAL	Comisión Económica para América Latina y el Caribe
CMAUT	Clasificación Mexicana de Actividades de Uso del Tiempo
EAH	Encuesta Anual de Hogares (Argentina)
ECLAC	Economic Commission for Latin America and the Caribbean
ECVMA	Enquête sur les Conditions de Vie des Ménages et l'Agriculture (Niger)
EIBEP	Enquête Intégrée de Base pour l'Evaluation de la Pauvreté (Guinea)
EICV	Enquête Intégrale sur les Conditions de Vie des ménages (Rwanda)
EIM	Enquête Intégrale auprès des Ménages (Comoros)
ENCOVI	Encuesta Nacional de Condiciones de Vida (Guatemala)
ENHOGAR	Encuesta Nacional de Hogares de Propósitos Múltiples (Dominican Republic)
ENUT	Encuesta Nacional sobre Uso del Tiempo (Mexico)
ERF	Economic Research Forum
ESS	European Social Survey
GDP	Gross Domestic Product
GEP	Gros Economic Product
GHP	Gross Household Production
GLSS	Ghana Living Standard Survey
GNI	Gross National Income
GNP	Gros National Product
GTUS	Ghana Time Use Survey
HBS	Household Budget Survey (Lesotho)
HDR	Human Development Report
HETUS	Harmonised European Time Use Survey
IATUR	International Association of Time Use Research
ICATUS	International Classification of Activities for Time Use Surveys

ICLS	International Conference of Labour Statisticians
ICT	Information and Communication Technologies
IES	Income Expenditures Survey
ILFS	Integrated Labour Force Survey (Lesotho)
ILO	International Labour Organization
ILOSTAT ILO	ILO Department of Statistics
INDEC	Instituto Nacional de Estadística y Censos (Argentina)
INED	Institut National d'Etudes Démographiques (France)
INEGI	Instituto Nacional de Estadística y Geografía (Mexico)
IVR	Interactive Voice Response
JLMPS	Jordan Labour Market Panel Survey
LFS	Labour Force Survey
LIMTIP	Levy Institute Measure of Time-Income Poverty
LLFS	Liberia Labour Force Survey
LMPS	Labour Market Panel Survey
LSMS	Living Standard Measurement Study
LSS	Living Standard Survey
MECOVI	Mejoramiento de las Encuestas sobre Calidad de Vida (Guatemala)
MEWGC	Making Every Woman and Girl Count
MENA	Middle East North Africa (Region)
NLSS	Nepal Labour Force Survey or Nigeria Labour Force Survey
PAPI	Paper Assisted Personal Interview
SDA	Social Dimension of Adjustment
SDG	Sustainable Development Goal
SNA	System of National Accounts
TUS	Time Use Survey
TLMPS	Tunisia Labour Market Panel Survey
UBOS	Uganda Bureau of Statistics
UN	United Nations
UNDP	United Nations Development Programme
UNSD	United Nations Statistics Division
USSR	Union of Soviet Socialist Republics

LIST OF TABLES

Table 1: List of time-use surveys by year and region: 82 countries, 202 surveys	25
Table 2: Comparisons in time use (in minutes per day) by participants and by total population in some unpaid activities	42
Table 3: The 'equal' distribution of time between sleep, work and free time	45
Table 4: The unequal distribution of time between necessary, contracted, committed and free time	46
Table 5: Combination of simultaneous activities in the 2010 South Africa time-use survey	49
Table 6: Average time spent on disaggregated activities excluding and including simultaneous activities for population aged 10 years and older by sex in Ghana 2009	50
Table 7: Main methodological characteristics of TUS across the world	58
Table 8: Overview of TUS non-response rates	60
Table 9: The one-digit codes of the main classifications for time-use activities in perspective	66
Table 10: Number of activities or questions in time-use surveys with stylized questionnaires and classifications in Latin America	84
Table 11: Participation rates and average time spent in various activities through diaries or stylized questionnaires. Mexico City 2011	96
Table 12: Average time spent on various housekeeping activities by population aged 7 years and older in Ghana, by sex (in minutes per day)	107
Table 13: Time-use activities in LMPS questionnaires for Egypt	112
Table 14: Regional coverage of time-use surveys	115
Table 15: Costs of data collection in some countries	117
Table 16: Costs structure for 3 time-use surveys	117
Table 17: Costs structure for Uganda time-use survey 2017	118
Table 18: Costs structure for Morocco time-use survey 2011-12	118

LIST OF CHARTS

Chart 1: Facsimile of Le Play's time use	21
Charts 2: Time-use surveys (new and repeated) per year	26
Chart 3: Forms of work and the System of National Accounts 2008	35
Chart 4: Summary of major divisions of time-use in national practices	44
Chart 5: The 'equal' distribution of time between sleep, work and free time	45
Chart 6: The unequal distribution of time between necessary, contracted, committed and free time	46
Chart 7: Explanation on how to complete the detailed diary in the 2016 Japan time-use survey, and presentation of results	47
Chart 8: Main differences between ICATUS 2016 and HETUS 2008 in unpaid work	68
Chart 9: Main differences between ICATUS 2016 and HETUS 2008 in volunteer work	69
Chart 10: Diary of HETUS 2018	73
Chart 11: Detailed diary of the 2016 Japan time-use survey	74
Chart 12: The Ghana 2009 Time-Use Survey	74
Chart 13: Example of a light diary: Japan 2016	76
Chart 14: Example of a light diary: Ireland 2005	77
Chart 15: The light diary of the pilot time-use survey of Argentina 2019	79
Chart 16: Stylised questions on the Production of goods for own final use in Mexico	85
Chart 17: Stylised questions on childcare in the Mexico time use survey (ENUT) 2014	87
Chart 18: Stylised questions on care of dependent members of the household in the Mexico time use survey (ENUT) 2014	88
Chart 19: Stylised questions on care of other household members in the Mexico time use survey (ENUT) 2014	89

Chart 20: Stylised questions on childcare in the Ecuador time use survey 2012	91
Chart 21: Distribution of 78 countries by women's activity rates and time spent by women in unpaid care work	94
Chart 22: Distribution of 78 countries by time spent by men and by women in unpaid care work	95
Chart 23: Module on time use Malawi 2013	100
Chart 24: Housework as captured in the LSMS survey in Vietnam 2004	100
Chart 25: The time-use module in the Nepal Living Standard Survey (NLSS) 2010	101
Chart 26: The time-use module of MECOVI 2000 in Guatemala	102
Chart 27: The time-use module on unpaid domestic, care and volunteer work in the annual household survey in urban areas Argentina 2013	103
Chart 28: The module on time allocation of the LSMS household survey in Cambodia 2019	104
Chart 29: Modules and questions on time-use in the Zambia labour force survey 2018	105
Chart 30: Trends in time spent by women in various activities in Ghana from 1991 to 2012 (in minutes per day)	108
Chart 31: Trends in time spent by men in various activities in Ghana from 1991 to 2012 (in minutes per day)	108
Chart 32: The three categories of unpaid care work in Arab countries, Northern Africa and other MENA countries as compared with LMPS and ERF national reports (minutes per day)	110
Chart 33: Unpaid care work and paid work in Arab countries, Northern Africa and other MENA countries collected through diary surveys as compared with Labour Market Panel Surveys conducted in three countries	110
Chart 34: Gender gaps measured by the ratio of women to men in unpaid, paid and total work in two types of surveys	111
Chart 35: Comparisons of time use in Tunisia according to the methodological approach	113

LIST OF BOXES

Box 1: Beijing Platform of Action	30
Box 2: Some definitions of major divisions of time-use	43
Box 3: Criteria and rules used to compile the 202 TUS in 82 countries	53
Box 4: Meta data collected for establishing a typology of Time-use surveys	56
Box 5: Modes of data collection for time-use surveys	63

The background features a teal color scheme with abstract shapes. A large teal circle is partially visible on the left. A light blue circle is partially visible below it. On the right, a large light blue shape with a rounded top edge is present. The bottom half of the page is a solid teal color.

1

INTRODUCTION

Time use surveys have proliferated rapidly in recent years and now influence important public policy debates over issues ranging from infrastructure investment to social spending. Still the question remains on how to make that such surveys be conducted in more countries, with certain regularity and with stronger and more efficient use by policy-makers.

However valuable time-use data may be, the methodology used for data collection remains relatively unstandardized, rendering accurate international comparisons difficult. Particularly significant inconsistencies are apparent between results generated by detailed time diaries filled out by respondents (with or without assistance from an interviewer) and stylized activity lists where respondents designate time devoted to each item. Even where diary-based surveys have been harmonized to some extent, as in the Multinational Time Use Survey project (www.timeuse.org/mtus), classificatory differences can introduce serious discrepancies.

At the same time, the rich variety in classification and implementation of surveys yields important lessons for future improvements. One important precedent—the development of standardized protocols for the System of National Accounts (SNA), suggests that processes of international calibration can take decades (the SNA process remains incomplete in some respects). Debates over the definition and measure of work time parallel debates over the definition and measurement of family income, which often includes imputed components such as estimates of the value of owner-occupied housing (and, indeed, is sometimes extended to include the value of non-market work).

Furthermore, a full understanding of complex constraints and overlaps in time use requires more serious attention to the specification of what, exactly, is being measured. It also requires greater appreciation of a number of nomenclatural ambiguities complicated—in international comparisons—by linguistic differences.

Future time-use survey design could benefit from consideration of these methodological issues. Surveys based on time-use diaries supplemented by stylized questions regarding simultaneous provision of supervisory care represent a hybrid approach that strengthens the case for what are sometimes termed “light diaries” that reduce respondent burden but impose some temporal structure on their responses.

Three specific motives for this project

1. To better interpret results of national time use surveys, especially measures of time devoted to the care and supervision of dependents
2. To improve comparability and methods of harmonization across national surveys
3. To inform future survey design and related tools, in particular for making easier the conduct of such surveys across a broader range of countries at different income levels.

We begin with a brief recall of the history of time-use surveys (section 2), of what have been their main objectives (section 3) and the basic indicators that are used for presentation of their findings (section 4). A typology of time-use surveys is then presented (section 5) that provides an overview of significant methodological differences among time-use surveys administered to nationally representative populations. Some of these differences pertain to technical details, such as the reference period, age categories used or sampling procedures. Some pertain to basic issues of survey design, such as the use of time-diaries in which respondents self-report their activities on a previous day (or days) versus activity lists, in which respondents are prompted to report the amount of time devoted to a set of designated activities. Section 6 discusses the pros and cons of existing international classifications of time-use activities. Sections 7 and 8 respectively discuss the pros and cons of the diary technique and of stylised questionnaires and finally section 9 assesses other (incomplete) time-use surveys carried out as short modules of various multi-purpose household surveys. Section 10 recapitulates the main issues and challenges encountered in conducting and analysing time-use surveys with a special attention to the measurement of care and section 11 summarises the main recommendations for future work in this domain.

The background features abstract shapes in teal and light blue. On the left, there is a large teal circle partially cut off by the edge. Below it is a smaller light blue circle. On the right, there is a large light blue shape that resembles a rounded rectangle or a large arch, also partially cut off. The bottom half of the image is a solid teal color.

2

A BRIEF HISTORY
OF THE NOTION
OF WORK AND OF
TIME-USE SURVEYS

2.1 BRIEF REMINDER OF THE NOTION OF WORK

The definition of production is a subject of debate since a long time among the economists. For long the concept of production as defined by the economists did not include the services. Adam Smith (1723-1790), influenced by the Physiocrats (late 1750s), circumscribed the definition of production to the sole goods. This conception continued with Marx (1818-1883) and the material balances (equivalent to the national accounts) used in the former socialist countries.

But the definition of production, and of work, extended to services will be introduced by Alfred Marshall (1842-1924) who, in its *Economics of Industry* (a work from 1879 written with Mary Paley Marshall, but it is in its 4th edition in 1909 that the question at stake was raised) laid the foundations of the modern conception of the national production (GDP): “Everything that is produced in the course of a year, every service rendered, every fresh utility brought about is a part of the national income. Thus, it includes the benefit derived from the advice of a physician, the pleasure got from hearing a professional singer, and the enjoyment of *all other services which one person may be hired to perform for another*”. Later on, in 1920, in “The Economics of Welfare”, his student Arthur C. Pigou (1877-1959) drew the consequences of the limitative interpretation of Marshall’s ideas, by those who were interested in the measurement of production, to the sole services transiting to the market. He pointed out the paradox of the gentleman who lowers the national welfare when marrying his maid (Part 1, Chapter 3 of his “Economics of Welfare”).

The extension of the notion of production (and subsequently of the notion of work) to the whole category of services was taken over by feminist economists such as Margaret Reid in her “*Economics of Household Production*” in 1934 where she states that “if an activity is of such character that it might be delegated to a paid worker, then that activity shall be deemed productive”. Some of the economists who founded the system of national accounts, addressed the issue of housework valuation (Kuznets, 1941; Clark, 1958), but it was up to Gary Becker’s (1965, 1981) theoretical works to root them into the framework of economic theory.

Marilyn Waring (1988) is the author of an influential book (“*If Women Counted: A New Feminist Economics*”) later republished (1999) under the title “*Counting for Nothing: What Men Value and What Women Are Worth*”) that summarises the situation: women’s work is neglected by the National Accountants (‘what men value’) who do not take into account the entire domestic and care work mainly done by women (‘what women are worth’). But how to measure domestic and care work as there is no price fixed by the markets? Marshall’s vision, however, opened the door to such a valuation provided that these services are subjects of transactions on the market. Still had to be measured the quantities of services or at least the number of hours and days dedicated to these activities. Time-use surveys that the Beijing Conference (1995) contributed to put back on the front of the stage have become today the essential tool for accurately assessing women’s unrecognized and unregistered work, and the past recent years have seen the rapid development of this type of surveys.

2.2 BRIEF HISTORY OF TIME-USE SURVEYS

Several scholars have presented the history of time-use surveys (among others Szalai 1972, Chenu and Lesnard 2006, Michelson 2016 first published in 2006). The present piece is built on the works of these predecessors, but with a particular and developed focus on what we owe to a great precursor, Frédéric Le Play (1806-1882) and then on the more recent period with the rise of time-use surveys since the Beijing Conference on Women in 1995.

Szalai dates from 1913 the first systematic tentative time budget survey, when Georges Bevens published at Columbia University “How working men spend their spare time” based on a small survey. Shortly after several surveys were conducted for measuring the use of time by farm families. And as a matter of fact, it was often for the measurement of time spent in the various agricultural tasks that such surveys of time were conducted.

However it seems that the first attempts to measure time spent in various economic activities can be attributed to a French engineer and precursor of Sociology, Frédéric Le Play (1806-1882), who published, in 1855, “*Les ouvriers européens*” (The European workers), in which he presents 57 quantitative and qualitative monographs of factory workers and their families in various industries and in various countries of Northern, Eastern, Southern and Western Europe. It is the first systematic attempt to establish the precise accounts of income and expenditures at family level. Interestingly, work performed by family members is considered as a major source of income and it is amazing to recognise that the conceptual and methodological bases of the measurement of time use are already present in the reflexions of this author.

57 monographs of European workers (North, East, South and West of Europe)

In Northern Europe for example the sample is comprised of:

- a blacksmith in Dannemora (Sweden)
- a worker in a foundry in a cobalt factory in Buskerud (Norway)
- a worker in a mine of Hartz (Hanover)
- a fisherman in the Island of Marken (Netherlands)
- a gunsmith in Solingen (Westphalia)
- a knife-maker in London, and another one in Sheffield
- a furniture maker in Sheffield
- a foundry worker in Derbyshire

The following example is extracted from the monograph of a family whose father is working as a blacksmith in a metal factory at Dannemora (Sweden).

Le Play establishes the budget of receipts for the year: To this aim, he lists 1) the sources of receipts: value of domestic animals, equipment; 2) the subventions received by the family from the factory owner: Free housing from the owner, free garden from the owner; rights of usage on the ownerships of the owner (game, wild fruit, firewood); benefits/allowances of goods and services (food, school, health, insurances); 3) the

revenues from ownership: interest on land (none), animals (6%), equipment (5%), hunting rifle (5%). Then in a specific table entitled “Tasks designation and time use” Section III: work performed by the family and measured in terms of number of days per year for the father, the mother and 2 eldest sons, Le Play distinguishes between main work of the father, main work of the mother, and secondary works distributed between the family members. Then imputing a salary to each of these activities (with the exception of household works for which he notes that it is not possible to do so) and distinguishing between in kind and in cash receipts, he values the workdays performed in the various activities by the various members of the family.

This being done, the author measures the expenditures of the family as regard food, housing, clothing, moral needs-recreation and health, industries-debts-taxes and insurance, from which he is finally able to infer the savings.

Below are the copies of the original extracted from the book dated from 1855 (French National Library) and from the second edition (1879) and our translation.

Chart 1: Facsimile of Le Play’s time use

DÉSIGNATION DES TRAVAUX ET DE L'EMPLOI DU TEMPS.	QUANTITÉ DE TRAVAIL EFFECTUÉ		
	père	mère	2 fils aînés
	journées	journées	journées
SECTION III.			
Travaux exécutés par la famille.			
TRAVAIL PRINCIPAL, exécuté à la tâche, au compte du patron :			
Fabrication du fer forgé (méthode wallonne).....	288	»	»
TRAVAIL PRINCIPAL, spécial à la femme, exécuté au compte de la famille :			
Élaborations diverses du lin et de la laine jusqu'à leur transformation en vêtements.	»	136	»
TRAVAUX SECONDAIRES :			
Travaux de ménage : Préparation des aliments, soins donnés aux enfants, soins de propreté concernant la maison et le mobilier, entretien et blanchissage des vêtements et du linge.....	»	105	100
Culture du jardin.....	10	12	10
Soins donnés aux animaux domestiques.....	»	21	10
Abatage du bois de chauffage pour le ménage.....	6	»	»
Chasse.....	6	»	»
Récolte de fruits sauvages.....	»	4	8
Entretien de la maison et du mobilier.....	8	»	»
Travaux divers exécutés chez les tenanciers voisins (lors des récoltes).....	6	46	92
NOTA. — Les deux fils aînés exécutent la plupart de leurs travaux comme auxiliaires de la mère.			
TOTAUX des journées de tous les membres de la famille...	324	325	220

Extract from the 2nd edition (Tome III, page 16)

TRAVAUX EXÉCUTÉS PAR LA FAMILLE.		3 ^e SECTION.		SALAIRES.		
ART. 1 ^{er} . TRAVAUX DE L'OUVRIER.		NOMBRE de journées.	ÉVALUATION du capital des salaires.	(Non compris la portion des salaires considérée comme le bénéfice des spéculations du tâcheron.)		
TRAVAIL PRINCIPAL, exécuté à la tâche, au compte du patron :				SALAIRE par journée.	SALAIRES TOTAUX reçus en nature.	SALAIRES TOTAUX reçus en argent.
Fabrication du fer forgé (méthode wallonne).....		288	7,776' 00	1' 80	#	518' 40
TRAVAUX SECONDAIRES :						
Culture du jardin.....		10	135 00	0 90	9' 00	#
Abatage du bois de chauffage pour le ménage.....		6	162 00	1 80	10 80	#
Chasse.....		6	81 00	0 90	5 40	#
Entretien de la maison et du mobilier.....		8	108 00	0 90	7 20	#
Travaux divers exécutés chez les tenanciers voisins (lors des récoltes).....		6	189 00	1 40	12 60	#
TOTAL des journées de l'ouvrier.....		324		0 70		
ART. 2. TRAVAUX DE LA FEMME.				TOTAL des salaires de l'ouvrier.....		
TRAVAIL PRINCIPAL, spécial à la femme, exécuté au compte de la famille :				45 00	518 40	45' 00
Élaborations diverses du lin et de la laine jusqu'à leur transformation en vêtements.....		136	958 80			
TRAVAUX SECONDAIRES :						
Travaux de ménage : Préparation des aliments, soins donnés aux enfants, soins de propreté concernant la maison et le mobilier, entretien et blanchissage des vêtements et du linge.....		106	#			
Culture du jardin.....		12	84 60			
Soins donnés aux animaux domestiques.....		21	148 05			
Récolte de fruits sauvages.....		4	42 00			
Travaux divers exécutés chez les tenanciers voisins (lors des récoltes).....		46	883 20			
TOTAL des journées de la femme.....		325				
ART. 3. TRAVAUX DES DEUX FILS AÎNÉS.				TOTAL des salaires de la femme.....		
Les deux fils aînés exécutent la plupart de leurs travaux comme auxiliaires de la mère.				0' 47	63' 92	#
Travaux de ménage.....		100	#			
Culture du jardin.....		10	54 00			
Soins donnés aux animaux domestiques.....		10	54 00			
Récolte de fruits sauvages.....		8	56 40			
Travaux divers exécutés chez les tenanciers voisins.....		92	800 40			
TOTAL des journées des deux fils aînés.....		220				
TOTAL des journées de la famille.....				108 91	32 20	108 91
VALIERS TOTAUX à attribuer au capital des salaires.....			11,532 45			
				ART. 3. SALAIRES DES DEUX FILS AÎNÉS.		
				(Aucun salaire ne peut être attribué à ces travaux.).....		
				0' 36	3' 60	#
				0 36	3 60	#
				0 47	3 76	#
				0 29	26 68	26' 68
				0 29		
				37 64	26 68	37 64
				191 55		577 28

Extract from 1st edition (page 92).

Designation of works and time use	Quantity of work done (in days per year)		
	Father	Mother	2 eldest sons
Section III: Works performed by the family			
Main work, by the task for the account of the owner of the factory	288		
Main work, specific to the woman, performed for the account of the family: various flax and wool processing operations until their transformation into clothes		136	
Secondary activities			
• Household work: Food preparation, care for children, cleaning of the house and furniture, maintenance and laundry of clothes and linen		107	100
• Garden crops	10	12	10
• Animal husbandry		21	10
• Firewood for the household	6		
• Hunting	6		
• Wild fruit harvesting		4	8
• House and furniture maintenance	8		
• Various works performed for the neighbours (for crops)	6	46	92
TOTAL of days for all family members	324	326	220

Note: The two eldest sons perform most of their tasks as mother's helpers

As we see on the above table, the economists in these times did not dispute/refuse the economic character of the household work, which in the specific example is labelled as secondary activities only because the woman is engaged in a primary activity of production of goods for own final use by the household. In other monographs where this is not the case, the household work is not presented as “secondary” but as the main activity, the production of goods for own final use becoming “secondary”. Interestingly it can be noted that in most of the 57 monographs, the number of women’s workdays exceeds the number of men’s workday in a year and also that the total number of workdays spent in what we would call today “unpaid work” and the “production of goods for own final consumption by the household” exceeds the number of workdays spent in “paid work”.

In the same vein Nancy Folbre (1991) recalls that the 1875 Census of Massachusetts listed housewife as a productive occupation as opposed to “not engaged wives merely ornamental”.

Coming back to the history of time-use surveys the experience of Bevans in 1913 goes beyond the measurement of time use for work and introduces the measurement of time dedicated by the working classes to other activities than work.

But it is in the USSR that for planning purposes, time use began to be systematically measured on representative samples, in a comparative perspective and using diaries. In the early 1920s Stanislav Strumilin launched a survey on industrial workers in 76 families (with 267 respondents) in three cities, extended to 10 cities (311 families, 625 respondents) in 1923-24. Other surveys were extended to clerical workers, farmers, the unemployed (Zuzanek, 1980). The objectives were to study the standards of living of the working class, the productivity at work, the improvement of technical skills and the cultural interests of the population. Detailed categories of time were distinguished, but finally aggregated into three main categories evenly distributed: work, sleep and rest (free time). “A major aim of these surveys was to measure the temporal weight of housework, a category of activity that the soviet regime perceived as archaic and planned to reduce by organizing collective services and cultural activities” (Chenu and Lesnard 2006).

In the 1930s, various ad hoc surveys are conducted in the US. In Particular, Pitirim Sorokin, a student of Strumilin, who migrated to the US, attempted to collect empirical data to illustrate the sociological theorisation of time he had developed with Merton (Sorokin and Merton 1937).

From 1947 to 1958 the National Institute of Demographic Studies (INED) in France conducted three time-use surveys focusing on occupational and domestic workloads among married women by number of children, and three more up to 1998 (Chenu and Lesnard, art. cit.).

In the US and Japan, it was then (in the 1950s and 1960s) up to the broadcasting companies to carry out time use surveys in order to measure the time spent listening to radio or watching TV.

In the early 1960s, Alexander Szalai (1972) launched and conducted the Multinational Comparative Time-Budget Research Project (1965-1972) at the European Coordina-

tion Center for Research and Documentation in the Social Sciences, in Vienna. It was carried out in medium-sized cities of 12 countries (Bulgaria, Czechoslovakia, the German Democratic Republic, Hungary, Poland, the U.S.S.R. and Yugoslavia in the East; Belgium, France, the Federal Republic of Germany, Peru and the USA in the West) with the perspective of reducing the East/West divide, both parties having a tradition in this domain. The edited book (Szalai ed. 1972) is simultaneously a manual of Time use surveys (diaries and classification in 99 activities) and a presentation of empirical results highlighting what would become commonalities in the study of time use: for example the lower the educational level of man, the lower his participation to household work, or some national specificities such as the longer mealtime in France compared to all other countries (Chenu and Lesnard, *ibid*).

“Still, the increase in time use surveying has been limited because collecting and coding activity diary responses continue to be extremely expensive operations and the matter of result analysis remains ‘rather esoteric’ (Gershuny 2000)” (quoted by Chenu and Lesnard, *ibid*).

Further to the Szalai’s project, the International Association of Time Use Research (IA-TUR) was created and one of its prominent figures, Jonathan Gershuny, implemented the Multinational Time Use Study (MTUS), which gathered and harmonised the analyses of time use surveys for 24 countries and over 30 years.

But the real start of time use surveys at national level can be dated from the end of the 1960s and the beginning of the 1970s with the surveys of Belgium (1966), Norway (1970), France (1974). Table 1 hereafter lists the national surveys carried out since then across the world and Chart 2 shows the acceleration of their implementation after the Beijing Conference on Women in 1995, which recommended these surveys in its Platform of Action. Table A5 in annex indicates the past and future surveys planned for the 34 participating countries to the European Social Survey Programme, for its HETUS dimension.

The history of time use surveys would be incomplete if not mentioning the work of nutritionists who try to measure time (with stopwatches) and intensity of the various human activities in order to better know the energetic needs.

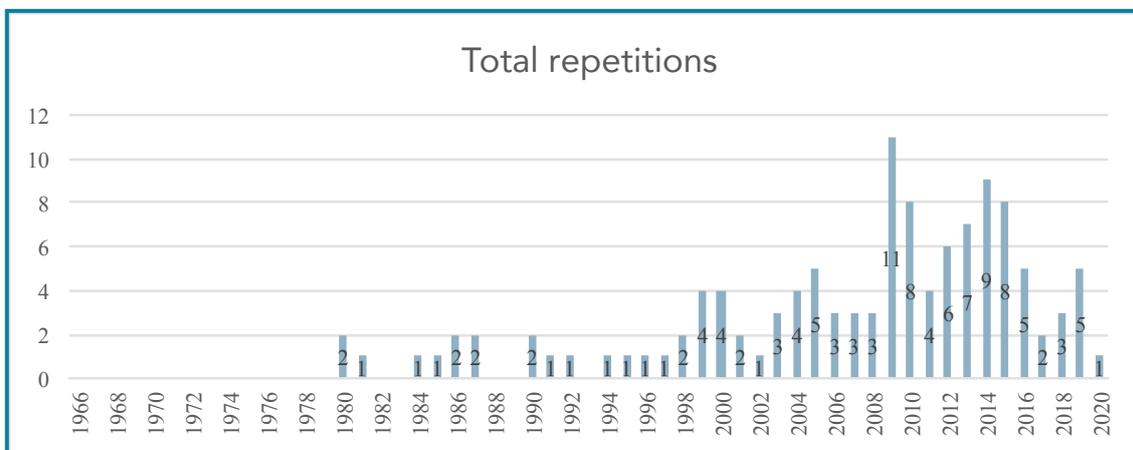
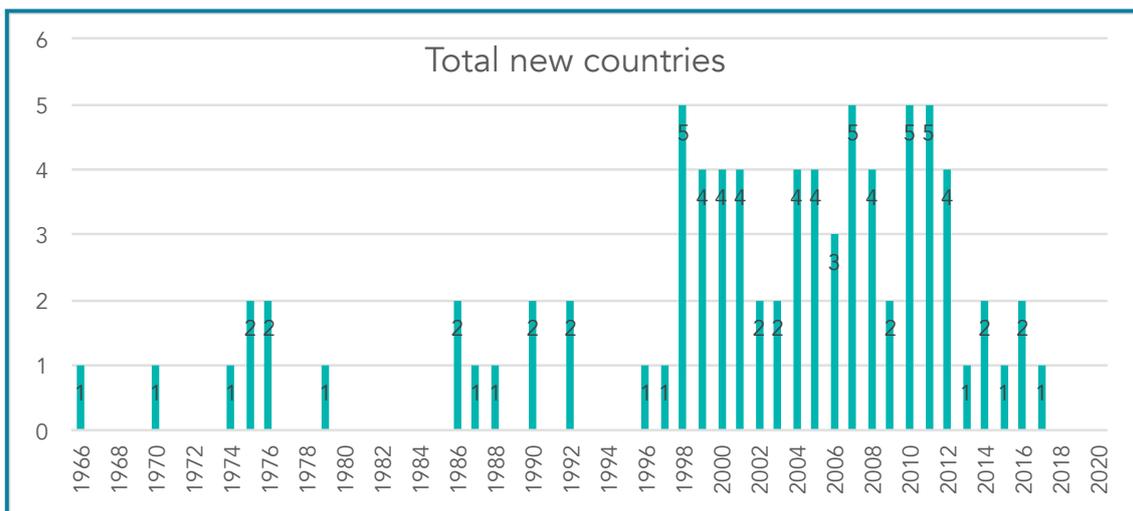
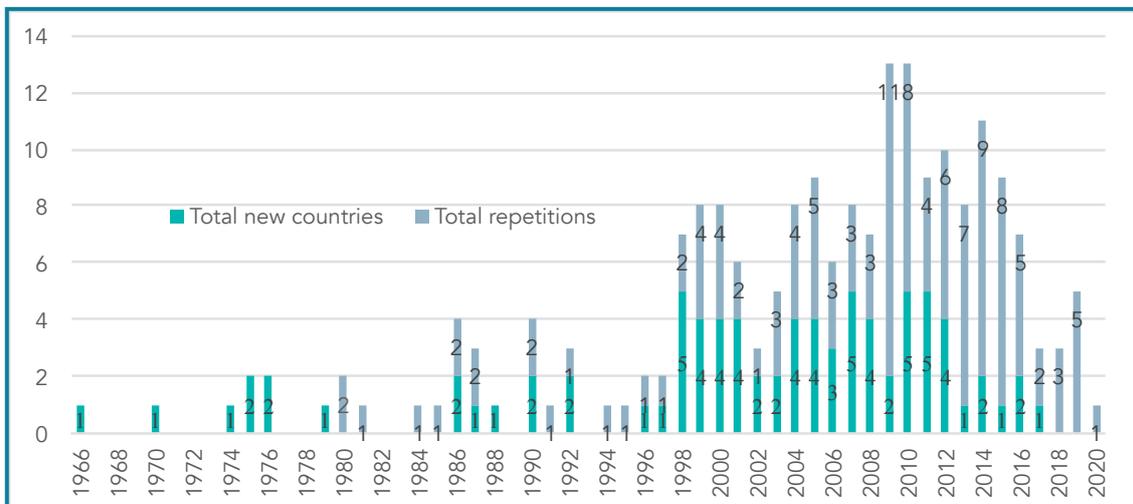
And finally connected watches allow now collecting data on time spent in walking and moving in various contexts.

Table 1: List of time-use surveys by year and region: 82 countries, 202 surveys

North Africa (3 countries /3 surveys)	Arab countries (4 countries /5 surveys)	Sub-Saharan Africa (11 countries /15 surveys)	Eastern Asia (5 countries /24 surveys)	South-Eastern Asia and the Pacific (4 countries /10 surveys)	Southern Asia (3countries /4 surveys)	Central and Western Asia (5 countries /9 surveys)	Latin America (15 countries /26 surveys)	Northern, Western and Southern Europe (24 countries /70 surveys)	Eastern Europe (6 countries/12 surveys)	Northern America (2 countries /24 surveys)
Algeria (2012)	Iraq (2007)	Benin (1998) (2015)	China (2008) (2018)	Australia (1992) (1997) (2006)	India (1998-99) (2019)	Armenia (2008)	Argentina (Buenos Aires) (2005)	Albania (2010-11) Austria (1992) (1998) (2008-09) Belgium (1966) (1999) (2005) (2013)	Belarus (2014-15)	Canada (1986) (1992) (1998) (2005) (2010) (2015) (2020)
Morocco (2011-12)	Oman (2007-08)	Cameroon (2014)	Japan (1976), (1981) (1986) (1991), (1996) (2001) (2006) (2011) (2016)	Cambodia (2004)	Iran, Islamic Rep. of (2009)	Azerbaijan (2008) (2012)	Brazil (2016) (2017) (2018)	Denmark (1975) (1987) (2001) Estonia (1999-2000) (2009-10) Finland (1979) (1987) (1999) (2009)	Bulgaria (2001-02) (2009-10)	United States (2003) (2004) (2005) (2006) (2007) (2008) (2009) (2010) (2011) (2012) (2013) (2014) (2015) (2016)
Tunisia (2005-06)	Occupied Palestinian Territory (1999-2000) (2012-13)	Cabo Verde (2012)	Korea, Rep. of (1999) (2004) (2009) (2014) (2019)	New Zealand (1998-99) (2009-10)	Pakistan (2007)	Kazakhstan (2006) (2012)	Chile (2015)	France (1974) (1986) (1999) (2010) Germany (2011-12) (2012)	Hungary (1986-87) (1999-2000) (2009-10)	United States (2003) (2004) (2005) (2006) (2007) (2008) (2009) (2010) (2011) (2012) (2013) (2014) (2015) (2016)
	Qatar (2012-13)	Ethiopia (2013)	Mongolia (2007) (2011) (2015) (2019)	Thailand (2001) (2004) (2009) (2014-15)		Kyrgyzstan (2010) (2015)	Colombia (2012-13) (2016-17)	Greece (2011-12) (2013-14)	Moldova (2011-12)	
		Ghana (2009)	Taiwan (1987) (1994) (2000) (2004)			Turkey (2006) (2014-15)	Costa Rica (2004) (2017)	Ireland (2005)	Poland (1976) (1984) (2003-04) (2013)	
		Madagascar (2001)					Cuba (2001) (2016)	Italy (1988-89) (2002-03) (2008-09) (2013-14)	Romania (2011-12)	
		Mali (2008)					Dominican Rep. (2016)	Latvia (1996) (2003)		
		Mauritius (2003) (2018-19)					Ecuador (2005) (2007) (2012)	Lithuania (1990) (2003) Luxembourg (2014)		
		South Africa (2000) (2010)					El Salvador (2010)	Macedonia, Former Yugoslav Rep. of (2004) (2009) (2014-15)		
		Tanzania, United Rep. of (2006) (2014) (2018)					Mexico (2002) (2009) (2014) (2019)	Netherlands (1975) (1980) (1985) (1990) (1995) (2000) (2005-06) (2010-11) (2015-16)		
		Uganda (2017-18)					Nicaragua (1998)	Norway (1970) (1980) (1990) (2000) (2010)		
							Panama (2011)	Portugal (1999) (2015*)		
							Paraguay (2016)	Serbia (2010-11)		
							Peru (2010)	Slovenia (2000-01)		
							Uruguay (2007) (2013)	Spain (2002-03) (2009-10) Sweden (1990-91) (2000-01) (2010-11)		
								Switzerland (1997) (2000) (2004) (2007) (2010) (2013) (2016)		
								UK (2000) (2005) (2015)		

Note: Portugal 2015 TUS is based on a quota sample and cannot be compared with 1999 because the data cannot be weighted by total population in order to reconstitute a 24-hour day. In yellow, surveys added since previous compilation by the author (Charmes, 2019), in red surveys added since previous compilation but not taken into account in the global analysis of time, in italics surveys not yet published.

Chart 2: Time-use surveys (new and repeated) per year





3

OBJECTIVES
OF TUS

The implementation of time-use surveys (TUS) at national level is not recent. Some countries have conducted their first TUS as early as 1966 (Belgium), 1970 (Norway) or 1974 (France) and Table 1 and Charts 2 supra provide the distribution of TUS across the world and over the years since then. But it is the Beijing Conference on Women in 1995 that gave an impetus to data collection by setting two main goals for these surveys in view of supporting and reinforcing the advocacy towards gender equality. Charts 2 clearly illustrate the rapid increase of new time use surveys (and of their repetitions) after 1995. It should be noted that the apparent slowdown in the recent years might be due to the fact that recently implemented surveys may be not yet known.

Following the 4th revision of the System of National Accounts (SNA) in 1993 that developed an extended notion of work through the definition of the general production boundary (inclusive of unpaid services for own final consumption by the households) to be distinguished from the SNA production boundary and that shyly suggested the elaboration of satellite accounts of household production¹, the Beijing Platform of Action in 1995 identified ‘Women and Poverty’ and ‘Women and the Economy’ as two main critical areas of concern. It would be probably more exact to say that the preparatory reflections and works on women’s equality and empowerment had even before started to exert an influence on the tools for measuring economic performance. Actions were consequently defined within three Strategic Objectives. The first type of actions was to develop methodologies and research addressing the feminization of poverty (Strategic Objective A.4). A second type of actions was to develop methods for assessing in quantitative terms the value of unremunerated work (particularly in caring for dependents and in running family farms and businesses) “for possible reflection in accounts that may be produced separately from, but consistent with, core national accounts” (Strategic Objective F.1). The third type of actions was policy-oriented in order to determine progress in gender equality “in the way people divide their time between, and derive benefits from, paid employment, family responsibilities, volunteer activity and other socially useful forms of work, rest and leisure” (Strategic Objective F.6).

In the following years, the two first macro-objectives (time poverty and national time accounts) prevailed among time-use researchers and users and justified the implementation of time-use surveys in developing countries, whereas the reflections on, or the design of policies and measures for alleviating the time spent by women in unpaid care work remained rather confined to developed countries.

1 The production boundary is discussed in para 1.20 to 1.24, 6.14 to 6.36 of SNA 1993, and then briefly in para 21.18 for satellite account purpose. Previous versions of the SNA (1968, 1964, 1960, and 1953) did not make such a distinction between the general production boundary and the SNA production boundary. The 1968 revision did not even discuss the notion of production boundary. The prior versions (for instance SNA 1964) just settled for enumerating these activities of the households that should be included in the definition of production: production of agricultural products for own final consumption (para 27 of SNA 1964), a rule extended to all primary production (that is agriculture, forestry, hunting, fishing, mining and quarrying), and home-ownership regarded as a trade. Para 29 specifies “The following rules have as their object the inclusion in production of household activities that are clearly akin to those which are usually undertaken in enterprises and the exclusion of those for which the analogy with enterprises becomes tenuous and which do not lend themselves to any precise definition”.

Box 1: Beijing Platform of Action

Beijing Platform of action (4th World Conference on Women, Beijing 1995)

Among the Critical areas of concern and the main strategic objectives and actions identified by the Conference:

Women and poverty

Strategic objective A.4: Develop gender-based methodologies and conduct research to address the feminization of poverty

Actions to be taken by national and international statistical organizations:

- Collect gender and age-disaggregated data on poverty and all aspects of economic activity and develop qualitative and quantitative statistical indicators to facilitate the assessment of economic performance from a gender perspective;
- Devise suitable statistical means to recognize and make visible the full extent of the work of women and all their contribution in the unremunerated and domestic sectors and examine the relationship of women's unremunerated work to the incidence of and their vulnerability to poverty.

Women and the economy

Strategic objective F.1: Promote women's economic rights and independence, including access to employment, appropriate working conditions and control over economic resources

Actions to be taken by Governments

g) Seek to develop a more comprehensive knowledge of work and employment through, inter alia, efforts to measure and better understand the type, extent and distribution of unremunerated work, particularly work in caring for dependents and unremunerated work done for family farms or businesses, and encourage the sharing and dissemination of information on studies and experience in this field, including the development of methods for assessing its value in quantitative terms, for possible reflection in accounts that may be produced separately from, but consistent with, core national accounts;

Strategic objective F.6: Promote harmonization of work and family responsibilities for women and men

Actions to be taken by Governments

- f) Examine a range of policies and programmes, including social security legislation and taxation systems, in accordance with national priorities and policies, to determine how *to promote gender equality and flexibility in the way people divide their time between and derive benefits from education and training, paid employment, family responsibilities, volunteer activity and other socially useful forms of work, rest and leisure.*

3.1 MEASUREMENT OF TIME POVERTY

The basic assumption lying behind the concept of time poverty is that the high burden of women (compared to men) in unpaid care work (in terms of number of hours in a day) prevents them to devote more hours (if any) to paid work and therefore maintains them in poverty as measured in monetary terms or in multidimensional terms. It also implies an impact of overwork (both paid and unpaid) on leisure and personal care, especially sleep and rest.

Three main issues are to be solved:

1. How to measure poverty at individual level (and not only at household level)?
2. How to measure the level at which the number of hours spent in unpaid work impacts the number of hours spent in paid work and the number of hours spent in personal care and/or leisure?
3. How to take into account that being more involved in paid work is not a positive achievement per se and in particular how to distinguish between formal paid work and informal paid work?

Measuring poverty: minimum kilocalories intakes (nutrition or budget-consumption surveys), food and non-food expenditures in monetary terms, income from work and salaries, measures of deprivation in terms of ownership of assets, access to basic services (in terms of time or distance) are the usual measurement tools. Except salaries, all other variables are difficult to individualise. Even nutrition is measured at household level by capturing the number of calories in food items prepared for meals and for the attending family members. Income from farm or from enterprise is generally attributed to the household head (except if several enterprises can be distinguished among the members of a same household) and expenditures - often taken as a proxy for income - are not collected individually (only the final destination of some items can be determined). As to the access to basic services, access to clean water and to clean sources for fuel (electricity), it is a useful approach in that such access can save time devoted to fetching water and firewood (or other sources of fuel) that are mainly feminised tasks.

Access to education and health facilities has also a great impact on women's time use, particularly in rural areas. But generally, and as a consequence of the difficulty of individualisation, if a household is poor, all the household's members are poor. This is why research tended to focus analyses on disaggregating by sex the characteristics of poor households' members.

To tackle this issue and try to engender income and expenditures at household level, *the household's head* has also been taken as the adequate unit of observation. But the household head is a social, cultural and sometimes (if not often) misleading concept. If income were individually collected, the household head could be defined as the member who earns significantly more than the others. But generally female household heads are the widows, the divorced, the single mothers who are, as such, particularly subject to social exclusion and consequently to poverty and vulnerability. It has often been shown that the proportion of female-headed households is significantly higher below the poverty line. However, this is not always true and where it is observed, it may be underestimated because of some specific cases, for instance spouses of polygamous who constitutes separate households according to the methodology of household surveys in some countries, or spouses of migrants receiving significant remittances.

How to define time poverty?

The first author who tentatively defined and measured time poverty is Vickery (1977) who compiled time thresholds in hours per week for various activities (food activities, house care, care of clothing, family care, marketing/management) and for various types of households (two adults or one adult with 0, 1, 2-3, 4-5, 6+ children): thresholds range from 31 hours for one adult with 0 children to 74 hours for two adults with 6 and more children². Then these thresholds are estimated in monetary terms and compared with the minima required to reach the poverty line. But the approach still remains at household level.

Bardasi and Wodon (2006) also define time poverty as the lack of time left for rest and leisure due to an excess of time spent at work (paid and unpaid) or as they put it in another way: "individuals who are extremely pressed for time are not able to allocate sufficient time for important activities, and are therefore forced to make difficult trade-offs". They calculate the time poverty gap on the model of the income poverty gap: "it represents the mean distance separating the population from the time poverty line, with the non-time poor being given a distance of zero. This measures the time deficit of the entire population, i.e. the amount of time that would be needed to shift all individuals who are time poor below a given time poverty line through perfectly targeted 'time transfers'" (Ibid: 74).

The probably most thoughtful and best tested method for measuring time poverty gaps is the Levy Institute Measure of Time-Income Poverty (LIMTIP) that was applied to Argentina, Chile and Mexico (Zacharias 2011; Zacharias et al. 2012), and later on, Turkey. In the identity:

$$168 = L_i + U_i + C_i + V_i$$

2 The value of household production is consequently considered up to a certain threshold, implying that if a household produces more services above that threshold, it has no effect—it cannot compensate for a shortfall in market income: an assumption that can be disagreed (Nancy Folbre, personal communication).

L denotes the time spent in income generation (wage- or self-employment), U the time spent in household production, C the time spent in personal care and V the time available as 'free time', the time deficit being derived by replacing the variables with the threshold values for personal care (M) and (non-substitutable) household production (R) and taking into account commuting time. The time deficit of a working age individual:

$$X_{ij} = 168 - M - a_{ij}R_j - L_{ij}$$

is the notional time (in number of hours per week) available for income-generation and 'leisure' and the parameter a captures the related gender disparities. "Time deficit/surplus accruing to the individual (is defined) as the excess or deficiency of hours of income-generating activity compared to the notional available time" (defined as "the difference between the total hours in a week and the sum of the minimum required time that the individual has to spend on personal care and household production") (Zacharias et al. 2018b: 24). The LIMTIP is therefore an individual measure of time poverty from which is derived an aggregated time deficit at household level. A crucial difference with the mainstream literature is that "the time deficit of an individual in the household (is not allowed) to be compensated by the time surplus of another individual of the same household" (ibid: 25). Taking into account that time deficits in household production can be compensated by market substitutes, an estimate of the deficit at replacement cost can be used to generate an 'adjusted' threshold: consequently, the LIMTIP is indeed a measure of time and income poverty. The authors consider "the household to be income-poor if its income is less than its adjusted threshold, and (...) the household (is said) time-poor if any of its members has a time deficit. (...) and) the individual in the household (is) deemed (...) to be income-poor if the income of the household that they belong to is less than the adjusted threshold, and (to be) time-poor if (he/she) has a time deficit" (ibid: 26).

Of course difficulties arise when it comes a) to measuring the levels of thresholds (an exercise that remains largely subjective: personal care and non-substitutable household activities were estimated at 100 hours per week in Chile, 94 in Argentina, 93 in urban Mexico and 99 in rural Mexico), b) to taking the contribution of paid domestic workers into account, and c) to matching the data from different surveys (as time-use and income-expenditures data are not collected through a single survey).

More recently Nazier and Ezzat (2018a and b) attempted a measurement of time poverty for Egypt and Tunisia, based on the results of the Labour Market Panel Surveys carried out by the Economic Research Forum (ERF). An individual is considered time-poor if total work time per week (paid formal or informal, primary and secondary, including housework, care work and commuting) is greater than a certain pre-determined time poverty line: a lower threshold is equal to 1.5 times the median number of total individual working hours and a higher threshold at 2 times the median.

However, these exercises generally face the absence of reliable data collected on income and time-use in a single survey and the study of the relationship between time poverty and income poverty needs indeed to be conducted at micro level. On one hand time-use surveys capture income either through subjective questions on income brackets or direct questions on various sources of income and on the other hand income-expenditures surveys rarely capture time-use, and if they do, not otherwise than

by short and incomplete lists of stylised questions. In this regard the Tanzania 2018 time-use survey attached to the household budget-consumption survey could be a first in developing countries. The LIMTIP copes with this difficulty by matching the data from two different surveys but this is a second best compared with the availability of micro data for both income and time-use.

Interesting as they are, such measures remain somewhat academic exercises and for advocacy purposes it may be better to stick to more meaningful descriptive statistics extracted from time-use surveys: for instance comparing time spent in personal care or in leisure on the one hand, and in paid work and unpaid care work on the other hand, by sex and by number (and age) of children in the household. Time spent by participants in unpaid care work (no other household duties) by sex can also be enlightening as it clearly distinguishes households with children from the rest of the population of households.

3.2 NATIONAL TIME ACCOUNTS AND SATELLITE ACCOUNTS OF HOUSEHOLD PRODUCTION

Among the obstacles toward achieving gender equality on the labour market and breaking the glass ceiling that prevents women to progress as rapidly as men in their job and career, the burden of homework and care-work is one of the most insidious because it remains widely invisible, is still not well informed and is not actually taken into account by policies. Recent research by ODI for example (Samman et al., 2016) has emphasised the global childcare crisis.

Attempts to building satellite accounts of **household production** are not new. Since the seminal works by Margaret Reid (1936), then Gary Becker (1965 and 1981), and the striking firebrand by Marilyn Waring on ‘what men value and what women are worth’ (1988), and thanks to the early **time use surveys** conducted in Europe and other developed countries, scholars have proposed methods (Goldschmidt-Clermont, 1982; Ironmonger, 1993) for valuing **housework** and **care work** and compare their value with the current GDPs. But it is with the 4th revision of the System of National Accounts in 1993 (SNA, 1993) that it was suggested to build satellite accounts of household production, and a detailed methodology was proposed by Varjonen et al. (1999 and 2014). More recently, the Stiglitz, Sen and Fitoussi report on the Measurement of Economic Performance and Social Progress (2009) made of such a valuation one of the orientations towards more comprehensive GDPs. In the most recent period, countries such as Tunisia (2006), Ecuador (2007-10), Peru (2010), Morocco (2014), Benin (2015) and Hungary (2016) have conducted time-use surveys in order to progress towards such evaluations and a country like Mexico computed a satellite account of unpaid work in the households for several years (INEGI, 2014).

Ironmonger (2000) defines the concept of household production as “the production of goods and services by the members of a household, for their own consumption, using their own capital and their own unpaid labour. Goods and services produced by households for their own use include accommodation, meals, clean clothes, and childcare.

The process of household production involves the transformation of purchased intermediate commodities (for example, supermarket groceries and power-utility electricity) into final consumption commodities (meals and clean clothes). Households use their own capital (kitchen equipment, tables and chairs, kitchen and dining room space) and their own labour (hours spent in shopping, cooking, laundry and ironing). »

Ironmonger’s definition fits with that of national accountants for whom the concept of unpaid work mainly refers to the household chores (meals preparation and maintenance of the household as well as child care and care of other members of the household), that is, all activities of services that household members perform for the own final use by the household. Since the production of goods for own final use has been included into the compilation of GDP (ever since the 4th revision of the System of National Accounts in 1993, and even since the earlier revisions for activities such as water or firewood fetching), these activities should be considered as paid work. More recently, community services and help to other households (volunteering activities) have become a concern and have been added as a component of unpaid work. Therefore, unpaid work is mainly comprised of three sets of activities: 1) domestic services for own final use within the households, 2) unpaid caregiving services, 3) community services and help to other households. These three categories of activities are clearly identified in the last revision of the International Classification of Activities for Time Use Statistics (ICATUS) (UNSD, 2012, 2016).

The 2013 ICLS resolution I (ILO 2013) tentatively addressed the potential and often existing divergences between SNA and the labour force concepts by distinguishing several forms of work and especially: employment, own-use production work (including own use production of goods and services), volunteer work (including organization-based and direct volunteering to produce goods and services for others). Separately, the labour force classification determines the labour force status of the population with reference to a person’s relation to employment (as more narrowly defined). The SNA 2008 framework excludes services from the measurement of GDP for these two latter sets (Chart 3 below). Although it does not appear among the points in discussion for the future revisions of the SNA, the application of these new definitions could mark a step towards the future enlargement of the scope of SNA to the production of services for own consumption by the households (the unpaid care work).

Chart 3: Forms of work and the System of National Accounts 2008

<i>Intended destination of production</i>	<i>for own final use</i>		<i>for use by others</i>					
	Own-use production work		Employment (work for pay or profit)	Unpaid trainee work	Other work activities	Volunteer work		
<i>Forms of work</i>	of services	of goods				in market and non-market units	in households producing goods	services
<i>Relation to 2008 SNA</i>			<i>Activities within the SNA production boundary</i>					
	<i>Activities inside the SNA General production boundary</i>							

Source: Resolution 1 concerning statistics of work, employment and labour underutilization, 19th ICLS, ILO Geneva, 2013.

If unpaid work – as measured by time-use surveys – is to fit with the non-measurement in the GDP, it should be restricted to the activities that are inside the SNA general production boundary but outside the SNA production boundary (in lighter grey on Chart 3). But clearly the production of goods for own final use or for other households (volunteer work) is also included in the definitions of unpaid work used in Latin America in particular, but also elsewhere, all the more so as subsistence production accounted for in the compilation of GDPs in developing countries is not generally directly determined by employment statistics (the number of subsistence farmers), but indirectly by an assumption on the share of the production that is deemed to be marketed and the share that is kept for own final use by the households.

Finally, international statistical frameworks have become more flexible to meet multiple uses without prioritizing one over another. This means they are no longer being designed to be 1-to-1 match between, say employment and SNA production, but rather built as building blocks, with categories that can be re-grouped to enable mapping to different economic or social classifications, and to produce different types of indicators as relevant for macro-economic, employment, social policy purposes, etc.

In all regions of the world and in all countries, women's contribution to "unpaid work" – that is these activities provided by household members for own use by the household and not being taken into account for the compilation of GDP – surpasses men's by a factor that ranges from 2 to 8 (Charmes 2015, 2018 and 2019). Consequently, women's total work (including paid work) exceeds men's by far, illustrating what is commonly qualified as "time poverty": because of their home duties, women have less time to dedicate to paid work so that they earn less income than their male counterparts and are individually poorer.

Since 1993, the SNA has therefore suggested to measure the household production in a satellite account³. The idea is not to include household production in GDP but to measure it as a separate magnitude, Gross Household Production (GHP), and then obtain a better understanding of how the two economies evolve, develop and interact with each other. It is likely that, once estimates of GHP become available, they will be seen to have highly significant value for analytic and policy purposes. As a matter of fact, there is a broad misunderstanding among economists about the relative growth rates of the market economy and the household economy over time. More than 40 years ago Nordhaus and Tobin showed that economic growth rates have been over stated. They observed that "measured growth rates are considered biased upwards, as more and more women move into the labour market while decreasing their input in household production" (Nordhaus and Tobin, 1973). However, their analysis ignored (for lack of data) what growth in household production of services was taking place simultaneously with the growth of market production.

3 As noted earlier, a satellite account of household production is briefly mentioned (without further developing) in para 21.18 of SNA 1993 that mentions: "For certain objectives, however, the production boundary itself may be changed. This can be done in a rather global way, for example, by including services rendered by persons to other members of their household or/and voluntary work". It is repeated in more extensive terms in para 29.143 to 29.161 of SNA 2008. Still it is noted that "unpaid household activity" is not concerned with a normal satellite account (as it is the case for tourism, environment, health for example). "The fourth area covers unpaid household production activities. This has been an area of interest for very many years but the difficulties in determining how to measure unpaid activities has so far been a stumbling block in reaching international agreement on how to proceed" (para 29.87) and further: "However, it is an area of considerable analytical and policy interest and an area where there is considerable research work being undertaken currently. The purpose of this section therefore is simply to report on the approaches being considered and give some indication of where further information on ongoing research may be found" (para 29.143).

Ironmonger (2002) states that the present SNA-based measures are not only under estimates of total economic production and income, they are also under estimates of the rates of growth of total economic production and income. This same author previously argued that market business cycles have their counterparts in household production: the market economy draws resources from the household economy in period of expansion and releases them in periods of decline (Ironmonger 1989b). The household uses these resources for production of services in a counter-cyclical way to maintain aggregate services production and consumption⁴. Consequently, the actual cyclical variability of total economic production as measured by the Gross Economic Product (GEP) – which is the sum of Gross Household Product GHP and GDP – is less than the cyclical variability at present observed through the incomplete SNA-based measures of GNP, GDP and GNI⁵.

Another consequence of these results is that the present SNA-based measures of income per head of population could show less disparity or inequality between countries than would be shown by the more complete GEP-based measures of income. The GEP measures in general would show poor countries to be relatively poorer and rich countries relatively richer. This is because there would be relatively more household production in rich countries than in poor countries. However, this still remains to be proved. The report prepared by Nancy Folbre in parallel to this one for the same MEWGC programme could help testing the former hypothesis.

Cutbacks in national budgets, and especially in social services increase unpaid care work and impact women more, thus restricting their access to labour market. There is a body of research to demonstrate this phenomenon in a variety of contexts. Policies seeking for more efficiency in the public sector and the market economy may well be in fact a simple shift of costs from the market economy to the household economy. But austerity can also drive women into paid employment and simply reduce unpaid care work: it all depends on the form that austerity takes.

Finally, a full account of the unpaid care economy and of the household production at large would surely enhance the economic status of women by recognising their essential economic role in building and maintaining the human capital of the household members (children and adults).

4 However, as noted by Nancy Folbre, empirical work on the American Time Use Survey suggests that there is not that much substitution.

5 Gross National Product (GNP), Gross Domestic Product (GDP) and Gross National Income (GNI) are the most frequently used variants of the aggregate measure of the annual production in National Accounts.

3.3 DESIGN OF POLICIES AND MEASURES FOR ALLEVIATING THE TIME SPENT BY WOMEN IN UNPAID CARE WORK

As early as 1987, Goldschmidt-Clermont identified, among others, 4 main uses for household economy measurement: 1) To ensure that government policies help non-market household production to be allocated an amount of productive resources commensurate with its economic significance; 2) To help formulate labour market policies and labour market planning; 3) To establish household income comparison, to measure standards of living and to formulate welfare policies; and 4) To help ensure that unpaid household workers are granted the social status and social benefits enjoyed by other workers (Goldschmidt-Clermont, 1987).

Recent concern has shed light on the consequences of such invisibility. One of the targets of SDGs' Goal 5 "Achieve gender equality and empower all women and girls" focuses on the necessity to "Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate" and the recent UN Secretary General's High-Level Panel on Women's Economic Empowerment has put emphasis on tackling women's unpaid care and work (UN, 2016), recommending to "provide adequate support to enable women to work productively, including by investing in quality public care services and decent care jobs, social protection for all, and infrastructure that supports women's safe access to economic opportunities".



4

INDICATORS OF TUS

Many indicators and analyses can be derived from time-use surveys. Here we will focus on three main indicators: time spent by population, participation rate and time spent by participants, that are used for measuring the gender gap in paid and unpaid care work, for time poverty analyses or for valuating unpaid care work in satellite accounts of household production.

But there are many other indicators and types of analyses based on time use surveys, for instance timing and fragmentation, the count of the number of episodes/activities per day, that allow a more in-depth knowledge of work-family balance and a better understanding of women's mental workload when arbitrating between paid and unpaid work and various forms of unpaid care work: at what time of the day the various activities occur, compete with each other and add to the burden of domestic and care work? (van Thienoven T.P., Glorieux I. and Minnen J. (2017).

Time-use data are generally presented through three indicators: time spent by participants, participation rates and time spent by total population (participants and non-participants), sometimes called 'social time'. Whereas the latter indicator is the most widely used because it shows the distribution of activities in a 24-hour daytime, Gershuny (2000) is right when he states that "the matter of result analysis remains 'rather esoteric'." This indicator may be misleading and misinterpreted because it is too abstract (being a synthesis for all ages, all types of days - working/not working - participants and non-participants) and is hardly understandable because it does not fit with the lived reality: according to this indicator people do not work 8 hours a day, even when active and a typical so-called 'inactive' woman does not devote 8 hours a day to household chores and care. There are examples of policy-makers who, in the light of such results, point out that the women's burden of household chores is not as time-consuming as claimed or that paid employees are working less than should be due (which means that the preliminary step of raising awareness has not been carried out properly). This is why, in addition to time spent by total population in paid and unpaid work at world, regional, sub-regional and national levels, a selected set of indicators by sub-activities and sub-populations should also be presented for participants only, for the same geographical levels. It should be noted however that the focus on time for participants (adopted by the official survey reports in some Latin American countries) is not preferable because it is not obvious for the common reader that the sum of all activities with this indicator then exceeds the 24 hours of a day and that each activity does not concern the same group of population.

Analyses should always make it clear what is the meaning and the implications of the indicator that is used.

$$\begin{aligned} & (\text{Time spent in an activity/Participants}) * (\text{Participants/Total population}) \\ & = (\text{Time spent in an activity/Total population}) \end{aligned}$$

Table 2 hereafter highlights, for a set of countries, the differences between time-use by participants and time-use by total population for some specific unpaid activities. Water fetching for instance takes 62 minutes per day for participating women and 49 minutes for participating men, but the participation rate for women is 1.7 higher than for men, so that the final time dedicated by the total female population is only 18 minutes per day (and 8 minutes per day for men). The gender gap is particularly important in household

chores (excluding care of children and adults) for which time for participants is as high as 229 minutes per day (3 hours and 49 minutes) among women against 114 minutes for men (twice less than women), but given the participation rates (91% among women and 67% among men) the final gap for total population is 2.7 times less for men (208 minutes or 3 hours and 28 minutes for women against 76 minutes for men).

Table 2: Comparisons in time use (in minutes per day) by participants and by total population in some unpaid activities

	Activity	Number of countries	Time use participants	Participation rate (%)	Time use total population
Women	Water fetching	5	62	29	18
	Wood/fuel fetching	8	66	9	6
	Commuting to/from work	28	56	28	16
	Household chores	47	229	91	208
	Care children	47	141	32	45
	Care other members	28	75	6	5
Men	Water fetching	5	49	17	8
	Wood/fuel fetching	8	77	11	8
	Commuting to/from work	28	61	39	24
	Household chores	47	114	67	76
	Care children	47	88	17	15
	Care other members	28	78	3	2

Source: Own data base

Another difficulty arising in analysing time use data and comparing them across countries is not only the variations in the classification of time-use activities (see section 6 infra), but also the main groupings, categories or concepts used to present the main results of time-use surveys.

The different statistical frameworks are meant to meet various user needs and priorities. They must be flexible to provide data for a wide range of macro-economic, labour market, social policies. What is important, is that the different frameworks allow for mapping different components depending on priorities. So, the question here is what types of aggregations at macro-level are relevant to shed light on “employment”, “household production (as own-use production of goods and services)”, “non-profit institutions and volunteer work”, “total economy”, “informal economy”, “care economy”, etc.

In this report the focus is put on paid work and unpaid care work and we have already pointed out that the definitions of these concepts needed clarification and harmonisation, depending on whether are privileged the definitions of national accounts or the definitions of labour force and employment (sections 2.1 and 3.2 supra). However, this disaggregation of work in its two or three main components (if volunteering is distinguished) is neither the only one nor the first one historically.

It has already been noticed that Strumilin (section 2.2 supra) in the early times of time-use surveys (in the 1920s) used to disaggregate time into three main categories supposed to be evenly distributed: work, sleep and rest (free time). Since then national time-use researchers and statisticians have practised several different types of major regroupings that are far from being harmonised and can therefore introduce misinterpretation in cross-countries comparisons. Chart 4 below attempts an assessment of these conceptual variations. Personal care, called ‘necessary’ time (in New Zealand and Chile) or ‘primary’ time (in Japan) is now preferred rather than being limited to sleep; ‘obligatory’ time (Netherlands) or ‘secondary’ time (Japan) is disaggregated into ‘contracted’ (which is comprised of education (learning) and paid work) and ‘committed’ time (for unpaid care work) in New Zealand. And the OECD Gender data portal (on www.oecd.org/gender) systematically associates paid work and study⁶.

The classification in 1) “necessary”, 2) “contracted”, 3) “committed” and 4) “free” time was suggested by Dagfinn Ås (1978) for whom this order is an order of priority: “Time is taken out in this order and the daily amount of for example ‘Free Time’ is dependent first of all on how much ‘Committed Time’ on the same day can be cut down. The first two kinds of time are very stable amounts, the first cannot be changed, the second only by a new explicit contract” (pp.133-134). Ås mentions that he has found a similar earlier classification by Javeau (1970) who distinguished between “obligatory” time, “constrained” time, “free” time and “necessary” time⁷ in his analysis of the first Belgian 1966 time use survey. However, these categories may be not as clear-cut as they look like because, as suggested by Nancy Folbre (2020), care of dependents who cannot care for themselves should be considered “necessary” rather than “committed” as in “necessary for survival”.

Box 2: Some definitions of major divisions of time-use

Strumilin	Sleep	Work			Rest
Japan	Primary	Secondary			Tertiary
Netherlands	Personal	Obligatory			Free
New Zealand Chile	Necessary	Contracted		Committed	Free
		Education	Paid work	Unpaid care work	

Netherlands:

Obligatory time use includes the activities that people undertake in the context of education, paid work or running the household or caring for children. Personal time use includes looking after one’s own physical needs (sleeping, eating, showering, dressing, etc.). Free time incorporates a diversity of activities such as media and ICT use, social contacts, recreational activities and relaxation, and social participation.

6 Each activity is then distinguished, but travel to/from work and study remain aggregated.

7 Le temps obligé, le temps contraint, le temps libre, le temps nécessité (Javeau 1970).

New Zealand:

- necessary time (personal care activities) – includes personal care activities such as personal hygiene and grooming, sleeping, eating and drinking, private activities, personal medical care, and travel associated with personal care. These activities serve basic physiological needs.
- contracted time (employment or education activities) – includes all types of labour force activity and education and training activities. These activities often constrain the distribution of other activities over a day.
- committed time (unpaid work activities) – includes household work, child care, purchasing goods and services, and other unpaid work activities. This describes activities to which a person has committed him/herself because of previous acts or behaviours or community participation.
- free time (leisure activities) – includes religious, cultural, and civic participation activities, social entertainment, sports and hobbies, and mass media and free-time activities. This is the amount of time left when the previous three types of time have been taken out of a person’s day.

Commuting or travel to and from a given activity is generally associated to this activity, but national practices vary over time and across countries. Whereas some national reports include commuting in the time dedicated to the corresponding activity, others published separately and globally the time dedicated to travel, making difficult comparisons across countries (and sometimes over time).

Chart 4: Summary of major divisions of time-use in national practices

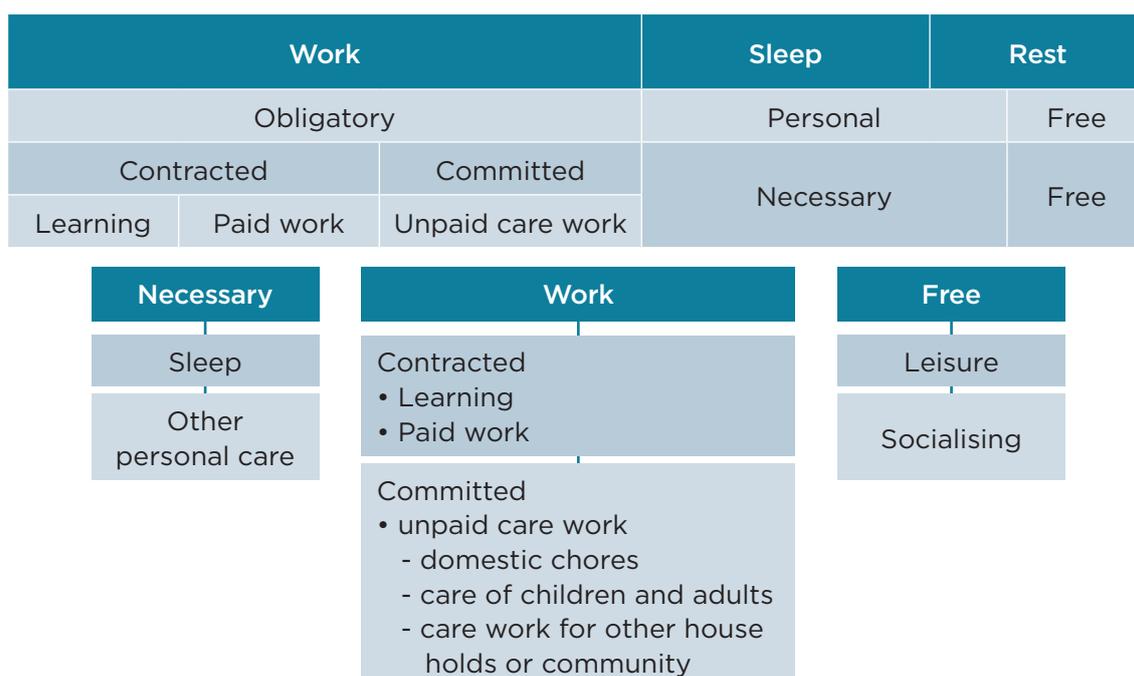


Table 3 and Chart 5 hereafter illustrates the approximately “equal” distribution of time between sleep, work (including unpaid care work and learning) and rest (free time including personal care other than sleep), based on 44 countries of our database (data published at national level do not systematically distinguish sleep from other personal care). There are some clear differentiations between women and men: Men sleep a little bit more, work less (2.8 percentage points less than women) and rest (free time) more (2.1 percentage points).

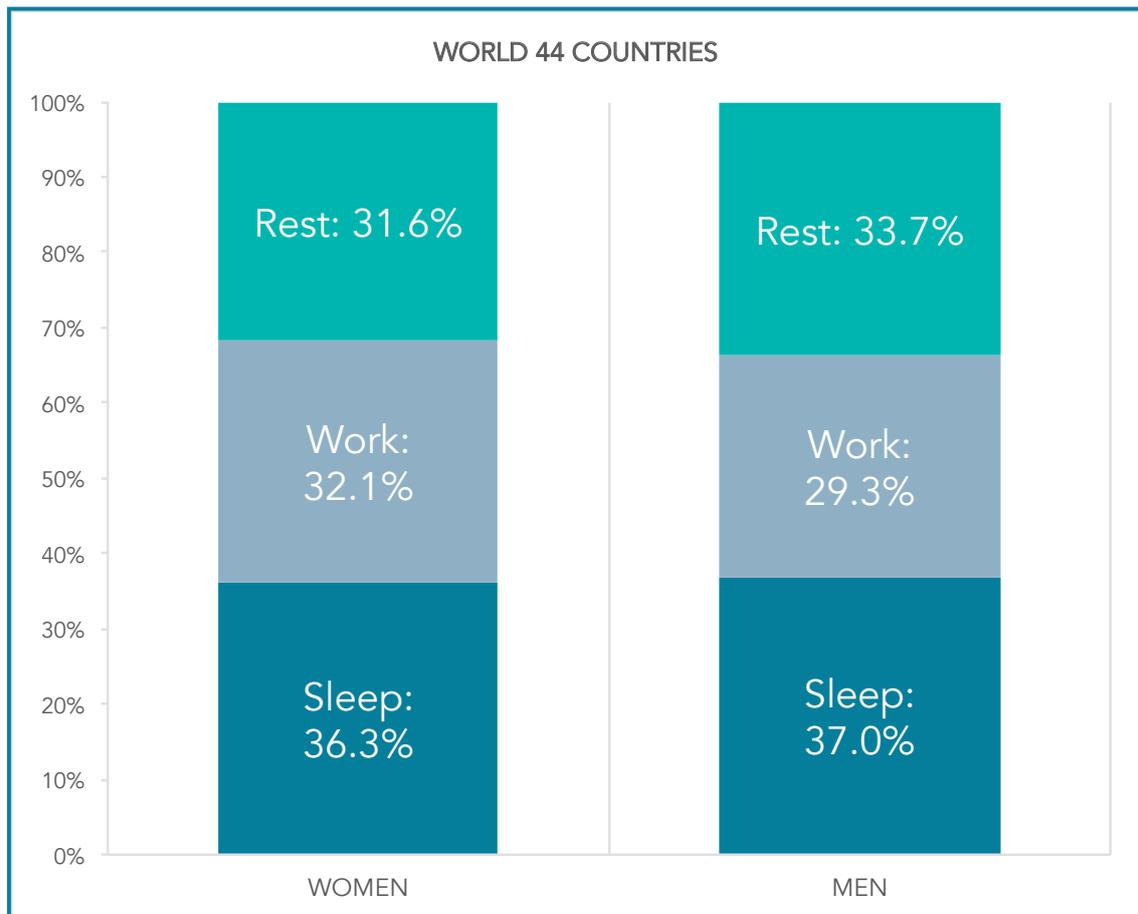
Table 3: The ‘equal’ distribution of time between sleep, work and free time

In %	Women	Men
Sleep	36.3	37.0
Work (including learning)	32.1	29.3
Rest	31.6	33.7

Source: Own database for 44 countries (unweighted)

Note: Time spent in commuting is included in the corresponding activity

Chart 5: The ‘equal’ distribution of time between sleep, work and free time



Source and note: see Table 3.

Table 4 and Chart 6 show the unequal distribution of time between necessary, contracted, committed and free time with even more differentiation between women and men. A little bit less than half of the 24-hour day is spent in necessary time (with 0.9 percentage point more for women): 49.2% for women against 48.3% for men. Contracted time represents 13.7% of a woman's day against 22.2% for men (8.5 percentage points more for men) and whereas committed time and free time are roughly equivalent for women (18.6% against 18.5% respectively), committed time represents only one-third of free time among men (11 percentage points more for women).

Table 4: The unequal distribution of time between necessary, contracted, committed and free time

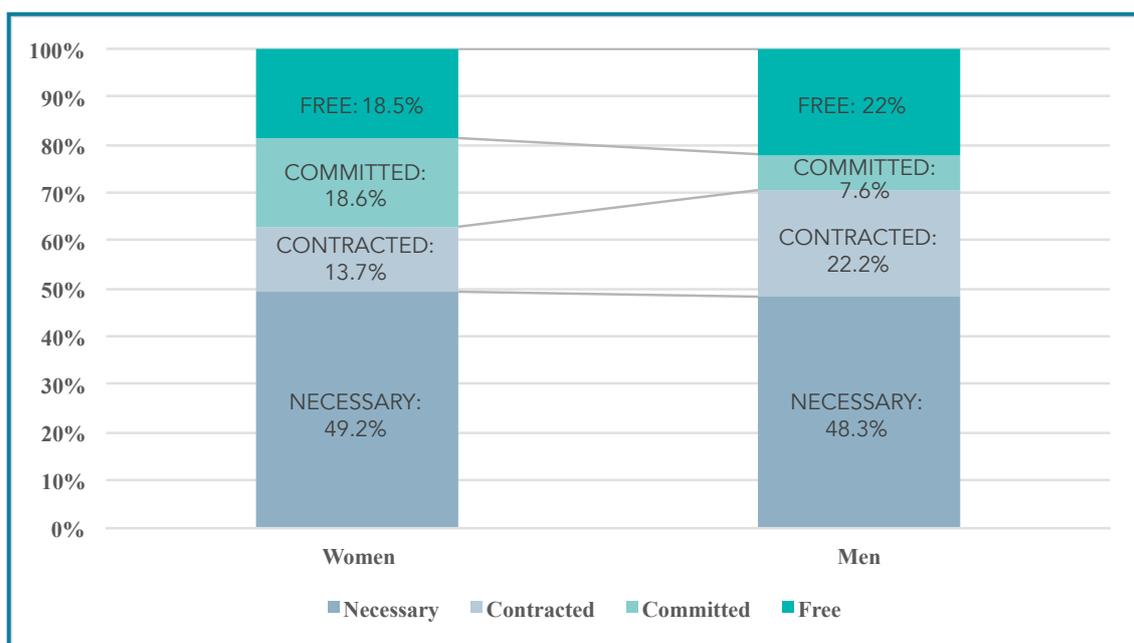
In %	Women	Men
Necessary	49.2	48.3
Contracted	13.7	22.2
Committed	18.6	7.6
Free	18.5	22

Source: Own database for 72 countries (unweighted)

Note: Time spent in commuting is included in the corresponding activity

Chart 6 clearly shows that the relative importance of committed time in women's time has huge impacts on contracted time and on free time. The eleven percentage points in excess for women's committed time compared with men's time are missing for free time (minus 3.5 percentage points) and especially contracted time (minus 8.5 percentage points).

Chart 6: The unequal distribution of time between necessary, contracted, committed and free time



Source and note: Table 4 supra

Simultaneous activities

Another important indicator of time-use is the time spent in simultaneous activities, especially as regards care. However, tabulations on simultaneous activities remain scarce in official publications of time-use surveys and where they exist, they are limited to those activities that are most likely to be carried out simultaneously: use of mass media and provision of supervisory care of household members. In reality, all activities are likely to be carried out simultaneously, and multi-tasking is frequent in paid work or SNA work, for example fetching firewood can be carried out as a main activity simultaneously with keeping the cows in the bush, which then becomes secondary, or socialising can take place around the coffee machine while at work or around the water hole. It all depends on how the information is collected: Is the question on simultaneous activities systematically asked for each time slot? And how is it asked? Are some types of simultaneous activities proposed as examples, for instance: and at the same time where you listening to the radio? Or where you supervising the children? The issue is then that it is very unlikely that ‘fetching firewood’ is proposed as a potential simultaneous activity, all the more so as such a simultaneous activity would become primary as compared to the one that lasts more time (‘keeping the cows’ that can be assimilated to supervisory time).

Chart 7 hereafter provides the example of the detailed diary in the 2016 Japanese time-use survey where the questionnaire B includes activities such as ‘listening to radio’, ‘watching TV’ or ‘chatting with neighbours’ as potential simultaneous activities as well as the corresponding table that has been published in the summary of results for Questionnaire B (unfortunately the simultaneous activities are not disaggregated by sex for this table). The main conclusion that can be drawn from these results is that TV is switched on all day long and ‘watching TV’ is a simultaneous activity for all unpaid care tasks and free time at home, and it becomes the main activity in the evening. Computing, that is the usage of smartphones, is the second simultaneous activities taking place all day long, during paid work as well, indicating the extent to which this new addiction has transformed the everyday life.

Chart 7: Explanation on how to complete the detailed diary in the 2016 Japan time-use survey, and presentation of results.

Afternoon		Example of how to complete question 16 (Diary)							Time and hour code								
		Please refer to when answering the questions on the following page.															
Time	What were you mainly doing? ※ Please report what you were <u>mainly doing</u> in 15 minute units	Using smartphone/PC	Were you doing something else at the same time? ※ When doing several things please report <u>just one</u>	Using smartphone/PC	Place				Persons being together (Please encircle all applicable categories)								
					1 At home	2 At school or work	3 On travel	4 Other	1 Alone	2 Father	3 Mother	4 Son(s) or daughter(s)	5 Spouse	6 Other family member(s)	7 Other person(s) from work, school, etc.		
0:00	Preparing lunch		Listening to the radio		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	49
.30	Having lunch		Watching television		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	50
1:00	Cleaning up after lunch				<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	51
.30	Playing with son				<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	52
2:00	Reading magazines		Chatting with neighbours		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	53
.30	Searching restaurants		Listening to music	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	54
3:00	Going to the supermarket	<input type="radio"/>			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	55
					<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	56
					<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	57

Participation rate by kinds of main activity or simultaneous activity (2011, 2016) - weekly average

Main activity	2016 (%)					2011 (%)				
	Participation rate including simultaneous activity	Longest		Second longest		Participation rate including simultaneous activity	Longest		Computing	Participation rate
		Kind of simultaneous activity	Participation rate	Kind of simultaneous activity	Participation rate		Kind of simultaneous activity	Participation rate		
Total	69.6	Watching TV	42.9	Computing	21.5	65.7	Watching TV	47.5	Computing	3.9
Paid work	10.5	Computing	4.3	Listening to CDs or audio files	1.5	5.7	Listening to the radio	1.5	Computing	0.4
Commuting to and from work	7.4	Computing	4.0	Listening to CDs or audio files	1.3	3.1	Listening to the radio	0.9	Computing	0.2
Unpaid work	27.3	Watching TV	13.8	Care of clothing	5.4	27.8	Watching TV	15.9	Computing	0.5
Management of meals	17.2	Watching TV	10.1	Care of clothing	3.8	19.6	Watching TV	11.7	Computing	0.2
Household upkeep	7.5	Watching TV	2.6	Care of clothing Computing	1.3	7.7	Watching TV	3.1	Computing	0.0
Care of clothing	7.6	Watching TV	3.7	Household upkeep	0.9	7.3	Watching TV	3.8	Computing	0.1
Personal care	56.0	Watching TV	38.6	Computing	13.8	51.9	Watching TV	42.3	Computing	1.1
Personal care	14.6	Watching TV	8.0	Care of clothing	1.9	11.4	Watching TV	6.8	Computing	0.1
Breakfast	27.9	Watching TV	19.0	Computing	3.1	27.2	Watching TV	20.7	Computing	0.1
Lunch	25.2	Watching TV	12.6	Computing	8.0	19.9	Watching TV	14.5	Computing	0.6
Dinner	31.5	Watching TV	24.6	Computing	3.8	30.7	Watching TV	26.9	Computing	0.2
Light meals	8.9	Watching TV	3.9	Computing	2.7	7.9	Watching TV	4.7	Computing	0.2
Free time	28.8	Watching TV	7.5	Light meals	4.3	28.9	Watching TV	8.5	Computing	2.4
Watching TV	16.8	Light meals	2.8	Reading newspapers or magazines	2.7	15.9	Reading newspapers or magazines	3.0	Computing	1.9
Other	6.5	Computing	2.2	Watching TV	1.6	4.7	Watching TV	1.9	Computing	0.1

*Shows main activities which have simultaneous activities and their participation rate of at least 5% in 2016 (Major and Minor Groups)

- 1) "Computing", in addition to personal computers, also includes use of the Internet on smartphones, non-smartphone mobile phones, and tablet devices.
- 2) "Listening to CDs or audio files" was classified as "Listening to recordings" in 2011.

Sources: Japan Statistics Bureau, Ministry of Internal Affairs and Communications, 2016 Survey on time use and Leisure Activities. Questionnaire B. And Summary of Results. Questionnaire B.

In the same vein the South African time-use survey in 2010 dedicates a section of the survey results report to simultaneous activities⁸ (Table 5 below). Here again, tabulations are not presented disaggregated by sex and not either in terms of minutes per day but rather in terms of number of time slots, in order to avoid that small figures obtained through the usual indicators minimise the impact of the findings. Watching TV, listening to radio and socialising are once more the main simultaneous activities to have been collected, and child care does not show up neither among the main activities nor the secondary activities concerned. To reach the child care activities, it is necessary to go down further into the hierarchy of number of time slots and it is only for considering the same types of secondary activities (TV, radio, socialising) attached to the main activity of child care. But nothing is said or observed about child care as a simultaneous activity attached to any other main activity, as if the question did not even arise of mothers having to take care of their children while cooking or cleaning or having meals. An argument towards the necessity for raising awareness and training the interviewers to this type of simultaneous activities and possibly designing time-use questionnaires especially for the collection of simultaneous activities exclusively devoted to supervisory (passive) child care or adult care.

8 See discussion of analysis of South African microdata in Folbre (2020).

Table 5: Combination of simultaneous activities in the 2010 South Africa time-use survey

Table 7.2: Most common combination of two simultaneous activities (10 years and above)			
1st activity	2nd activity	Time slots	% of 2 simultaneous activities
Watching TV	Socialise with family	9 327	16,0
Eat and drink	Watch TV	7 427	12,8
Eat and drink	Socialise with friends	2 904	5,0
Eat and drink	Socialise with family	2 576	4,4
Cooking	Eat and drink	1 988	3,4
Watch TV	Socialise with friends	1 882	3,2
Cooking	Watch TV	1 807	3,1
Cleaning	Listen to radio	1 350	2,3
Cooking	Listen to radio	1 257	2,2
Socialise with family	Listen to radio	1 159	2,0
Socialise with friends	Listen to radio	1 090	1,9
Cooking	Socialise with family	1 085	1,9
Eat and drink	Listen to radio	1 015	1,7

Table 7.4: Most common combination of child care and other activities (10 years and above)		
1st activity	2nd activity	Time slots
Physical care	Watch TV	802
Physical care	Cooking	511
Physical care	Eat & drink	397
Physical care	Socialise with family	344
Physical care	Clean dwelling	270
Physical care	Listen to radio	131
Physical care	Care of textiles	120
Supervision	Watch TV	119
Physical care	Socialise with friends	89
Supervision	Clean dwelling	55

Source: Statistics South Africa, 2013 (Tables 7.2 and 7.4 pp.64s)

The Ghana time-use survey 2009 presents an even different variant for simultaneous activities. One of the findings of the survey is the concentration of simultaneous activities within the category of SNA work for household in primary production activities, taking the example of persons who are taking care of the cattle in the field and can at the same time cut grass to feed the animals, or collect firewood for household use, or gather wild fruit, etc. All in all, the 24-hour day is augmented by 17% for men and 16% for women, with respectively 4 hours and 10 minutes and 3 hours and 26 minutes.

Table 6: Average time spent on disaggregated activities excluding and including simultaneous activities for population aged 10 years and older by sex in Ghana 2009.

	Excluding simultaneous			Including simultaneous			Simultaneous		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
	Minutes	Minutes	Minutes	Minutes	Minutes	Minutes	Minutes	Minutes	Minutes
SNA Activities	288	230	256	444	368	404	156	138	148
Work for corporations/quasi corporations, non-profit institutions and government (formal sector work)	65	23	42	67	27	46	2	4	4
Work for household in primary production activities	121	70	92	254	161	205	133	91	113
Work for household in non-primary production activities	21	33	28	29	51	41	8	18	13
Work for household in construction activities	10	1	5	13	2	7	3	1	2
Work for household providing services for income	71	103	89	81	127	105	10	24	16
Non-SNA Activities	68	220	153	122	256	219	54	36	66
Providing unpaid domestic services for own final use within household	40	155	104	66	171	142	26	16	38
Providing unpaid care-giving services to household members	11	53	35	22	68	55	11	15	20
Providing community services and help to other households	17	12	14	34	17	22	17	5	8
Learning	110	81	94	120	100	110	10	19	16
Learning	110	81	94	120	100	110	10	19	16
Other Non-productive Activities	963	901	928	993	935	964	30	34	36
Socializing and community participation	115	96	104	121	104	113	6	8	9
Attending/visiting cultural, entertainment and sports events/venues	5	1	3	6	2	4	1	1	1
Hobbies, games and other pastime activities	15	4	9	18	5	11	3	1	2
Indoor and outdoor sports participation and related courses	20	3	10	23	4	13	3	1	3
Mass media	99	65	80	108	76	92	9	11	12
Personal care and maintenance	709	732	722	717	744	731	8	12	9
Total	1,429	1,432	1,431	1,679	1,659	1,697	250	227	266

Source: GTUS 2009 (Table 11.1 p.69)

One can note that the question of simultaneous activities is, in principle, not applicable for surveys based on stylised questionnaires because of interactions and redundancies between two separate questions on main and secondary activities: A question labelled “How many hours have you dedicated to child care during past week?” does not differentiate between main and secondary activities and this is why time durations in such activities can be overestimated in stylised questionnaires as compared with diaries: naturally and spontaneously, respondents tend to include passive supervisory care. However some countries such as Costa Rica in the 2017 time-use survey have tried to deal with this issue by asking for a limited set of child care activities (but not all) a second (repeated) question specifying: for how long did you perform (this activity) “exclusively, that is without doing any other activity?”



5

TYPOLOGY OF TUS AND THEIR METHODOLOGICAL CHARACTERISTICS

5.1 TYPOLOGY OF TUS

Establishing a typology of Time-Use Surveys (TUS) is important at present time because such surveys' findings are getting more and more well-known and used among policy-makers or at least they should get more well-known and expand beyond the tight circle of researchers. It is time indeed for looking at them as a powerful instrument for the design of empowerment policies because time is viewed as a determinant factor of poverty and empowerment.

It is therefore important to list the pros and cons of the various methodologies that have been tested and commonly used since their inception at full-scale national levels in the 1970s. It is not possible to proceed to a cost-benefit analysis of the various methodologies, but at least the question should be raised of knowing whether the insertion as modules of regular household surveys such as Labour Force Surveys (LFS), Budget-Consumption or Income-Expenditures Surveys (IES) or Living Standards or Conditions Surveys (LSS) should be preferred to stand-alone surveys.

Some 202 TUS conducted in 82 countries during the period 1970-2019, and mainly since 1990, have been identified (Table 1 supra). Box 3 below explains the criteria and rules that have been followed to select the surveys among several hundreds of existing publications, as enumerated by ILO and UNDP (2018) for Asia and the Pacific, by Aguirre and Ferrari 2017 for Latin America (for CEPAL) or Hirway (2017).

Box 3: Criteria and rules used to compile the 202 TUS in 82 countries

How were selected the 202 surveys in 82 countries?

Many are the surveys that have collected data on time-use. The present compilation was first carried out for the Human Development Report 2015 (Charmes, 2015), continued for the ILO 'Care work and care Jobs for the Future of Decent Work' (ILO, 2018, Charmes, 2018) and completed for the present report. This work attempts to limit its scope to a specific category of time-use surveys, characterized by their geographical coverage (national), their activity coverage (all the activities that occur in a 24-hour day (economic, paid/unpaid, personal), and their population coverage (all population, women and men, beyond a minimum age).

1. Nation-wide surveys (with exceptions such as India 1999 or China 2008, 2018, Iran 2008 (urban) and Argentina (Buenos Aires 2005).
2. Pilot surveys are excluded (note that India 1999 is included, since it has become pilot after the implementation of the national 2019 TUS).

3. Complete list of activities including personal care and paid work (with exceptions for Uruguay, Cape Verde, Switzerland where the survey is limited to unpaid work activities).
4. Long list of activities (at least 12 activities): Argentina 2014 and Honduras (2009) have not been included because their activity list comprises only 5 activities. They are mentioned in the category “other surveys”, § 9 infra).
5. All population is covered (not only women, not only some specific or local groups of population such as salaried workers or farmers): the 1998-99 TUS survey in Morocco is excluded because it covered women only.
6. All information used has been extracted from National Statistical Offices or other national official websites and statistics are extracted from official publications and not from microdata bases. (Guatemala 2018 has not been retained because it was impossible to find any information on Chapter 8 of the publication of the multipurpose survey. Similarly, it has been impossible to find any statistics on the Venezuela diary survey 2011).
7. Time use data are tabulated for the age group retained by the survey: in other words, statistics presented on the basis of this compilation cover all the population surveyed, whatever the minimum age (except if the official publication excludes children aged less than 15 as in Morocco).

From this compilation, three main types of surveys can be distinguished to which a fourth category can be added for exhaustiveness purposes (but the 4th category will not be taken into account in our analysis, except for demonstrating that their findings are less reliable than for the three main categories):

1. Stand-alone TUS based on diaries,
2. Modular TUS based on diaries attached to, or sub-sampled from other regular household surveys,
3. Stand-alone or modular TUS based on list of stylised questions (extended list) attached to other regular multi-purpose household surveys,
4. Modular TUS based on list of stylised questions (short list) attached to other regular multi-purpose household surveys.

Diary-types surveys should be recommended for their reliability: the absence of proxy respondents (no one can provide the exact course of the day of another person) and the control of the total number of hours of the day make their results highly reliable and of higher quality than stylised questions modules.

Stand-alone diary TUS (type 1) allow adapting the sample size to the need of precision and to the number of variables to be crosscut and they can include all the variables needed for the analysis. Modular diary TUS (type 2) should be “in principle” the best type of TUS to be recommended for at least two reasons: all other detailed data required for the analysis are collected in the other modules of the multi-purpose integrated survey (labour force, income-expenditures, other characteristics of the household) and the cost of data collection is merged into the cost of the multi-purpose survey and therefore reduced. This is the case of Belgium where TUS 1999 and TUS 2005 were done on a subsample of the household budget survey and TUS 2013 on a subsample of LFS. However, in developing countries, on the contrary, it has not been taken advantage of this opportunity to carry out more in-depth analyses and until now such surveys designed as modules (or sub-samples) of labour force (Tanzania, 2006 and 2014), income-expenditures (Tunisia, 2005-06) or living conditions surveys (Benin, 2015 and Cameroon, 2014) have not been analysed in such a way, that is relating the data on time use with the data on labour force or on income and expenditures. The recent diary-type time-use survey conducted (with the technical support of UN Women) in Tanzania (2018) and attached to a budget-consumption survey could make a change.

In comparison with diary surveys, the results of modular TUS based on extended lists of stylised questions (Type 3) may be biased because they eventually admit proxy respondents and cannot be controlled for the total number of hours in a day or a week: the interviewer being unable to check in the field (though the more and more frequent use of tablets by the interviewers could make it possible) that the declared number of hours exceeds or not the 24 hours in a day or 168 hours in a week, all the more so as time spent in paid work is collected (if it is) in another module and eventually for another time period of reference, and time spent in other activities than paid and unpaid work (education, leisure, personal care) is possibly not collected. Such grievances are even worse for TUS based on short lists of stylised questions (Type 4) that started in sub-Saharan Africa with the concern of Living Standards Measurement Surveys or other LSMS-like surveys (such as the Ghana Living Standards Survey GLSS) of capturing time spent in water and firewood fetching and progressively extending the list to other domestic duties.

Stand-alone or modular TUS based on extended lists of stylised questions (Type 3) have mainly been carried out in Latin America where they are preferred to diary surveys and attached to regular household living conditions surveys, allowing the study of relationship between time-use and poverty in the households. The module on unpaid care activities of the Switzerland labour force survey, based on stylized questions, is an exception in Europe.

However, the diary versus stylised questions and stand-alone versus modular surveys are not the only criteria to take into account for drawing up a typology of time-use surveys across the world. Sampling methodologies also differentiate the surveys, as well as the methodologies for distinguishing weekdays and weekend days, and the classifications of time-use activities.

5.2 METHODOLOGICAL CHARACTERISTICS OF TUS

Box 4 hereafter lists the metadata that have been tentatively gathered for the 202 surveys in 82 countries and Table A1 in annex summarises the information collected in order to identify the best practices and try to suggest what methodologies are best suited for producing reliable data on time-use. It is important to recall here that all the information on meta data was collected from the websites of national statistical institutions, which may explain some shortcomings.

Box 4: Meta data collected for establishing a typology of Time-use surveys

TUS metadata

- *year and period* of data collection,
- *type of survey*: stand-alone, module of what type of multi-purpose household survey, sub-sample of a household survey,
- *minimum age* (and maximum if applicable),
- *sample size* (households and individuals),
- sample rates (households and individuals),
- non-response rates (households and individuals) and measures taken for dealing with them (replacement techniques, reweighting procedures),
- *type of sampling procedure* for individuals (if any),
- *survey instrument* (1, 2 or more diaries, list of stylized questions, their number and their complete coverage of activities or not),
- *mode of data collection* (self-filling, interview, computer-assisted, observation, other),
- *classification* used.

For stylized questionnaires, in particular:

- *number of questions* for paid work, for unpaid care work, for personal care, for other non-productive activities.
- *variations in the wording* of questions referring to paid work and to unpaid care work.
- *period of reference* (day, week, other)

- *question: are proxy respondents accepted for completing the individual list of activities, especially in the event of non-response?*

For diaries, in particular:

- *length of time slot*
- *number of activities per time slot*
- *methods of treatment of weekly variations (weekdays and weekends days).*
- *methods of treatment of seasonal variations (several rounds, rotating samples, etc.).*
- *methods of treatment of simultaneous activities, especially for supervisory care*
- *type of contextual questions (where, with whom, for whom, ...)*
- *type and list of questions for characterizing the individual, the household, the housing premises and, if time-use survey is a sub-sample of a household survey, possibilities of linking time-use data with other data of the household survey.*
- *definition of unpaid work: inclusion/exclusion (but identification) of specific System of National Accounts (SNA activities) such as fetching water and firewood or other sources of energy, construction of own housing, and all other production of goods for own final use by the household.*
- *types of publications and availability (published reports, detailed tabulations, availability in electronic format, micro-data policy).*

Table 7 below tentatively summarises the contents of annex A1 for the most recent time-use surveys in 78 countries.

Regarding the *type of surveys*, more than 2/3 of the surveys (67.9%) are stand-alone surveys, the complement being modular surveys (time-use is a module of other types of household surveys, such as living conditions surveys, labour force surveys or income-expenditures surveys). Some stand-alone surveys look like modular without being actually modular in that they are simply sub-samples of other on-going household surveys, but the subsequent analyses are not related to the main survey (Tunisia, Benin and Cameroon).

Table 7: Main methodological characteristics of TUS across the world

	Number countries	Type of survey		Seasonal variations	Sampling methodology		Instrument of data collection			Use of light diary	Mode of data collection			Classifications			
		Stand alone	Modular		Sampling of individual household members	Survey of all eligible	1 diary	2 diaries or more	Stylised questions		Interview	Mixed	Self-completion	ICATUS	HETUS	CAUTAL	
North Africa	3	3	0	2	1	2	2	2	1	0	1	2	1	3			
Arab countries	4	2	2	3	1	2	4	0	0	0	3	1	1	1			
Sub-Saharan Africa	11	5	6	2	5	5	10	0	1	3	3	11	0	7			
Eastern Asia	5	5	0	2	1	3	2	3	0	1**	1	1	3	2			
South-Eastern Asia and the Pacific	4	3	1	3	2	2	2	2	0	1	1	2	1	1			
Southern Asia	3	2	1	2	1	1	2	1*			2	1	0	2			
Central and Western Asia	5	3	2	3	0	5	1	4	0		3	1	1	1	3		
Latin America	12	5	7	2	2	9	1	0	11		12	0	1	1	4+	7***	
Northern, Western and Southern Europe	23	18	5	22	0	22	3	17	0		1	17			12		
Eastern Europe	6	6	0	6	1	4	0	3	0		0	4		1	5		
Northern America	2	1	1	2	1		2	0	0		0	0	2				
World	78	53	25	49	15	55	29	30	12	8	33	28	7	16	23	4+	7***

Source: Based on Table A1 in annex

Notes: * with 3 diaries, ** mixed with complete, *** ad-hoc CAUTAL.

Nearly 2/3 (62.8%) of the countries capture *seasonal variations* through rotating samples (surveys carried over an entire year) or through 2, 3 or 4 rounds in the year. Elsewhere, the time-use surveys are carried out over one to two months or even five, in a specific period of the year. In developing countries, incorporating a time-use module in a household budget-consumption or living conditions survey can be an appropriate method for improving the capture of seasonal variations at lower cost. As to *variations of time over the week*, they are taken into account through various methods: 1) Where only one diary is filled, data collection is organised in such a way that the whole sample is comprised of as many days for each day of the week (37.2% of the surveys, but 43.9% of the diary surveys); 2) the technique of two diaries or more (38.5% of the surveys, and 45.4% of the diary surveys) – two consecutive days (Australia, Korea), or one diary for a weekday and one diary for a weekend day – is often used, particularly in Europe and in the latter case, the weight imputed to a weekday is 5/7 and 2/7 for a weekend day; 3) In India 1999, three diaries were filled, one for a normal day, one for an abnormal day and a weekly variant; 4) Stylised questionnaires address the issue of weekly variations by collecting the number of hours spent in an activity from Monday to Friday, and on Saturday and Sunday (for instance in Ecuador, Mexico) or, more rarely, left it to the appreciation of the respondent who provides a global number of hours and minutes for the whole week.

The *sampling methodology* is generally the two-stage or two-degree sampling procedure consisting in a preliminary stratification for urban/rural areas, a random selection of enumeration areas (with a probability proportional to the population) and within the selected areas a random selection of the enumerated households with a fixed sampling fraction. For more details, see the “Guide to Producing Statistics on Time Use” (United Nations 2005). In some cases, a sub-sample for the time-use module is drawn from the main sample designed for the main survey. For diary surveys, methodologies diverge as to the number of household members to whom the diary is applied. 70.5% of the time-use surveys prefer to apply the diary to all members above a certain age: 6+, 10+, 12+, or 15+ (and in a few cases under a maximum age: 65 or 75), or all eligible members who were at home. For the remaining 29.5% it is proceeded to a random selection of household members, for instance one eligible (USA), two eligible (South Africa, Uganda, New Zealand, Pakistan), one adult male, one adult female and one child (Morocco), or the household head, spouse and one other by random (Cameroon), or also one member selected using a Kish grid (Tanzania), 1 to 3 members depending on household size (Taiwan).

Three questions arise: 1) To what extent is the sampling procedure used for the selection of households of the multipurpose survey (and the derived sub-sample) adapted for the time-use module? 2) Does the sampling procedure used for the selection of household members have an impact on the final weight of each individual, and 3) Is there a final check for assessing that the sampled population remains representative of the total population (in terms of sex, age, marital status, activity status in particular)?

Whereas the first question is generally dealt with according to sampling theory, the second seems to be often ignored. The UN Guidebook (2005) addresses these questions and an entire section is dedicated to weighting and estimation (Part 3, section IX). Though, *non-response rates* are far from being negligible, as shown on Table 8 hereafter.

Table 8: Overview of TUS non-response rates

	Households	Individuals/diaries	Notes
Algeria	29.5		
Tunisia	4.3		
Benin	33.2		
Cameroon	22.4	11.6	
Ethiopia	0.8	0.9	
Ghana	0.5	13.5	
South Africa	12.5		
Tanzania	0.4		
Uganda	4	64.3	
Argentina	11		
Chile	30	24	
Costa Rica		24.9	
Dominican Republic	7.2	2.5	
Ecuador	7.6		
Mexico	15	3.2	
Panama	9	5.3	
Canada		61.8	
USA		54.4	(In 2017). Increase from 42.2 over years
Oman		8.7	
Palestine	28.4		
Mongolia	# 0		
India	0.2		
Pakistan	1.1		
Albania	8.5	21.8	
Denmark		34.2	
Estonia	54.7	4.7	
Greece	39.1		
Ireland	42.1	25.6	
Latvia	32.5		
Lithuania	41.7	54.5	(in large cities)/27.8 in rural areas
Macedonia	30.9		
Portugal	17		
Serbia	20.3	21	
Slovenia	47.5		
Sweden		59	
UK	59.6	18.9	
Moldova	31.8		
Poland	6	67	
Romania	13		
Armenia	9.1		
Average	20.3	27.7	

For the 40 countries for which it has been possible to get the information, the average non-response rate for households is as high as 20.3% and 27.7% for individuals/diaries. The highest scores (highlighted in yellow) are observed in UK (59.6), Estonia (54.7), Slovenia (47.5) and more generally in Northern, Southern and Western Europe for households. And for diaries/individuals, they are observed in Poland (67), Uganda (64.3), Canada (61.8), Sweden (59), Lithuania (54.5 for large cities) and the USA (54.4) where the rate has continuously increased since the year of inception of the survey. In Sweden, Canada and USA, the method of telephone interview seems to be the main cause for such high non-response rates. More generally the method of self-filling diaries has an impact on the non-acceptation of the survey and this observation could strengthen the case for light diaries.

However, the comparison of non-response rates is difficult and might be misleading, because it all depends on how the rates are calculated and countries may not use the same definitions. Sometimes countries apply a strategy for replacement of households or individuals who are absent at the interviewer's visit, which results in lower non-response rate. Incomplete diary may be counted as a response or not. The difficulty is particularly obvious in the case of stylized questionnaires: what happens when a question among the list is empty: does it mean that the individual was not involved in the activity or that the individual omitted to respond? Is it counted for zero value or as a non-response? In other words, does the overall non-response rate relates to all questionnaires that have been incompletely filled or only to missing questionnaires?

In summary is the response/non response rate (and the question remains valid for the calculation of participation rate) calculated in reference (as denominator) with:

- all eligible members in the initial roster of household members,
- only those eligible members who have responded for the diary,
- only those eligible members who have responded to the specific activity/question (in the list of stylized questions),
- How are treated the blanks in the list of stylized questions: is a blank considered as zero value or as a non-response?

We assume that the denominator for determining the response/non response rate for individual members does not take into account the eligible members of non-respondent households.

The most important question about non-response rate of individuals is that at the end it is unsure that the representativeness of the sample is sufficiently robust. In countries/surveys where the respondents are those who were at home at the time of the interviewer's visit, or those who can have been interviewed after one or more extra visit, the risk is that there could be an under-representation of the household members who are active outside home and an over-representation of the household members who are inactive (or active) at home, unless corrected weights have been imputed for taking into account such under-representation of missing household members. National publications often present the demographic structure of the final sample (sex, age, rural/urban, occupied/inactive) that can be compared with the total population and indicate possible distortions.

Samples range from 512 households (Armenia 2008) and 680 households (Mali 2008) to 83,880 households (Thailand 2014-15) and 88,000 households (Japan 2016), and from 1,342 individuals (Armenia 2008) to 200,000 individuals (Japan 2016).

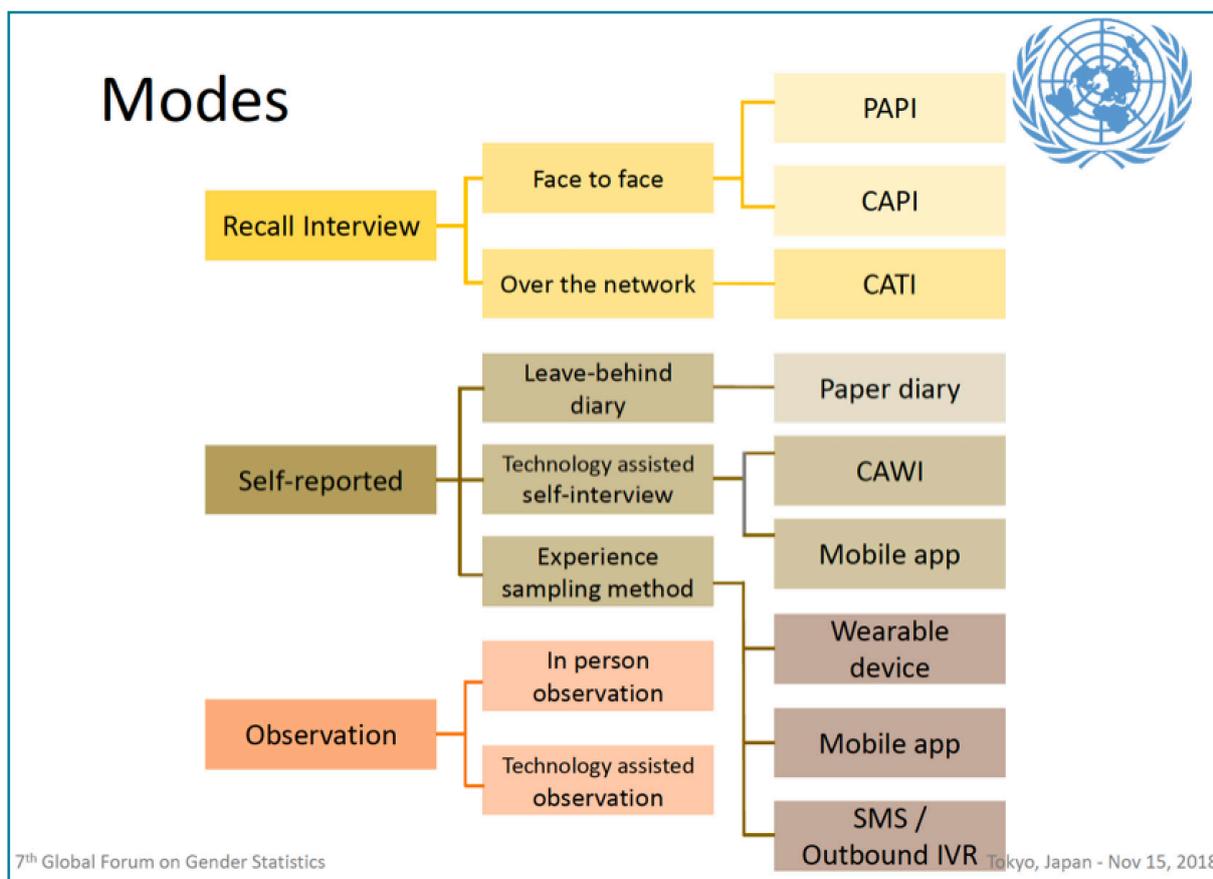
There are two main *instruments of data collection*: diaries (83.1% of the surveys) and lists of stylized questions (16.9%), as well as a combined version of the two instruments in what is called “light diary” (13.6% of the diary surveys, including one country - Japan - using both the complete and the light diary) where the 24 hours of the day are declined along a short list of time-use activities (at least corresponding to the one-digit common classifications (see section 6 *infra*). We will come back more extensively on the pros and cons of diaries and lists of stylized questions in the next sections *infra*.

Three *Modes of data collection* can be distinguished: interviews in the field (that is at interviewee’s home) characterizes surveys with stylized questionnaires, whereas diary surveys can apply self-completion by the respondents as well as mixed methods with self-completion of left-behind diaries for literate populations and face-to-face interviews for other populations. In all cases, the interviewer visits the interviewee’s home and eventually leaves the diary behind after providing instructions for fulfilling it and comes back to pick it up. Computer assisted telephone interviews (CATI) (Canada, USA, Sweden) are another mode of data collection (with the risk of high non-response rates, as seen on Table 8 *supra*). In the recent period, Computer Assisted Personal Interviews (CAPI), which are widely used in developed countries, have been generalised in developing countries for all types of household surveys and particularly time-use surveys. They can also facilitate the handling of complex classifications by the interviewers. In Uganda (2017-18) for instance, TUS data was collected and directly captured electronically using CAPI devices in the field (UBOS, 2019). The hardware used Tablets and Power Banks for interviewers. Field supervisors were equipped with laptops and internet modems to facilitate synchronization, scrutinizing, editing and submission of data collected to the Headquarters in real time. The software used was Survey Solutions, a free tool developed by the World Bank to improve survey data collection by enabling better communication between enumerators and supervisors; more reliable statistics due to checks performed during the interview; and more up to-date statistics due to a reduced time lag between data collection and data analysis.

Interestingly, other new technologies are currently tested in rural areas of developing countries and could demonstrate that these new technologies could be deemed not to be reserved to developed countries: picture-based smartphones applications were tested among populations characterized by low literacy and with no clock-based conceptions of time for surveying smallholders farming systems in rural Zambia (Daum et al., 2018 and 2019) and particularly the effects of agricultural mechanization on intra-household time-use and nutrition. Research found that traditional recall methods overstate farming work, understate care work and social life activities. However, the use of such technologies at national level may raise difficulties.

UNSD nicely summarized the current diversity of modes of data collection which are more and more permeated by the use of computers, smartphones and their applications, even in developing countries (Box 5 hereafter).

Box 5: Modes of data collection for time-use surveys



Source: UNSD

Notes: PAPI Paper Assisted Personal Interview
 CAPI Computer Assisted Personal Interview
 CATI Computer Assisted Telephone Interview
 CAWI Computer Assisted Web Interview
 IVR Interactive Voice Response



6

CLASSIFICATIONS⁹

⁹ This presentation on classifications does not discuss the different treatments of direct care, including supervisory care. On these matters, see Nancy Folbre (2020).

As in many other domains, countries have built their own *classifications of time-use activities* and improved them progressively so that, as usual, national classifications pre-existed to the first attempts of international harmonized classifications. The Harmonised European Time-Use Survey coined the first tentative international classification (HETUS) by Eurostat in 2000 and updated in 2008 (Eurostat 2009) and in 2018 (Eurostat 2019): 29.5% of the surveys use the HETUS in all regions of Europe and also in Central Asia and in Northern Africa.

The International Classification of Activities for Time-Use Statistics (ICATUS) has been drafted by the UN Statistics Division that started discussions as early as the end of the 1990s. A trial classification (Trial ICATUS) was published in 2005; the current ICATUS was adopted in 2016 (United Nations 2017): 20.5% of the surveys used the trial or the current ICATUS, mainly in developing and emerging countries. The Classification of Time Use Activities for Latin America and the Caribbean (CAUTAL) matured since 2009 and was adopted in 2015 (ECLAC 2016): 14.1% of the surveys used the CAUTAL or a proxy version, in Latin America and the Caribbean. All other surveys use national classifications that are often very close to the international classifications.

Table 9 below compares these various classifications at the one-digit level. The main difference lies in the distinction of activities of production of goods for own final use (by the households), which ICATUS and CAUTAL clearly identify as distinct from employment and related activities without definitely classifying it as unpaid work given that it is part of the SNA production boundary. The trial ICATUS 2005 even split this category into 4 different categories at one-digit level as complementary to “work for corporations, quasi-corporations, non-profit institutions and government” in order to tentatively introduce the division between formal and informal sector: work for household in primary production activities, work for household in non-primary production activities, work for household in construction activities, and work for household providing services for income. Although these four categories were strictly corresponding to subsistence agricultural activities, production of manufactured goods for self-consumption, self-construction and paid domestic services, they failed, in practice, to facilitate data collection and very few countries were able to provide data at this level of detail.

The main difference between ICATUS and CAUTAL is that the former distinguishes “Culture, leisure, mass media and sports” from “Socialising and communication”, whereas the latter only separates the use of mass media from “Socialising and leisure”.

Compared with ICATUS and CAUTAL, the other classifications (HETUS and the American Time-Use Survey ATUS) put more focus on free time by distinguishing three sub-categories for HETUS: “social life and entertainment”, “sports and outdoors activities” and “Hobbies and Computing” as well as for ATUS: “Organizational, civic, and religious activities” (which may include some volunteering activities), “Leisure and sports” and “Telephone calls, mail, and e-mail”. ATUS also distinguishes at first digit level “Eating and drinking” from personal care activities.

Table 9: The one-digit codes of the main classifications for time-use

Trial ICATUS 2005	ICATUS 2016	HETUS 2018	ATUS	CAUTAL 2015	
01- Work for corporations/quasi-corporations, non-profit institutions and government (formal sector work)	1 Employment and related activities	1 Employment	7 Working and work-related activities	1 Employment and related activities	
02- Work for household in primary production activities	2 Production of goods for own final use			3 Household activities	2 Own-use goods production
03- Work for household in non-primary production activities					3 Unpaid domestic work for own household
04- Work for household in construction activities					4 Unpaid caregiving services for household and family members
05- Work for household providing services for income					5 Unpaid volunteer, trainee and other unpaid work
06- Providing unpaid domestic services for own final use within household	3 Unpaid domestic services for household and family members	3 Household and Family Care	3 Household activities	3 Unpaid domestic work for own household	
07- Providing unpaid caregiving services to household members	4 Unpaid caregiving services for household and family members	3 Household and Family Care	4 Purchasing goods and services	4 Unpaid care for household members	
08- Providing community services and help to other households	5 Unpaid volunteer, trainee and other unpaid work	41 Organisational work + 42 Informal help to other households	5 Caring for and helping household members	5 Unpaid work for other households or the community and volunteering	
09- Learning	6 Learning	2 Study	6 Caring for and helping non household members	6 Learning and study	
10- Socializing and community participation	7 Socializing and communication, community participation and religious practice	51 Social Life + 43 Participatory and religious activities	8 Educational activities	9 Organizational, civic, and religious activities	
11- Attending/visiting cultural, entertainment and sports events/venues	8 Culture, leisure, mass-media and sports practices	52 Entertainment and Culture	11 Telephone calls, mail, and e-mail		7 Socialising and leisure activities
12- Hobbies, games and other pastime activities		7 Hobbies	10 Leisure and sports		
13- Indoor and outdoor sports participation and related courses		6 Sports and Outdoor Activities			
14- Mass media	9 Self-care and maintenance	8 Mass media	8 Educational activities	8 Use of communications media	
15- Personal care and maintenance	9 Self-care and maintenance	0 Personal Care	9 Organizational, civic, and religious activities	9 Self-care	
Finalised travels are split in every major division present in ICATUS		9 Travel and Unspecified Time Use	12 Other activities, not elsewhere classified		

ICATUS is comprised of 165 groups classified into 56 divisions and 9 major divisions, which represents a manageable number of categories facilitating the usability of the classification. In comparison, the trial ICATUS had 15 major divisions, 54 divisions, 92 groups, 200 classes and 363 subclasses. (A summary of changes is provided in United Nations (2017). CAUTAL is divided into 3 sections (employment and own goods production work within the SNA production boundary, unpaid work outside the SNA production boundary and personal activities (including learning) outside the SNA general production boundary), 9 major divisions (1 digit), 34 divisions (2 digits), 96 groups (3 digits) and 23 subgroups (4 digits). And HETUS is comprised of a list of 115 3-digit codes distributed in 10 major divisions (1 digit) and 32 divisions (2 digits), and complemented by an ICT column asking if ICT devices have been used while undertaking the main or secondary/parallel activity.

The focus of ICATUS and CAUTAL on the production of goods for own final use can be explained by the relative importance of such activities in developing countries where they can significantly contribute to the GDP and to the well-being of the populations¹⁰, thus avoiding the confusion between activities such as providing care to domestic animals and caring for pets, when applying HETUS for example to developing countries: even if both activities are generally unpaid, they do not fall into the same category as regards the SNA production boundary. In this respect these two classifications should be preferred to others for time-use surveys conducted in developing and emerging countries. The 2016 ICATUS report, in its draft as of 13th of February 2017, provides in annex 1.2 a table of correspondences between the new ICATUS and HETUS 2008. In this respect, there was no major change introduced in the revised HETUS 2018. The main difference lies in the classification of production of goods for own final use as SNA production in the ICATUS (9 sub-categories at 3-digit level) whereas these activities are supposed (because they are not specifically mentioned) to be included in unpaid household and family care in the HETUS, as shown on Chart 8 below for gardening and pet care (code 34 in HETUS), but also for household upkeep (code 32) with water and wood fetching, and for making and care of textiles (code 33).

Similarly, the volunteer activities are much more developed in the ICATUS for taking into account that individual, family and neighbourhood solidarities are much more widespread in developing countries than they are in developed countries (Chart 9 below) where they are more often intermediated through associations. However it should be noted that the contribution made by grand parents to care of their grand children falls in the category "informal help to other households" provided that most of the time grand parents constitute separate households.

¹⁰ Paradoxically, this focus by CAUTAL contrasts with the absence of such activities in the national accounts of many Latin American countries. Conversely, Sub-Saharan African countries (and more recently transition countries) have put some emphasis on these issues and it would be interesting to assess how many and how well countries measure the production of goods for own final use in their systems of national accounts and to compare with estimates based on imputations from time use.

Chart 8: Main differences between ICATUS 2016 and HETUS 2008 in unpaid work

HETUS 2008		ICATUS 2016	
341	Gardening	211	Growing crops and kitchen gardening, for own final use
		214	Forestry and logging, for own final use
342	Tending domestic animals	324	Upkeep of in/outdoor plants, hedges, garden, grounds, landscape, etc.
		212	Farming of animals and production of animal products, for own final use
343	Caring for pets	361	Daily pet care
		362	Using veterinary care or other pet care services (grooming, stabling, holiday or day care)
344	Walking the dog	361	Daily pet care
349	Other or unspecified gardening and pet care	369	Other activities related to pet care
35	CONSTRUCTION AND REPAIRS		
351	House construction and renovation	230	Construction activities for own final use
		224	Making, processing bricks, concrete slabs, hollow blocks, tiles for own final use
352	Repairs to dwelling	331	Do-it-yourself improvement, maintenance and repair of own dwelling
353	Making, repairing and maintaining equipment	332	Installation, servicing and repair of personal and household goods including ICT equipment
		223	Making, processing of wood and bark products, for own final use
		227	Making, processing of products using other materials for own final use
		226	Making, processing metals and metal products for own final use

Source: United Nations (2017)

Chart 9: Main differences between ICATUS 2016 and HETUS 2008 in volunteer work

HETUS 2008		ICATUS 2016	
42	INFORMAL HELP TO OTHER HOUSEHOLDS		
421	Construction and repairs as help	511	Unpaid volunteer household maintenance, management, construction, renovation and repair
422	Help in employment and farming	515	Unpaid volunteer unpaid help in enterprises owned by other households
423	Care of own children living in another household	411	Caring for children including feeding, cleaning, physical care
		412	Providing medical care to children
		413	Instructing, teaching, training, helping children
		414	Talking with and reading to children
		415	Playing and sports with children
		416	Minding children (passive care)
		417	Meetings and arrangements with schools and child care service providers
		419	Other activities related to childcare and instruction
424	Other childcare as help to another household	513	Unpaid volunteer childcare and instruction
425	Help to an adult of another household	514	Unpaid volunteer care for adults
429	Other or unspecified informal help to another household	512	Unpaid volunteer shopping/purchasing goods and services
		519	Other activities related to direct unpaid volunteering for other households

Source: United Nations (2017)

In HETUS 2018, a number of productive activities are arranged under different categories compared to ICATUS 2016 that can be rearranged for aggregation.

In conclusion, the ICATUS is more appropriate to distinguish the two components of unpaid domestic and care work: the first component that is included in the compilation of GDP, and the second component which, for the time being remains not counted in the GDP. In other words, ICATUS fits better with the needs and requirements of the SNA.

The recent concern for the use of smartphones that has become a pervasive permanent practice may tend to permeate the future time-use surveys, as it seems to be the case for the ATUS as well as in the design of the diary of the 2018 round of HETUS (see Chart 10 hereafter). However, putting such an activity at the first digit level should not be recommended because it could have negative impacts on the measurement of other activities that are more important to follow in terms of time use, especially unpaid domestic and care activities.

In the presentation of the 2016 ICATUS (United Nations 2017, Annex 1.1) a table of correspondence is also proposed between the main broad level categories of ICATUS and HETUS and the four categories suggested by Dagfinn Ås (1978) (see section *supra*). Also interesting is the classification of the broad level categories in several output



7

DIARIES

areas, for analytical uses: well-being, gender equality, unpaid work and non-market production, and work-life balance.

As already explained, the diary questionnaire is the best-suited technique of data collection on time-use and 83.1% of the surveys use this technique. Three types of diary are presented below: the recently designed diary for the 2018 round of HETUS (which is similar to the 2008 round, except the inclusion of an additional question on the use of a computer or smart device, internet, online tool for doing the activity) (Chart 10), the last Japanese time-use diary (2016)

Chart 10: Diary of HETUS 2018

TIME USE DIARY page 1/8									
Time	What were you doing? Record your main activity for each 10-minute period from 07:00 to 10:00! Only one main activity on each line! Distinguish between travel and the activity that is the reason for travelling.	What else were you doing? Record the most important parallel activity.	Did you use a computer, smart device, internet, online tool, or similar technology or device for doing this? Yes	Where were you? Record the location or the mode of transport. e.g. at home, at friends' home, at school, at workplace, in restaurant, in shop, on foot, on bicycle, in car, on motorbike, on bus, ...	Were you alone or together with somebody you know? Mark "yes" by crossing				
				Alone (or with unknown persons)	Partner	Parent (up to 17 years)	Other household member	Other persons that you know	
04:00-04:10			<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
04:10-04:20			<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
04:20-04:30			<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
04:30-04:40			<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
04:40-04:50			<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
04:50-05:00			<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
05:00-05:10			<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
05:10-05:20			<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
05:20-05:30			<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
05:30-05:40			<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
05:40-05:50			<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
05:50-06:00			<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
06:00-06:10			<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
06:10-06:20			<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
06:20-06:30			<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
06:30-06:40			<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
06:40-06:50			<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
06:50-07:00			<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Chart 11: Detailed diary of the 2016 Japan time-use survey

All the respondents are asked to reply.

16 Diary
 *Please report on you did on each of the two days specified and how much time you spent on each activity, in units of 15 minutes.

(1) Select the feature of this day from the categories listed below. (Please fill in the circle of all applicable categories)

Travel and excursion	Event, wedding or funeral (lasting over half a day)	Business trip or training, etc.	Work at home	Under medical treatment	Holiday or vacation, etc.	Leave for child rearing or taking care of a sick child	Leave to take care of a family member	Other
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(2) How was the weather on this day?

Rained all day long	Rained occasionally	Not rained
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

04

[First Day]

Time	What were you mainly doing? *Please report what you were mainly doing in 15 minute units	Using smartphone/PC	Were you doing something else at the same time? *When doing several things please report just one	Using smartphone/PC	Place				Persons being together (Please encircle all applicable categories)							Time end hour code
					1 At home	2 At school or work	3 On travel	4 Other	1 Alone	2 Father	3 Mother	4 Spouse or partner(s)	5 Spouse	6 Other family member(s)	7 Other person(s) from work, school, etc.	
0:00					1	2	3	4	1	2	3	4	5	6	7	01
0:30					1	2	3	4	1	2	3	4	5	6	7	02
1:00					1	2	3	4	1	2	3	4	5	6	7	03
1:30					1	2	3	4	1	2	3	4	5	6	7	04
2:00					1	2	3	4	1	2	3	4	5	6	7	05
2:30					1	2	3	4	1	2	3	4	5	6	7	06
3:00					1	2	3	4	1	2	3	4	5	6	7	07
3:30					1	2	3	4	1	2	3	4	5	6	7	08
4:00					1	2	3	4	1	2	3	4	5	6	7	09
4:30					1	2	3	4	1	2	3	4	5	6	7	10
5:00					1	2	3	4	1	2	3	4	5	6	7	11
5:30					1	2	3	4	1	2	3	4	5	6	7	12
6:00					1	2	3	4	1	2	3	4	5	6	7	13
6:30					1	2	3	4	1	2	3	4	5	6	7	14
7:00					1	2	3	4	1	2	3	4	5	6	7	15
7:30					1	2	3	4	1	2	3	4	5	6	7	16
8:00					1	2	3	4	1	2	3	4	5	6	7	17
8:30					1	2	3	4	1	2	3	4	5	6	7	18
9:00					1	2	3	4	1	2	3	4	5	6	7	19
9:30					1	2	3	4	1	2	3	4	5	6	7	20
10:00					1	2	3	4	1	2	3	4	5	6	7	21

Chart 12: The Ghana 2009 Time-Use Survey

Member ID - -

SECTION 2: TIME USE

1. TIME CODE	2. ACTIVITY NO	3. Activity description A MAXIMUM OF 5 ACTIVITIES PER HOUR WITHIN THE 24 HOURS	4. Activity code	5. Duration of Activity (in minutes)	6. Whom did you do this for? 1 Self 2 Household 3 Work 4 Friend 5 Charity 6 Community 7 Child 8 Other	7. Simultaneous Activity Y E S N O	8. Location 1 1 At home 2 Someone's house 3 School, college 4 Workplace 5 Other 6 Travelling/moving IF NOT 6 GO TO NEXT ACTIVITY	9. Location 2 1 Walking 2 Private Car 3 Taxi 4 Train 5 Bus 6 Bicycle 7 Other
	<input type="text"/>		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
04:00	<input type="text"/>		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
To	<input type="text"/>		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
05:00	<input type="text"/>		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
	<input type="text"/>		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>

(Chart 11), and the 2009 Ghana Time Use Survey diary (Chart 12).

Diaries unfold the course of the day hour by hour and by time slots of 10 to 15 or 30 minutes (in rows) and a simple question is asked “What were you doing (during this time slot)?” followed by a second “What else were you doing?”. This second question intends to capture simultaneous activities. Then come the contextual questions on where and for whom and with whom, designed to distinguish between paid and unpaid work or volunteer work, as well as various forms of socialising. In some surveys, the exact duration of each activity is captured.

Diaries are not so difficult to fill for an interviewer, but they can be discouraging for self-filling by the respondent or by telephone call, and very often the interviewer will have to intervene in the process to avoid too high non-response rates. As the interviewer will have to fill the household and the individual questionnaires before leaving the diary behind and coming back for retrieving it, it is finally preferable, in developing countries, to have the diary filled by the interviewer for the previous day (or for the selected day(s)), even when interviewees are literate. The difficulty is rather the sense of time among the respondents, especially in rural areas where watches and clocks are not common (see Charmes 2010 in Antonopoulos and Hirway 2010). But the sequence of the activities over the course of the day is essential and allows locating and estimating the activities among the various markers of the day: wake-up time, lunch time, bedtime, etc.

The main difficulty of diaries lies in fact in the codification of activities according to the classification (which does not necessarily take place during data collection), rather than their naming (it is up to the respondent to qualify the activity) and collection. This is why some countries have shown their preference for *light diaries*.

Like complete diaries, light diaries unfold the 24 hours of the day by time slots (put in columns and not in rows), but a pre-coded list of all activities is proposed in rows (or in columns). This pre-coded list generally corresponds to a combination of the first and second level of the classification being used and depends on the objectives of the survey.

Japan for instance has designed a light diary in twenty activities (Chart 13 below), among which medical examination or treatment is distinguished, a specificity that can be explained by the fact that the Japanese society is one of the more advanced in age-

Chart 13: Example of a light diary: Japan 2016

24 Diary

- Please report on you did on each of the two days specified and how much time you spent on each activity, in units of 15 minutes.
- Please draw a horizontal line to specify the activity and persons with you for each 15 minute unite.

(1) Select the feature of this day from the categories listed below. Please fill in the circle all applicable categories.

Travel and excursion	Event, wedding or funeral (lasting over half a day)	Business trip or training, etc.	Work at home	Under medical treatment	Holiday or vacation, etc.	Leave for child rearing or taking care of a sick child	Leave to take care of a family member	Other
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(2) How was the weather on this day?

<input type="radio"/> Rained all day long	<input type="radio"/> Rained occasionally	<input type="radio"/> Not rained
-------------------------------------------	-------------------------------------------	----------------------------------

06

[First Day]

Those who were engaged in more than one activity at the same time should report the main activity.

	Kind of activities	0 o'clock	30	1	30	2	30	3	30	4	30	5	30	6 o'clock	
Morning	1 Sleep	[Red line from 0:00 to 0:30]													1
	2 Personal care	[Red line from 0:30 to 1:00]													2
	3 Meals	[Red line from 1:00 to 1:30]													3
	4 Commuting to and from school or work	[Red line from 1:30 to 2:00]													4
	5 Work	[Red line from 2:00 to 2:30]													5
	6 Schoolwork	[Red line from 2:30 to 3:00]													6
	7 Housework	[Red line from 3:00 to 3:30]													7
	8 Caring or nursing	[Red line from 3:30 to 4:00]													8
	9 Child care	[Red line from 4:00 to 4:30]													9
	10 Shopping	[Red line from 4:30 to 5:00]													10
	11 Moving (excluding commuting)	[Red line from 5:00 to 5:30]													11
	12 Watching TV, listening to the radio, reading newspapers or magazines	[Red line from 5:30 to 6:00]													12
	13 Rest and relaxation	[Red line from 6:00 to 6:30]													13
	14 Learning, self-education, and training (except for school work)	[Red line from 6:30 to 7:00]													14
	15 Hobbies and amusements	[Red line from 7:00 to 7:30]													15
	16 Sports	[Red line from 7:30 to 8:00]													16
	17 Volunteer and social activities	[Red line from 8:00 to 8:30]													17
	18 Social life	[Red line from 8:30 to 9:00]													18
	19 Medical examination or treatment	[Red line from 9:00 to 9:30]													19
	20 Other activities	[Red line from 9:30 to 10:00]													20
Person(s) being together	a Alone	[Red line from 0:00 to 10:00]													a
	b Family member(s)	[Red line from 0:00 to 10:00]													b
	c Classmate(s) or colleague(s)	[Red line from 0:00 to 10:00]													c
	d Other person(s)	[Red line from 0:00 to 10:00]													d

ing. The Japanese time-use survey deserves here to be especially mentioned because the light diary is filled by the whole sample (the largest in the world) whereas the com-

Chart 14: Example of a light diary: Ireland 2005

A. ACTIVITY GROUP	Activity Code		EARLY MORNING								
			4.00 am			5.00 am					
			15	30	45	15	30	45			
PERSONAL CARE /RESTING	1	SLEEPING									
	2	RESTING/RELAXING doing nothing, 'time out'									
	3	PERSONAL CARE washing, dressing, toilet									
	4	EATING/DRINKING/HAVING A MEAL									
TRAVEL	5	TRAVEL including travel to and from work as well as leisure and domestic travel									
PAID EMPLOYMENT OR STUDY	6	PAID EMPLOYMENT include paid and unpaid overtime, work from home, self-employment and farm work. Exclude lunch and other breaks.									
	7	STUDY, EDUCATION include courses, night classes, studying at home. Exclude lunch and other breaks.									
	8	BREAKS FROM WORK OR STUDY include tea/coffee, smoking and lunch breaks.									
HOUSEWORK AND OTHER HOUSEHOLD TASKS	9	COOKING & preparing food (including making lunches), washing-up									
	10	CLEANING the house, doing the laundry, ironing, hoovering, tidying up									
	11	HOUSE REPAIRS & maintenance, DIY, gardening									
SHOPPING AND APPOINTMENTS	12	SHOPPING, MESSAGES/ERRANDS & APPOINTMENTS shopping for food or leisure, services e.g. hairdressers, visiting doctor, paying bills									
CARING FOR OTHERS	13	CHILDCARE looking after children, physical care, supervision									
	14	PLAYING AND TALKING WITH CHILDREN include reading, games, helping with homework, accompanying children to activities									
	15	CARING FOR ADULTS with special needs or elderly persons, either in your home or elsewhere (e.g. help with personal care)									
VOLUNTARY AND RELIGIOUS ACTIVITY	16	VOLUNTARY ACTIVITY for a charitable organisation, sports club or other organisation, include meetings & informal helping outside the home									
	17	RELIGIOUS ACTIVITY Attending religious services, prayer									
SOCIALISING AND GOING OUT	18	SPENDING TIME/CHATTING WITH FAMILY, FRIENDS, NEIGHBOURS including spouse									
	19	PHONING/TEXTING FAMILY, FRIENDS, NEIGHBOURS include writing a letter									
	20	EATING OUT/GOING TO THE PUB include going to cafes, bars, restaurants, nightclubs									
	21	GOING OUT to concerts, theatre, cinema, galleries, sporting events, bookies, bingo									
SPORTS & LEISURE	22	PLAYING SPORTS, EXERCISE AND OUTDOOR ACTIVITY including playing football, walking the dog, going to the park									
	23	COMPUTER/INTERNET FOR PERSONAL USE e.g. play station, x-box, surfing the net, email, using computer for leisure, shopping									
	24	HOBBIES AND OTHER LEISURE ACTIVITIES e.g. playing musical instruments, playing cards, other games									
TV, RADIO, READING	25	WATCHING TV and videos/DVDs									
	26	READING a book, magazine or newspaper or LISTENING to radio or music									
B. WHO WERE YOU WITH?		No-one/I was alone									
		Spouse/partner									
	Tick all that apply.		Own children under 18								
			Other person or people I know								
C. WHERE WERE YOU?		At home									
		Away from home									

plete diary is filled by a sub-sample.

The light diary developed by Ireland in 2005 was comprised of 26 activities (Chart 14 hereafter) that satisfy the basic analytical needs.

Another interesting format of light diary has been developed for the pilot time-use survey of Argentina (2019), in preparation of the 2021 national survey (as a pilot survey, it is not listed in Table 1 supra).

The list is comprised of 26 activities illustrated by pictograms (Chart 15):

- 4 activities for paid work: work in an occupation, seeking work or creating a business, travel to or from work, work for own consumption by the household, non-remunerated internship;
- 7 activities for unpaid domestic and care work: preparing and serving meals, cleaning the house, washing-ironing-fixing clothes and shoes, minor repairing and maintaining the house, payments and formalities for the household, shopping, caring pets and plants;
- 5 activities for use of mass media: watching TV, listening to radio, use of computer or tablet, use of cellphone, reading books or magazines;
- 4 activities for socializing: meeting family or friends, attending events or shows, performance of artistic activities, games or entertainment, doing sports or physical exercises;
- 2 activities for learning: learning, travel to and from school;
- 3 activities for personal care: hygiene-personal maintenance, health care, travel related to health care;
- 3 activities for personal needs: eating and drinking, sleeping, resting-napping-other personal activities;
- 2 activities for volunteering: unpaid help to other households, volunteer work.

Chart 15: the light diary of the pilot time-use survey of Argentina 2019

Cuidados a miembros del hogar		Personales	Por salud	Apoyo escolar	Traslados	Otros
Discapacidad (todas las edades)		441	442		443	449
0 a 14 años		411	412	413	414	419
15 a 64 años		421	422		423	429
65 años o más		431	432		433	439

Ver televisión 82	Reunirse con familiares o amigos 71	Estudiar 61	Comer y beber 921
Escuchar radio 83	Asistir a eventos o espectáculos 72	Viajar para estudiar 62	Dormir 922
Usar computadora o tableta 84	Realizar actividades artísticas, juegos o entrenamientos 73	Higiene, arreglo personal, etc. 911	Descansar, dormir siesta o realizar otras actividades personales 923
Usar el celular 85	Hacer deportes o ejercicios físicos 74	Cuidar su salud (tratamientos, terapias, etc.) 912	Ayudar a otros hogares sin pago 51
Leer libros o revistas 81		Viajar para cuidar su salud 914	Hacer trabajos voluntarios 53

H	Min	Código de actividad			Observaciones
		Actividad 1	Actividad 2	Actividad 3	
04	00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	20	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	30	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	40	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
05	50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	20	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	30	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
06	40	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	20	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
07	30	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	40	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	20	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	30	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	40	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Nota: recuerde que si la persona que recibe cuidado tiene discapacidad, deberá registrar los códigos correspondientes a discapacidad y no según el grupo de edad.

Chart 15 (continued): the light diary of the pilot time-use survey of Argentina 2019

3. USO DEL TIEMPO: DIARIO DE ACTIVIDADES (DA)

Le voy a pedir que me relate todo lo que hizo ayer. Tenga presente que las personas realizamos múltiples actividades, como dormir, comer, bañarnos, trabajar, hacer la limpieza, cuidar de otras personas, etc. Algunas de estas actividades se realizan de manera simultánea (por ejemplo, cocinar mientras cuidamos a los niños y las niñas). Iremos registrando las actividades que realizó desde las 00 h hasta las 24 h. Puede informar hasta tres actividades realizadas de manera simultánea.

- ¿Qué estaba haciendo a las 00 horas del día de ayer?
- ¿Hasta qué hora duró esa actividad? Si no estaba durmiendo, indagar en qué franja horaria durmió.
- ¿Estaba haciendo algo más? (indagar si durmió de corrido o si lo interrumpió para hacer otra actividad)
- ¿A qué hora se despertó?
- ¿Qué hizo cuando se despertó? ¿Hasta qué hora hizo esa actividad?
- ¿Durante ese tiempo estaba haciendo algo más? (para detectar actividades simultáneas en el mismo período de tiempo)

Repetir la indagación alternando las preguntas hasta completar las actividades con la mayor precisión posible.

TARJETA DE ACTIVIDADES (T2)

Trabajar en una ocupación

11

Viajar para ir y volver al trabajo

14

Preparar y servir la comida

31

Hacer reparaciones menores y mantenimiento de la vivienda

34

Hacer pagos y trámites del hogar

35

Buscar trabajo o iniciar un negocio

13

Trabajar para consumo propio del hogar

2

Limpieza de la vivienda

32

Hacer compras para el hogar

36

Capacitarse para el trabajo

15

Realizar una pasantía no remunerada

12

Lavar, planchar o arreglar la ropa/el calzado

33

Cuidar mascotas y plantas

37

H	Min	Código de actividad			Observaciones	
		Actividad 1	Actividad 2	Actividad 3		
00	00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		1
	10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		2
	20	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		3
	30	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		4
	40	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		5
	50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		6
01	00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		7
	10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		8
	20	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		9
	30	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		10
	40	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		11
	50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		12
02	00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		13
	10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		14
	20	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		15
	30	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		16
	40	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		17
	50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		18
03	00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		19
	10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		20
	20	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		21
	30	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		22
	40	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		23
	50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		24

14 ESTRICTAMENTE CONFIDENCIAL Y RESERVADO
ENCUESTA NACIONAL DE USO DEL TIEMPO - PRUEBA 2019

Source: INDEC, 2019.

China also used a light diary (with 20 activities) for the 2018 round of its time-use survey.

Benin (1998 and 2014), Madagascar (2000) and Mali (2005) used a pre-coded list of 60 to 80 activities. In such cases the diaries can hardly be considered as light, but they remain easy to manage by the interviewers and avoid the burden and difficulty of codification.

The length of time slots or the number of activities captured within the course of an hour is also important: 10 to 15 minutes or up to 5 activities in an hour seem the most common. Table A2 in annex summarises the main characteristics of Time use surveys with diaries, in terms of time slots and number of activities by time slot, measure of weekly variations (number of diaries) and seasonal variations, treatment of simultaneous activities, contextual questions and characteristics of individuals, households, housing/premises.

Regarding contextual questions, it is interesting to note that among the 32 countries for which the information is available, 30 (93.7%) included the question on where the activity was performed, 21 (65.6%) the question on with whom¹¹ the activity was performed, 7 (21.9%) the question for whom and 7 (21.9%) the question for what (purpose). The mode of transportation was asked in 20 countries (62.5%). Recently, some countries have introduced the use of ICT as a contextual question and we have already indicated that the new round of HETUS has introduced it as a separate question in the diary.

¹¹ Nancy Folbre (2020) notes that there is considerable variation in responses depending on how “with whom” is defined. In South Korea for instance, it was defined as “with whom engaging in the same activity”, whereas in other surveys, it could have been interpreted as “in the presence of whom”.



8

STYLISTED
QUESTIONS

Although the list of stylised questions seems more consistent with the usual methodology of household surveys and the interviewers' practice in the field, it is very unlikely that this approach saves time and facilitates the data collection process. As a matter of fact, the number of stylised questions tends to reach the number of groups and sub-groups of the classifications of time-use activities (at two-digit level) or even a combination of categories at two-digit and three-digit levels.

Table 10 hereafter counts the number of stylised questions used for capturing the various activities in paid work, unpaid work, and other activities in the recent time-use surveys conducted in Latin America. Latin American countries follow various approaches in designing the stylised questionnaires to capture time-use. Since 2016, Brazil for instance dedicates a module of its permanent national household survey to time-use in other forms of work, but neither covers time-use in paid work in the main activity (that is captured in the employment module) nor time-use in other personal activities (leisure or personal care). Therefore, as for Uruguay (and for Cabo Verde in Africa), time spent in unpaid work cannot be compared to time spent in paid work and the complete schedule of the day cannot be reconstituted. The Dominican Republic uses a too short list of time-use activities that is incomplete: personal care is restricted to sleeping (time spent in eating and having meals is not captured, nor is time spent in other personal care activities).

Generally, there is not a unique question for each activity: a set of 3 questions is used in the questionnaire of the Dominican Republic: 1) Has the person been involved in the activity (during past week)? 2) How many days? 3) How many hours during the week? In Brazil, the three questions are: 1) Have you been involved in activities such as (follows a list of several activities belonging to a same category of activities), 2) For how many hours? 3) Which activity exactly? (follows the coding of the activity). In countries where the questionnaire is based on a long list of activities, for each activity three questions were asked in Chile and in Mexico (see Chart below): 1) Involved or not? 2) How many hours and minutes from Monday to Friday 3) How many hours and minutes on Saturday and Sunday? And a fourth question in Peru: 4) Were you paid or not for this task? (Peru also allocates some space for possible comment about the activity in question). Ecuador (see Chart 20 hereafter) developed another design of the questionnaire: for each activity or set of activities, the questions are asked to each of the concerned household members before going to the next activity or set of activities.

Excluding paid work, CAUTAL comprises 97 categories for describing all other activities at its most detailed level (against 121 in ICATUS). In comparison, the maximum number of questions is with the Peruvian survey (128 questions), followed by Ecuador (111) and Chile and Costa Rica (99). Then comes Mexico (89), Colombia (65), Paraguay (45). The Dominican Republic is an exception with only 10 questions that fail to cover all time-use activities (for instance sleeping is the only personal care activity to have been measured). In Ecuador and Peru, 51 questions are dedicated to unpaid domestic services against 34 in Mexico and 22 in Chile and Colombia (and 27 in CAUTAL). Unpaid care of household members is covered with 46 questions in Chile against 23 to 27 questions in Peru, Ecuador, Mexico and Paraguay (and 32 in CAUTAL). In total, for 68 categories of unpaid work in CAUTAL, 90 stylised questions are necessary in Peru, 83 in Ecuador, 79 in Costa Rica, 76 in Chile, 68 in Mexico and 46 in Colombia and only 21 in Brazil.

Table 10: Number of activities or questions in time-use surveys with stylized questionnaires and classifications in Latin America

	CAUTAL 2016	Brazil 2017	Chile 2015	Colombia 2016-17	Costa Rica 2017	Dominican Rep 2016	Ecuador 2012	Mexico 2014	Paraguay 2016	Peru 2010	ICATUS
Paid work	8	-	3	4	2	2	3	4	2		20
Production of goods for own final use	15	4			8	2	15	9	5		24
Total paid work	23		3	4	10	4	18	13	7		44
Domestic services	27	8	22	22	36	1	51	34	10	51	30
Care of household members	32	6	46	13	23	1	25	26	27	23	23
Care of other household, community, volunteering	9	7	8	11	20	1	7	8		16	14
Total unpaid care work	68	21	76	46	79	3	83	68	37	90	67
Education	6	-	4		6	3	4	3		7	9
Other	23	-	19	19	14	7	24	18	8	24	45
Total (excluding paid work)	97	21	99	65	99	10	111	89	45	128	121

Source: Own compilations of TUS questionnaires

Finally, for all activities concerning free time and personal care 24 questions are designed in Peru and Ecuador, 19 in Chile and Colombia, 18 in Mexico, 14 in Costa Rica and only 8 in Paraguay and 7 in the Dominican Republic, (against 23 in CAUTAL). The focus of the surveys is clearly on unpaid work, including production of goods for own final use (except in Chile, Colombia and Peru, where this latter category is not developed). Table A3 in annex summarises some characteristics of the stylised surveys.

In what follows, we will focus on two time-use surveys conducted in Mexico (2014) and Ecuador (2012) in order to better understand how these two countries have attempted to collect information on time-use as regards unpaid work related to the production of goods for own final use and especially to the care of children and other adult members in the household.

For the collection of time dedicated to the production of goods for own final use by the households, the questionnaire enumerates those activities that are typically included within the SNA production boundary, namely: care of domestic farm animals (milking, gathering eggs, etc.); firewood fetching; gathering plants, mushrooms, flowers or wild fruit, fishing, hunting; growing vegetables in garden plots; water fetching; manufacturing clothes, curtains, textiles, etc.; processing food products to be preserved or stored (jams, preserves, pickles, salted meat, chocolate, bread, cheese or others); manufacturing furniture, utensils, blocks or adobes; self-construction.

Chart 16: Stylised questions on the Production of goods for own final use in Mexico

Ahora le preguntaré sobre las actividades que hizo para su hogar. Por favor, si al mismo tiempo usted realizó varias actividades, separe el tiempo que le dedicó a cada una.

PRODUCCIÓN DE BIENES PARA CONSUMO EXCLUSIVO DEL HOGAR

6.3 Durante la semana pasada, SÓLO para el consumo de su hogar, ¿usted... <small>REGISTRE EL CÓDIGO CORRESPONDIENTE</small>	6.3a ¿Cuánto tiempo le dedicó... <small>REGISTRE CON NÚMERO</small>			
	de lunes a viernes?		sábado y domingo?	
	HORAS	MINUTOS	HORAS	MINUTOS
1 cuidó o crió animales de corral (ordeñar, recolectar huevos, etc.)?	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
2 recolectó leña?	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
3 recolectó plantas, hongos, flores o frutos silvestres; pescó o cazó?	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
4 sembró o cuidó lo que plantó en el traspatio o huerto?	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
5 acarrió o almacenó agua?	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
6 elaboró o tejió ropa, manteles, cortinas o textiles, etc.?	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
7 elaboró alimentos para conservarse o almacenarse? (mermeladas, conservas, encurtidos, salar carne, chocolate, pan, quesos u otros)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
8 hizo muebles, utensilios de cocina, blocks, adobes u otros productos?	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
9 amplió o remodeló <u>usted mismo(a)</u> su vivienda o la estuvo construyendo?	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Encuesta Nacional sobre Uso del Tiempo 2014. Cuestionario. 2015.

Depending on countries and surveys, the list can be longer or shorter and adapted to some national practices for example by mentioning specific activities under their local designation. In Latin America, such efforts in data collection are understandable because these activities, which have been included in the compilation of the GDP even before the 1993 SNA revision that systematised the inclusion of production of goods for own final use, remained neglected.

Charts 17, 18, 19 and 20 hereafter, show how Mexico and Ecuador time-use surveys have collected information on time spent in caring for children.

In Mexico the module is individual, meaning that the questionnaire is administered to each eligible member of the household separately whereas in Ecuador the module is collective (format of a household roster), which could mean that each question is possibly administered to all eligible members of the household, before going to the next question, which would require the presence of all members at the same time or (more probably) that one or several among the present members respond (or not) for the absent members.

In Mexico two categories of children are distinguished; the less than 6 for whom a set of three questions are filled:

- feeding,
- bathing and grooming,
- carry or lay down,

and then all children less than 15 years old with a set of six questions:

- bring to or pick up from day care, school, relative's or friend's home;
- give therapy or help with exercises;
- help with schoolwork;
- attend meetings, festivals or supportive activities at day care or school;
- bring to, pick up from or wait for health care;
- and lastly: "*while you were doing something else, did you take care of, or watch over the child?*"¹² (highlighted in yellow on Chart 17).

It is not specified whether this latter question on supervisory care as a simultaneous activity is included or not in the account of time spent in childcare, but the replications from microdata by Folbre (2020) show that it is. The same question is also asked for caring for adults and elderly (see below). What is clear however is that Mexico is among the countries where women's unpaid care work is relatively high (the country shows up in the right-hand side in Chart 21 below, where 76 countries are distributed according to women's economic participation rates (in labour force surveys) and time spent in unpaid care work).

These two sets of questions on child care are dedicated to non-dependent children. They are preceded by a separate set of questions on care for dependent members of the household (Chart 18 hereafter, where supervisory care as a simultaneous activity is also captured) and followed by two other sets of questions for non-dependent members of the household: one for members aged 15 to 59, and one for the 60+ (Chart 19). This latter category also includes a question on supervisory care as a simultaneous activity.

12 On these questions regarding supervisory care Nancy Folbre (2020) notes that in Spanish, "estar pendiente de" can be translated "be aware of" or "watch over".

Chart 17: Stylised questions on childcare in the Mexico time use survey (ENUT) 2014

Encuesta Nacional sobre Uso del Tiempo 2014

INSTITUTO NACIONAL DE ESTADÍSTICA Y GEOGRAFÍA

PRIMERA PERSONA

CUIDADO A INTEGRANTES DEL HOGAR DE 0 A 5 AÑOS, NO DEPENDIENTES

FILTRO 6.12 VERIFIQUE SI HAY INTEGRANTES DE 0 A 5 AÑOS Y SIN CUIDADOS ESPECIALES (SU NÚMERO DE RENGLÓN (NOMBRE) NO ESTÁ EN 3.11a)

CIRCULE UN SOLO CÓDIGO

Sí 1

No 2 → PASE A FILTRO 6.13

6.12 Durante la semana pasada, ¿usted a (NOMBRE(S))...

REGISTRE EL CÓDIGO CORRESPONDIENTE

Sí 1 →

No 2 ↓

6.12a ¿Cuánto tiempo le dedicó...

REGISTRE CON NÚMERO

		de lunes a viernes?		sábado y domingo?	
		HORAS	MINUTOS	HORAS	MINUTOS
1 le(s) dio de comer (amamantó) o dio de beber?					
2 lo(s) bañó, aseó (cambió pañales), vistió o arregló?					
3 lo(s) cargó o acostó?					

CUIDADO A INTEGRANTES DEL HOGAR DE 0 A 14 AÑOS, NO DEPENDIENTES

FILTRO 6.13 VERIFIQUE SI HAY INTEGRANTES DE 0 A 14 AÑOS Y SIN CUIDADOS ESPECIALES (SU NÚMERO DE RENGLÓN (NOMBRE) NO ESTÁ EN 3.11a)

CIRCULE UN SOLO CÓDIGO

Sí { Otra(s) persona(s); otra(s) persona(s) y el (la) informante 1 → CONTINÚE Y SÓLO PREGUNTE POR EL CUIDADO QUE EL (LA) INFORMANTE DIO A OTRA(S) PERSONA(S) DEL HOGAR

} Solo el (la) informante 2 } PASE A FILTRO 6.14

No 3

6.13 Durante la semana pasada, ¿usted a (NOMBRE(S))...

REGISTRE EL CÓDIGO CORRESPONDIENTE

Sí 1 →

No 2 ↓

6.13a ¿Cuánto tiempo le dedicó...

REGISTRE CON NÚMERO

		de lunes a viernes?		sábado y domingo?	
		HORAS	MINUTOS	HORAS	MINUTOS
1 lo(s) llevó y/o recogió de la guardería, de clases, de la casa de algún familiar o amigo para ser cuidado?					
2 le(s) dio terapia especial o ayudó a realizar ejercicios?					
3 lo(s) ayudó en las tareas de la escuela?					
4 asistió a juntas, festivales o actividades de apoyo en la guardería o escuela?					
5 lo(s) llevó, recogió o esperó para que recibiera(n) atención de salud? (vacunas, dentista, chequeo médico, etc.)					
6 mientras hacía otra cosa, lo(s) cuidó o estuvo al pendiente?					

Uso del Tiempo 2014. Cuestionario. 2015.

Chart 18: Stylised questions on care of dependent members of the household in the Mexico time use survey (ENUT) 2014

Ahora le preguntaré sobre los cuidados que da a las personas de su hogar.			
CUIDADOS A PERSONAS DEPENDIENTES POR DISCAPACIDAD, ENFERMEDAD CRÓNICA O TEMPORAL			
FILTRO 6.11 VERIFIQUE SI HAY INTEGRANTES QUE NECESITARON CUIDADOS ESPECIALES (PREGUNTA 3.11 = 1)			
CIRCULE UN SOLO CÓDIGO			
Sí	{ Otra(s) persona(s); otra(s) persona(s) y el (la) informante necesitaron cuidados 1 → CONTINÚE Y SÓLO PREGUNTE POR EL CUIDADO QUE EL (LA) INFORMANTE DIO A OTRA(S) PERSONA(S) DEL HOGAR { Solo el (la) informante necesitó cuidados 2 } No 3 } PASE A FILTRO 6.12		
6.11 (NOMBRE(S)) <u>necesitó(aron) cuidados de otra persona.</u> Durante la semana pasada, sea en la casa, hospital u otro lugar, ¿usted... REGISTRE EL CÓDIGO CORRESPONDIENTE		6.11a ¿Cuánto tiempo le dedicó... REGISTRE CON NÚMERO Sí 1 → de lunes a viernes? sábado y domingo? No 2 ↓ HORAS MINUTOS HORAS MINUTOS	
	01 le(s) dio de comer o ayudó a hacerlo? [] : [] : [] : [] 02 lo(s) bañó, aseó, vistió, arregló o ayudó a hacerlo? [] : [] : [] : [] 03 lo(s) cargó, acostó o le(s) ayudó a hacerlo? [] : [] : [] : [] 04 le(s) preparó remedios caseros o algún alimento especial? [] : [] : [] : [] 05 le(s) dio medicamentos o checó sus síntomas? (temperatura, presión, otros) [] : [] : [] : [] 06 lo(s) llevó, recogió o esperó para que recibiera(n) atención de salud (exámenes, visitas al médico, etc.) o alguna terapia especial? [] : [] : [] : [] 07 le(s) dio terapia especial o ayudó a realizar ejercicios? [] : [] : [] : [] 08 lo(s) llevó y/o recogió de clases, trabajo u otro lugar? [] : [] : [] : [] 09 lo(s) ayudó o apoyó en las tareas de la escuela o trabajo? [] : [] : [] : [] 10 asistió a juntas, festivales o actividades de apoyo escolar? [] : [] : [] : [] 11 mientras hacía otra cosa, lo(s) cuidó o estuvo al pendiente? [] : [] : [] : []		

INEGI. Encuesta Nacional sobre Uso del Tiempo 2014. Cuestionario. 2015.

Chart 19: Stylised questions on care of other household members in the Mexico time use survey (ENUT) 2014

CUIDADO A INTEGRANTES DEL HOGAR DE 15 A 59 AÑOS, NO DEPENDIENTES

FILTRO 6.14 VERIFIQUE SI HAY INTEGRANTES DE 15 A 59 AÑOS Y SIN CUIDADOS ESPECIALES (SU NÚMERO DE RENGLÓN (NOMBRE) NO ESTÁ EN 3.11a)

CIRCULE UN SOLO CÓDIGO

Sí..... {
 Otra(s) persona(s); otra(s) persona(s) y el (la) informante 1 → CONTINÚE Y SÓLO PREGUNTE POR EL CUIDADO QUE EL (LA) INFORMANTE DIÓ A OTRA(S) PERSONA(S) DEL HOGAR
 Solo el (la) informante 2 }
 No 3 } PASE A FILTRO 6.15

6.14 Durante la semana pasada, ¿usted a (NOMBRE(S))... **6.14a ¿Cuánto tiempo le dedicó...**

REGISTRE EL CÓDIGO CORRESPONDIENTE REGISTRE CON NÚMERO

Sí 1 → **de lunes a viernes?** **sábado y domingo?**
 No 2 ↓ HORAS MINUTOS HORAS MINUTOS

1 lo(s) apoyó o asesoró en el uso de la computadora, celular, internet o actividades relacionadas con sus cursos o clases? | | : | | : | | : | |

2 lo(s) llevó, recogió o esperó para que recibiera(n) atención de salud? (vacunas, dentista, chequeo médico, etc.) | | : | | : | | : | |

3 lo(s) llevó y/o recogió de clases, trabajo, de algún trámite u otro lugar? | | : | | : | | : | |

CUIDADO A INTEGRANTES DEL HOGAR DE 60 AÑOS Y MÁS, NO DEPENDIENTES

FILTRO 6.15 VERIFIQUE SI HAY INTEGRANTES DE 60 AÑOS Y MÁS Y SIN CUIDADOS ESPECIALES (SU NÚMERO DE RENGLÓN (NOMBRE) NO ESTÁ EN 3.11a)

CIRCULE UN SOLO CÓDIGO

Sí..... {
 Otra(s) persona(s); otra(s) persona(s) y el (la) informante 1 → CONTINÚE Y SÓLO PREGUNTE POR EL CUIDADO QUE EL (LA) INFORMANTE DIÓ A OTRA(S) PERSONA(S) DEL HOGAR
 Solo el (la) informante 2 }
 No 3 } PASE A 6.16

6.15 Durante la semana pasada, ¿usted a (NOMBRE(S))... **6.15a ¿Cuánto tiempo le dedicó...**

REGISTRE EL CÓDIGO CORRESPONDIENTE REGISTRE CON NÚMERO

Sí 1 → **de lunes a viernes?** **sábado y domingo?**
 No 2 ↓ HORAS MINUTOS HORAS MINUTOS

1 lo(s) apoyó o asesoró en el uso de la computadora, celular, internet o actividades relacionadas con sus cursos o clases? | | : | | : | | : | |

2 lo(s) llevó, recogió o esperó para que recibiera(n) atención de salud? (vacunas, dentista, chequeo médico, etc.) | | : | | : | | : | |

3 lo(s) llevó y/o recogió del trabajo, de algún trámite u otro lugar? | | : | | : | | : | |

4 mientras hacía otra cosa, lo(s) cuidó o estuvo al pendiente? | | : | | : | | : | |

Encuesta Nacional sobre Uso del Tiempo 2014. Cuestionario. 2015.

In Ecuador (Chart 20), all household members aged 12 years old and more are asked a set of six questions if there are other household members aged less than 12:

- feeding;
- bathing and grooming;
- playing, speaking, reading; giving therapy or helping with exercises;
- *looking after the child, while doing something else*;
- attending meetings, festivals or other activities or programs of educational centers.

Then follows a set of nine questions for all households, even if there is no child under 12:

- helping or supervising schoolwork,
- bringing to or picking up from an educative institution any household member,
- bringing to, accompanying or picking up from a medical institution any household member,
- bringing to or picking up from work any household member,
- bringing to or picking up from a special course or training of any household member,
- daily or nightly care of a sick member of the household, or bringing to and accompanying at the hospital or care center,
- bringing and accompanying to hospital, care center or physician any household member,
- bringing and accompanying to a midwife, a therapist or other healer any household member,
- preparing remedies for curing any household member.

It should be noted that, as in Mexico, the Ecuador time-use survey comprises a question on supervisory child care as a simultaneous activity.

Chart 20: Stylised questions on childcare in the Ecuador time use survey 2012



INSTITUTO NACIONAL DE ESTADÍSTICA Y CENSOS

SISTEMA INTEGRADO DE INDICADORES DE HOGARES - SIIH

ENCUESTA ESPECÍFICA DE USO DEL TIEMPO

EUT 2012

REPÚBLICA DEL ECUADOR - NOVIEMBRE 2012



COMISIÓN DE TRANSICIÓN
HACIA EL CONSEJO DE LAS MUJERES
Y LA IGUALDAD DE GÉNERO

Decreto Ejecutivo 1733 R.O. 001-09 de mayo de 2009

CONFIDENCIALIDAD:

LOS DATOS PROPORCIONADOS POR EL INFORMANTE, SON ESTRICTAMENTE CONFIDENCIALES Y SERÁN UTILIZADOS ÚNICAMENTE CON FINES ESTADÍSTICOS DE ACUERDO AL ARTÍCULO 21 DE LA LEY DE ESTADÍSTICA

INFORMACIÓN GENERAL

ÁREA URBANA - RURAL

FORMULARIO DE

CAPÍTULO 7: CUIDADO DE NIÑOS - NIÑAS

PARA PERSONAS DE 12 AÑOS Y MÁS - INFORMANTE DIRECTO

EN LA SEMANA PASADA:		EN LA SEMANA PASADA:		EN LA SEMANA PASADA:		EN LA SEMANA PASADA:	
<small>¿Le dió de comer a algún niño o niña pequeño/a del hogar?</small>		<small>¿Bañó y/o vistió a algún niño o niña pequeño/a del hogar?</small>		<small>¿Jugó, conversó, le contó o leyó cuentos a algún niño o niña del hogar?</small>		<small>¿Le realizó o practicó algún ejercicio especial o terapia a algún niño o niña del hogar?</small>	
<small>Registrar las preguntas 61 a 66 si en el hogar existen niños-niñas menores de 12 años, caso contrario pase a pregunta 67</small>				<small>Tomar en cuenta el juego como motivador del desarrollo infantil y enseñanza</small>			
SI 1 NO 2		SI 1 NO 2		SI 1 NO 2		SI 1 NO 2	
Cuánto tiempo le dedicó de:		Cuánto tiempo le dedicó de:		Cuánto tiempo le dedicó de:		Cuánto tiempo le dedicó de:	
LUNES A VIERNES? SÁBADO Y DOMINGO?		LUNES A VIERNES? SÁBADO Y DOMINGO?		LUNES A VIERNES? SÁBADO Y DOMINGO?		LUNES A VIERNES? SÁBADO Y DOMINGO?	
COD.	HORAS	MINUTOS	HORAS	MINUTOS	COD.	HORAS	MINUTOS
61		62		63		64	
01							01
02							02
03							03
EN LA SEMANA PASADA:		EN LA SEMANA PASADA:		EN LA SEMANA PASADA:		EN LA SEMANA PASADA:	
<small>¿Estuvo pendiente de algún niño o niña pequeño/a del hogar, mientras hacía otras cosas?</small>		<small>¿Asistió a reuniones, festivales u otras actividades o programas del centro educativo de algún miembro del hogar?</small>		<small>¿Ayudó o estuvo pendiente de las tareas escolares de algún niño o niña o joven del hogar?</small>		<small>¿Llevó y/o recogió a algún miembro del hogar, ya sea a la guardería, escuela, colegio, universidad o algún otro establecimiento educativo?</small>	
SI 1 NO 2		SI 1 NO 2		SI 1 NO 2		SI 1 NO 2	
Cuánto tiempo le dedicó de:		Cuánto tiempo le dedicó de:		Cuánto tiempo le dedicó de:		Cuánto tiempo le dedicó de:	
LUNES A VIERNES? SÁBADO Y DOMINGO?		LUNES A VIERNES? SÁBADO Y DOMINGO?		LUNES A VIERNES? SÁBADO Y DOMINGO?		LUNES A VIERNES? SÁBADO Y DOMINGO?	
COD.	HORAS	MINUTOS	HORAS	MINUTOS	COD.	HORAS	MINUTOS
65		66		67		68	
01							01
EN LA SEMANA PASADA:		EN LA SEMANA PASADA:		EN LA SEMANA PASADA:		EN LA SEMANA PASADA:	
<small>¿Llevó y/o recogió algún miembro del hogar, para recibir atención médica?</small>		<small>No incluir el tiempo de traslado si se lo realiza en el traslado al trabajo, solo debe incluirlo si tomó mas de 10 minutos</small>		<small>No incluir el tiempo de traslado si se lo realiza en el traslado a una visita médica, solo debe incluirlo si tomó mas de 10 minutos</small>		<small>¿Cuidó a algún miembro del hogar enfermo/a hospitalizado/a o lo acompañó en el hospital, clínica durante el día y/o noche?</small>	
SI 1 NO 2		SI 1 NO 2		SI 1 NO 2		SI 1 NO 2	
Cuánto tiempo le dedicó de:		Cuánto tiempo le dedicó de:		Cuánto tiempo le dedicó de:		Cuánto tiempo le dedicó de:	
LUNES A VIERNES? SÁBADO Y DOMINGO?		LUNES A VIERNES? SÁBADO Y DOMINGO?		LUNES A VIERNES? SÁBADO Y DOMINGO?		LUNES A VIERNES? SÁBADO Y DOMINGO?	
COD.	HORAS	MINUTOS	HORAS	MINUTOS	COD.	HORAS	MINUTOS
69		70		71		72	
01							01
EN LA SEMANA PASADA:		EN LA SEMANA PASADA:		EN LA SEMANA PASADA:		EN LA SEMANA PASADA:	
<small>¿Llevó o acompañó a algún miembro del hogar a la clínica, hospital, centro de salud o consultorio médico privado?</small>		<small>¿Llevó o acompañó a algún miembro del hogar a realizar alguna visita a: parteras, terapeutas, curanderos/as, entre otros?</small>		<small>¿Preparó remedios caseros para curar a algún miembro del hogar?</small>		<small>¿Con qué frecuencia realiza dos o más actividades al mismo tiempo:</small>	
SI 1 NO 2		SI 1 NO 2		SI 1 NO 2		SI 1 NO 2	
Cuánto tiempo le dedicó de:		Cuánto tiempo le dedicó de:		Cuánto tiempo le dedicó de:		Siempre?..... 1	
LUNES A VIERNES? SÁBADO Y DOMINGO?		LUNES A VIERNES? SÁBADO Y DOMINGO?		LUNES A VIERNES? SÁBADO Y DOMINGO?		Casi siempre?..... 2	
COD.	HORAS	MINUTOS	HORAS	MINUTOS	COD.	HORAS	MINUTOS
73		74		75		Pocas veces?..... 3	
01						Nunca?..... 4	
02							
03							

Charts 21 and 22 cross-classify countries/surveys by time spent by women in unpaid care work as provided by time-use surveys¹³ and by their labour force participation rates as provided by labour force surveys (Chart 21) or by time spent by men in unpaid care work (Chart 22). They clearly show that the higher the labour force participation rate for women, the lower the time they spend in unpaid care work (Chart 21)¹⁴, and the higher the time spent by women in unpaid care work, the higher the time spent by men in these same activities (Chart 22). However on both charts, the dispersal is important and some sets of countries seem particularly distinctive: it is the case of countries in the MENA region (plus Pakistan) (in red on Chart 21), which are characterized by very low female participation rates and relatively long time spent by women in unpaid care work though remaining around the world average (315 minutes per day). Furthermore, Latin American and Caribbean countries, and more generally countries using stylized questionnaires for measuring time-use, are scattered all through the graphic space (in yellow on Charts 21 and 22), with two countries at the extremes: Cabo Verde on the right-hand side and the Dominican Republic on the left-hand side. These two countries' surveys are characterized by the shortest and incomplete list of activities (they are at the limits of our criteria for inclusion in the database) resulting in an overestimation of women's unpaid care work (associated with an underestimation of men's unpaid care work) in Cabo Verde, and in an underestimation of both women and men's unpaid care work in the Dominican Republic. Brazil, with a list of 21 activities is also located on the left-hand side (with probable important underestimation of unpaid care work). On the contrary, countries with very long lists of activities (Mexico, Colombia, Chile, Peru and Costa Rica) are located on the upper right-hand side of Charts 21 and 22, with quite long lists of activities (except Colombia with 65) that may result in overestimation of unpaid care work for women as well as for men. Argentina, Panama and Ecuador are the three countries/surveys that ranks among the average for both women and men: Argentina (in fact Buenos Aires) is the only Latin American countries based on a diary survey and Panama is an urban survey, but Ecuador has a very long list of activities for its stylized questionnaire (111 items). So, what could be the explanation? Panama and Ecuador are also the two countries of the data base for which the total number of minutes per day adds up to more than 1,440 minutes (24 hours): 1,557 minutes for Ecuador and 1,598 minutes for Panama, indicating that simultaneous activities have been counted. Whereas unpaid work and paid work rank in the average for both women and men, time spent in leisure is widely below the average and time spent in personal care widely above. And so is the situation in Panama, though at a lesser degree. It is difficult to conclude, but it seems that the risk of overestimation or underestimation, and compensations or overlapping between activities cannot be overlooked in countries using stylized questionnaires.

In 2011 Parker and Gandini (2011) conducted a comparative survey of two small samples of individuals in 750 households of the metropolitan area of Mexico City, one surveyed with a diary of 10 minutes time slots (493 observations) and the other with a list of 75 stylized questions (547 observations)(see also: Gandini, Parker and Orozco 2013).

13 Data refer to the entire population covered by the national surveys without harmonisation of the age group, which would be impossible without access to micro data (see Charmes 2015 and 2019) for more details (Note that generally – but not always - the countries that have included children under 15 in the population of reference, do not include them in the final presentation of aggregate results and treat them separately).

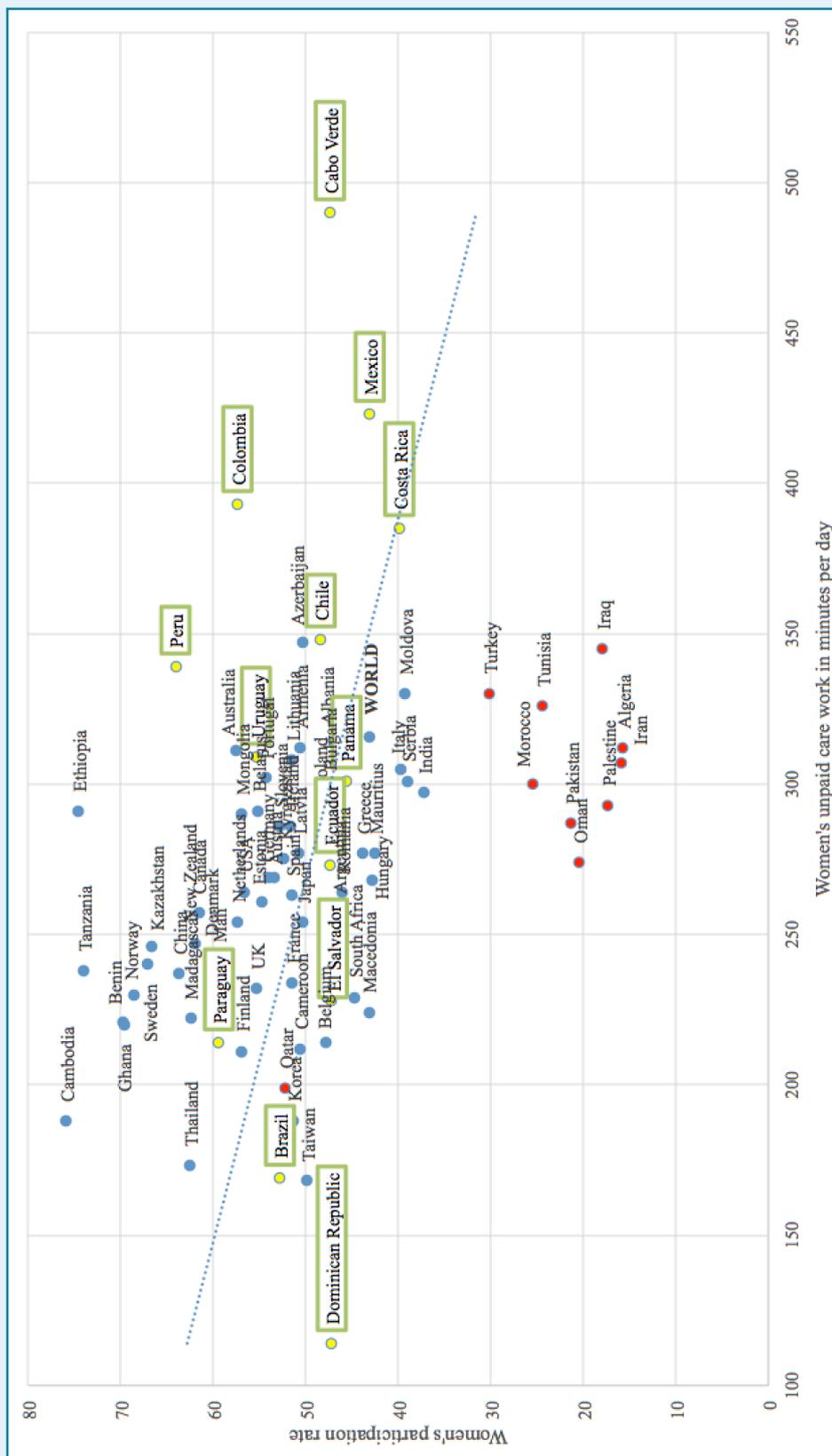
14 Nancy Folbre (2020) shows for instance that in Ghana “formal employment has the largest effect: each additional minute devoted to this activity reduces indirect care by .4 minutes and effects are larger for mothers than for women in general. This implies that formal employment of 8 hours reduces indirect care work by about 3 hours—with the net effect of lengthening women's total workday. Similar results are obtained for Mexico and Ecuador.

The authors note that there is a significant proportion of activities for which average times estimated through stylized questions are higher than times obtained through diaries and that these activities are those that are socially normative or with established (or expected) schedules, such as domestic work, care work, paid work, voluntary work and learning. On the contrary, lower estimates are observed in times obtained from stylised questionnaires as compared with times obtained through diaries, in activities subject to a greater individualization process such as socialising, leisure, use of mass media and means of communication, as well as personal care, including sleep time. They assume that reporting time by segment in the day makes people less aware of the resulting aggregated time, lowering the incidence of social norms. For care activities, the difference between listing and mentioning a great variety of actions involved in this type of activities is observed as compared with only capturing the spontaneous declaration of the same. “By being much less subject to statements associated with normative stereotypes and socially expected roles, the time use records captured by the stylised questionnaire have revealed much larger gender gaps (both in levels of participation and in the time allocated to activities)”. As regards paid work and learning, differences between stylized questions and diaries can be explained by the capture of “net” time by diaries where interfering interruptions can be mentioned and identified. The authors also note that these differences are equally observed for both sexes, various age groups and marital statuses.

They also note that diaries are less subject to errors and inconsistencies due to non-responses: a non-response in a stylised questionnaire may be due to recall problems or dispersion of time spent in the activity in too many short time slots over the reference period which is usually the week, whereas the diary allows a better “fine-tuning”. Problems of rounding can also occur even if stylized questionnaires capture not only hours but also minutes¹⁵.

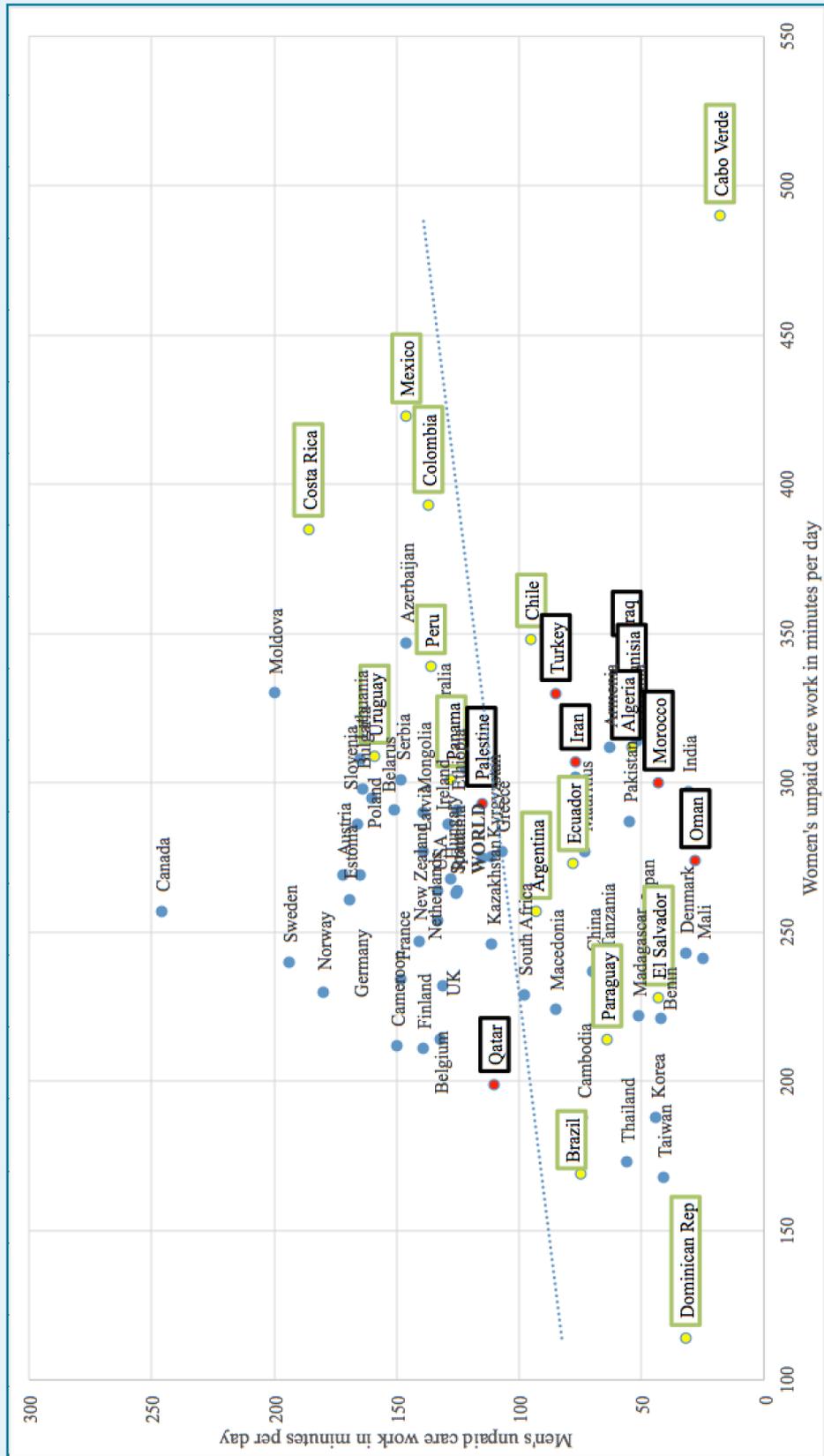
15 For a more balanced view regarding the pros and cons of diaries and stylised questions, see Folbre (2020).

Chart 21: Distribution of 78 countries by women's activity rates and time spent by women in unpaid care work



Source: Own data base 78 countries for unpaid care work, ILOSTAT for participation rates

Chart 22: Distribution of 78 countries by time spent by men and by women in unpaid care work



Source: Ibid.

Table 11 below summarises the findings: On average time spent is much higher in stylized questionnaires than in diaries for paid work (+20% for women, +0,05% for men), for unpaid domestic work (+30% for women and +50% for men), for care work dedicated to household members (3.3 times higher for women and 9.6 times for men).

Table 11: Participation rates and average time spent in various activities through diaries or stylized questionnaires. Mexico City 2011

	Women				Men			
	Participation rate (%)		Time per day (hours)		Participation rate (%)		Time per day (hours)	
	Diary	Stylised	Diary	Stylised	Diary	Stylised	Diary	Stylised
Paid work	28.7	28.1	1,612	1,983	59.8	60.0	4,621	4,848
Unpaid Domestic work	95.2	98.5	4,980	6,766	68.6	89.5	1,373	2,829
Unpaid Care of household members	37.0	66.4	0,618	2,634	13.2	55.9	0,076	1,697
Unpaid work for other households	0.7	6.4	0,001	0,136	0.5	8.2	0,001	0,191

Source: Based on Gandini et al. (2013)

Globally the gender gap amounts to 72% as per diaries against 58% as per stylized questionnaires.

This is all the truer for short and incomplete lists of activities included in multipurpose household surveys that fail to take the real measure of unpaid work and the corresponding gender gap. In the next section, some of these modules attached to multipurpose or other types of household surveys are presented.



9

OTHER TUS

In the introduction of her book, Indira Hirway enumerates more than 125 time-use surveys worldwide (Hirway 2017), a figure considerably higher than our own compilation of 82 countries. Among the 125, 82 are located in the Global South: 30 in Africa (out of 54 countries), 22 in Latin America and the Caribbean (out of 44) and 30 in Asia and the Pacific (out of 53). The reason is that she includes all types of surveys collecting data on time-use, even incomplete as regard the number of activities (a few activities but not all) or the details of activities (too much aggregated: all activities but comprised in a list of less than 12 categories), and including surveys conducted at local level or as pilot surveys.

Many countries have included short modules on time-use, sometimes since a long time, following the efforts in this sense made by the Living Standard Measurement Study (LSMS) of the World Bank or by its substitute or alternative, the Social Dimensions of Adjustment (SDA) Integrated survey (World Bank 1991). These two kinds of surveys have impregnated most of the multipurpose household surveys on living conditions in developing countries. In both LSMS- and SDA-type surveys, the module on time use is merged in the labour force or employment module. In their synthesis for the World Bank report on “Designing household survey questionnaires for developing countries, Lessons from 15 years of the Living Standards Measurement Study”, (Margareth Grosh and Paul Glewwe eds. 2000) Andrew Harvey and Maria Elena Taylor (2000) present the additional module on time-use. Rather than an assessment of what had been done in the past surveys these authors drafted an overview of programmatic proposals in this field. Several options are suggested: 1) A stylized activity list (with 30 activities in rows), presented as an individual questionnaire to be administered to each eligible member; 2) A stylized activity list (with 23 pre-listed activities in columns) where each set of questions (work, education, household maintenance, personal activities, social and community activities, other) is asked to all eligible members; 3) A stylized activity log (a light diary) with 29 pre-listed activities (in rows), time slots of 15 minutes (in columns), and 6 more questions on type of remuneration (if any), location, and child responsibility (this latter question being asked in complement for all other activities); 4) An open interval time diary (with non-prelisted activities in rows) with a question on simultaneous activity, and contextual questions on location, with whom, for whom, use of equipment and type of remuneration.

What happened next remained far from such proposals: the module remained optional and more or less developed depending on the needs expressed by the countries. Some surveys were limited to data collection on time spent in water -and firewood- or fuel-fetching (see for instance the Integrated Household Panel Survey of Malawi in 2013 where a few questions were also added for unpaid labour for other households: Chart 23 hereafter), others extended to a global question on “housekeeping” (for instance, LSMS Vietnam 2004: Chart 24 hereafter) or sometimes more detailed (as in Nepal NLSS 2010: Chart 25, Guatemala MECOVI 2000: Chart 26 or Argentina 2013: Chart 27, this latter survey not being a LSMS-type survey). But the most recent surveys (for instance LSMS Cambodia 2019: see Chart 28 hereafter) have included what resembles to a light diary (with 26 activities). This LSMS survey for Cambodia could be added to our list of 82 countries (see Table 1 supra).

Chart 23: Module on time use Malawi 2013

PUBLIC DISCLOSURE AUTHORIZED

Malawi Integrated Household Panel Survey - Household Questionnaire - Page 1

MARK BOX WITH AN 'X' AND NUMBER FORMS BELOW IF YOU USE MORE THAN THIS SINGLE FORM TO COLLECT INFORMATION FROM THIS HOUSEHOLD. IF SO, BE SURE TO MARK IN THE SAME WAY THE OTHER FORMS USED FOR THIS HOUSEHOLD.

FORM _____ OF _____ FORMS IN TOTAL



Malawi Government
National Statistical Office

STRICTLY CONFIDENTIAL

Questionnaire Number

INTEGRATED HOUSEHOLD PANEL SURVEY, 2013

THIS SURVEY IS BEING CONDUCTED BY THE NATIONAL STATISTICAL OFFICE UNDER THE AUTHORITY OF THE 1967 STATISTICS ACT. THIS INFORMATION IS STRICTLY CONFIDENTIAL AND IS TO BE USED FOR STATISTICAL PURPOSES ONLY.

HOUSEHOLD QUESTIONNAIRE

MODULE E: TIME USE & LABOUR

[ASK ALL HOUSEHOLD MEMBERS AGED 5 YEARS AND OLDER]

E01	E02	E03	E04	E05	E06
I D C O D E	PUT AN 'X' FOR ALL INDIVIDUALS WHO ARE AGED BELOW 5 YEARS. DO NOT ADMINISTER THIS MODULE TO THESE INDIVIDUALS.	IS THE RESPONDENT REPORTING FOR HIM/HERSELF? YES.1 >>E05 NO.2	WHO IS RESPONDING ON BEHALF OF [NAME]? LIST FROM HOUSEHOLD ROSTER	How many hours did you spend yesterday collecting firewood (or other fuel materials)?	How many hours did you spend yesterday collecting firewood (or other fuel materials)?
				HH ROSTER ID CODE	HOURS
1					
2					
3					
4					

OTHER UNPAID LABOUR OVER THE LAST 12 MONTHS

E60	E61	E62	E63	E64	E65
At any time over the last 12 months, did you work for other households, free of charge, as exchange labourer or to assist for nothing in return?	Over the last 12 months, for how many households in total did you work as exchange labourer or to assist for nothing in return?	Among the households for whom you worked as exchange labourer or to assist for nothing in return, how many were households of relatives?	Among the households for whom you worked as exchange laborer or to assist for nothing in return, how many were households of friends/neighbors? RECORD ZERO IF NONE.	Was the household of the village headman among the households for whom you worked as exchange laborer or to assist for nothing in return?	Over the last 12 months, for how many days in total did you work for other households as exchange labourer or to assist for nothing in return?
YES.1 NO.2 >>NEXT ROW	NUMBER OF HHs IN TOTAL	NUMBER OF HHs OF RELATIVES	NUMBER OF HHs OF FRIENDS/NEIGHBORS	YES.1 NO.2	NUMBER OF DAYS

Chart 24: Housework as captured in the LSMS survey in Vietnam 2004

HOUSEWORK	
<p>26</p> <p>Do you have to do your housework? (such as cleaning, shopping, cooking clothes washing, water and wood fetching, repairing tools in the house...)</p> <p>YES.....1 NO.....2</p> <p>(>>NEXT PERSON)</p>	<p>27</p> <p>For how many hours a day for the last 12 months have you done this kind of on the average?</p> <p>HOURS</p>

Chart 25: The time-use module in the Nepal Living Standard Survey (NLSS) 2010



**Central Bureau of Statistics (CBS)
Nepal Living Standards Survey - ROUND III
2010
HOUSEHOLD QUESTIONNAIRE**

HOUSEHOLD ID					
PSU NUMBER			HH		
0	1	4	5	0	1

All personal information asked within this questionnaire will be kept confidential according to Statistical Act. 2015. This information will be used only for statistical purposes.

NEPAL SURVEY OF LIVING CONDITIONS

Sir/Madam:
The Central Bureau of Statistics Office in cooperation with is undertaking a household survey to collect ...

Your cooperation is earnestly solicited

Very truly yours,

Mr. Uttam Narayan Malla
Director General
Central Bureau of Statistics
Thapatali, Kathmandu, Nepal

Certification:
I hereby certify that the data gathered in this questionnaire were obtained/reviewed by me personally and in accordance with instructions

Section 10 Jobs and time use Part A: Time use

FOR ALL HOUSEHOLD MEMBERS 5 YEARS AND OLDER

(10.01)
How many hours has [NAME], spent doing the following activities during the past 7 days?

**IN COMPLETED HOURS
WRITE ZERO IF NONE**

IDENTIFICATION CODE	A	B	C	D	E	F	G	H	I	J	K	L	M	N
	Fetching water	Collecting firewood and dung	Collecting fodder	Taking care of animals	Making mats, knitting, weaving, tailoring	Processing preserved food (pickle, jam, wine, etc) and milling	TOTAL (A + B + C + D + E + F)	Minor household repairs	Cooking/ serving food for household	Cleaning house, laundry, dishes	Shopping for household	Caring for elderly, sick or disabled	Babysitting / caring for children	Other volunteer/community services
	N° HRS	N° HRS	N° HRS	N° HRS	N° HRS	N° HRS	N° HRS	N° HRS	N° HRS	N° HRS	N° HRS	N° HRS	N° HRS	N° HRS
01														
02														
03														

Chart 26: The time-use module of MECOVI 2000 in Guatemala

CHAPTER IX. TIME USE -For household members 7 years of age and older--Direct informants persons 12 years old and older-

A. PAID AND UNPAID WORK ACTIVITIES

Yesterday, did you work in a company or institution, farm or plot in exchange for income, salary, wages or daily fee in cash or in-kind? YES..... 1 NO..... 2

Yesterday, did you work in your business, farm or plot or as an independent worker in exchange for income, benefits or earnings in cash or in-kind? YES..... 1 NO..... 2

Yesterday, did you work helping in the activities of the farm, plot or household business or for other persons without receiving income? YES..... 1 NO..... 2

Yesterday, did you weave, embroider, make or process articles of clothing for household members? YES..... 1 NO..... 2

Yesterday, did you take care of animals? YES..... 1 NO..... 2

Yesterday, did you make repairs to your dwelling of any type: electrical, plumbing, bricklaying, etc.? YES..... 1 NO..... 2

Yesterday, how much time did you spend getting yourself to and from the place where you work? YES..... 1 NO..... 2

B. STUDIES

Yesterday, did you attend school, carry out any other type of studies, do homework, and/or go to the place where you study? YES..... 1 NO..... 2

How much time did it take yesterday? CODE HOURS MINUTES

ID	CODE	HOURS	MINUTES	ID																		
1																						1
2																						2

TIME USE (continued)

C. HOUSEHOLD MAINTENANCE ACTIVITIES

Yesterday, did you clean the house? YES..... 1 NO..... 2

Yesterday, did you cook or prepare breakfast, lunch, or dinner? YES..... 1 NO..... 2

Yesterday, did you wash dishes? YES..... 1 NO..... 2

Yesterday, did you wash or iron clothing? YES..... 1 NO..... 2

Yesterday, did you throw out the trash? YES..... 1 NO..... 2

Yesterday, did you haul water? YES..... 1 NO..... 2

Yesterday, did you collect firewood? YES..... 1 NO..... 2

Yesterday, did you serve and/or look after children? YES..... 1 NO..... 2

Yesterday, did you make any household purchases? (go to the corner store, the supermarket, etc.) YES..... 1 NO..... 2

How much time did it take yesterday? CODE HOURS MINUTES

ID	CODE	HOURS	MINUTES	ID																		
1																						1
2																						2

TIME USE (continued)

D. PURCHASES/PAYMENTS

Yesterday, did you make any payments for household services like paying for water, light, electricity, telephone, etc? YES..... 1 NO..... 2

E. OTHER ACTIVITIES

Yesterday, did you spend time in care, attention and personal activities? (Bathing, doing your hair, saving, putting on makeup, etc.) YES..... 1 NO..... 2

Yesterday, did you participate in any sporting activities, cultural activities, and/or relaxation? (Playing, watch television, go to the movies, go to the theatre, etc.) YES..... 1 NO..... 2

Yesterday, did you provide any free service or participate in community work or meetings? YES..... 1 NO..... 2

Yesterday, how much time did you spend in eating, sleeping, reading, and/or resting? HOURS MINUTES

Yesterday, did you spend time in any activity not already mentioned? YES..... 1 NO..... 2

F. SIMULTANEOUS ACTIVITIES

Of the activities mentioned, which were done simultaneously or at parallel times?

None = 00
Nothing else = 97

USE THE SECTION AND THE NUMBER OF THE QUESTION TO REGISTER THE SIMULTANEOUS OR PARALLEL ACTIVITIES
Example: B1, C1, D4, etc.

Register up to a maximum of 3 combined activities

Register up to a maximum of 4 simultaneous activities

SIMULTANEOUS OR PARALLEL ACTIVITIES

ID	CODE	HOURS	MINUTES	1st Combined	2nd Combined	3rd Combined	4th Combined	ID												
1																				1
2																				2

Chart 27: The time-use module on unpaid domestic, care and volunteer work in the annual household survey in urban areas Argentina 2013

MÓDULO TRABAJO NO REMUNERADO Y USO DEL TIEMPO - SÓLO PARA PERSONAS DE 18 AÑOS Y MÁS
 Estrictamente Confidencial - LEY N°17.622
 Aplicado 3° trimestre 2013

Instituto Nacional de Estadística y Censos **indec**

I. IDENTIFICACIÓN										Encuestador	Número
GRUPO DE ROTACIÓN	PROVINCIA	UPS / AGLOMERADO	CÓDIGO DE ÁREA	N° DE LISTADO	SEMANA N°	TRIMESTRE	AÑO	VIVIENDA N°	HOGAR N°		

ENTREVISTA REALIZADA
 SÍ NO

Marque el código correspondiente al día de ayer a la entrevista 1.Lunes 2.Martes 3.Miércoles 4.Jueves 5.Viernes 6.Sábado 7.Domingo

A continuación le voy a hacer unas preguntas sobre las actividades realizadas por los miembros del hogar y el tiempo que le dedicaron

II. MIEMBROS DEL HOGAR DE 18 AÑOS Y MÁS		III. TRABAJO DOMÉSTICO NO REMUNERADO				IV. TRABAJO VOLUNTARIO													
01. N° de Componente	02. N° de Respondente	04. Ayer, ¿Cuánto tiempo le dedicó a: limpieza de casa, aseo y arreglo de ropa, preparar y cocinar alimentos, compras para el hogar, reparación y mantenimiento del hogar?		05. Ayer, ¿Cuánto tiempo le dedicó al apoyo en tareas escolares a miembros del hogar?		06. Ayer, ¿Cuánto tiempo le dedicó al cuidado de niños / enfermos o adultos mayores, miembros del hogar? (Incluye tiempos de traslado a actividades de cuidado)		07. La semana pasada, ¿Cuánto tiempo le dedicó a colaborar con otros hogares (en forma gratuita) con las tareas domésticas y/o cuidado de niños, enfermos o adultos mayores?		08. La semana pasada, ¿Cuánto tiempo le dedicó a las actividades de trabajo voluntario, sin recibir pago? (0,0 en horas FIN)		09. Si realizó trabajo voluntario ¿En qué sector realizó esta tarea como voluntario? (la que le dedica más horas)		10. Dicho trabajo ¿Lo realizó a través de una organización?		11. Si lo realizó a través de una organización ¿Qué tipo de organización?			
		1. Educación	2. Salud	3. Servicios sociales	4. Cultura, deporte, recreación	5. Religión	6. Medio ambiente	7. Asociaciones profesionales/sindicales	8. Otros, especificar	9. NS/NR	1. Sí	2. NO (FIN)	9. NS/NR (FIN)	1. Beneficiencia/ organización sin fines de lucro/ONG/sindicato/ organización religiosa/partido político	2. Empresa	3. Administración pública	4. Otros, incluida la comunidad	9. NS/NR	
03. Nombre		Si no realizó la actividad, registre 00 en horas y 00 en minutos. No sabe no responde ingrese -9																	
		Horas	Minutos	Horas	Minutos	Horas	Minutos	Horas	Minutos	Horas	Minutos								
		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>								
		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>								
		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>								
		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>								
		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>								
		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>								

Unpaid domestic work:

- 04: Yesterday, how much time did you spend on cleaning the house, washing and arranging clothes, preparing and cooking food, shopping for the household, repairing and maintaining the house?
- 05: Yesterday, how much time did you spend on supporting members of the household in their school work?
- 06: Yesterday, how much time did you spend on caring of children, sick or adult household members, including related travel?

Volunteer work

- 07: Past week, how much time did you spend on helping other households (without remuneration) for their domestic tasks, and/or care of children, sick or adults?
- 08: Past week, how much time did you spend on volunteer tasks without remuneration?
- 09: If engaged in volunteer work, in which sector of activity was this work performed: 1) education, 2) health, 3) social services, 4) culture, sport, entertainment, 5) religion, 6) environment, 7) professional associations/trade unions, 8) other (specify), 9) don't know.
- 10: Was this work realized through an organization?
- 11) If through an organization, what type of organization: 1) charity, non-profit, NGO, trade union, religious, political party, 2) enterprise, 3) public administration, 4) other (including community), 9) don't know.

Chart 28: The module on time allocation of the LSMS household survey in Cambodia 2019

CONFIDENTIAL

All information collected in this survey is strictly confidential and will be used for statistical purposes only.

Royal Government of Cambodia
Ministry of Planning
National Institute of Statistics

Form 3

PSU No.							
Household ID							

HHID: _____ WAKE UP TIME: _____

NAME OF RESPONDENT: _____ SLEEP TIME: _____

MODULE : TIME ALLOCATION

PLEASE RECORD A LOG OF THE ACTIVITIES FOR THE INDIVIDUAL IN THE LAST COMPLETE 24 HOURS (STARTING YESTERDAY MORNING AT 4 AM, FINISHING 3:59 AM OF THE CURRENT DAY). THE TIME INTERVALS ARE MARKED IN 15 MIN INTERVALS. MARK ONE PRIMARY ACTIVITY FOR EACH TIME PERIOD BY ENTERING THE CORRESPONDING ACTIVITY CODE IN THE BOX. A SECONDARY ACTIVITY (OPTIONAL) CAN BE ENTERED IN CASE OF SIMULTANEOUS ACTIVITIES.

INSTRUCTIONS: THIS MODULE SHOULD BE ADMINISTERED TO ALL HOUSEHOLD MEMBERS AGE 18 AND ABOVE.

Now I'd like to ask you about how you spent your time during the past 24 hours. We'll begin from yesterday morning, and continue through to this morning. This will be a detailed accounting. I'm interested in everything you did (i.e. resting, eating, personal care, work inside and outside the home, caring for children, cooking, shopping, socializing, etc.), even if it didn't take you much time.

	Night		Morning		Day												
	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00					
1. Primary Activity (WRITE ACTIVITY CODE)																	
2. Secondary Activity (WRITE ACTIVITY CODE)																	
	Day		Evening		Night												
	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24:00	1:00	2:00	3:00					
3. Primary Activity (WRITE ACTIVITY CODE)																	
4. Secondary Activity (WRITE ACTIVITY CODE)																	

ACTIVITY CODES

A.....Sleeping and resting	E.....Work for a wage, salary, commission or in-kind payment (incl. you, paid apprenticeships)	N.....Cook or prepare food or drinks to preserve them	U.....Plan the household's finances or bills
B.....Eating and drinking	F.....Run, work or help in a non-agricultural and non-fishing household business	O.....Collect firewood or other natural products	V.....Travelling and commuting
C.....Personal care	G... Work for other households free of charge as exchange laborer	P.....Fetch water from natural or public sources	W.... Watching TV/listening to radio/reading
D.....School (incl. homework)	H.....Farming	Q.....Clean the house, wash or iron	X.....Exercising
	I.....Livestock	R...Household maintenance or own construction work (e.g. to renovate, extend or build the household's dwelling)	Y...Social or religious activities and hobbies
	J.....Fishing	S.....Provide care or assistance to adults (18+ years)	Z ...Other
	K.....Hunt or gather foodstuffs	T.....Look after children (17 years or younger)	
	L.....Buy food or other items or obtain services		
	M.....Make goods (furniture, pottery, baskets, clothing)		

Table A4 in annex tentatively lists the countries that have included such incomplete (personal care is most of the time excluded) modules on time use in their multipurpose household surveys.

Over-loaded questionnaires (72 pages in Cambodia, 78 pages in Ghana for one round, among several), and non-standardised analyses or tabulation plans are among the issues to which one has to face up when analyzing such surveys. The limited, and sometimes non-existent presentation of survey results on time use makes it difficult to build a uniform table of results. Most publications for these types of surveys privilege the presentation of results on time use by participants or participation rates rather than on time spent by total population, which makes comparisons over time and across countries difficult.

Some countries incorporate time-use modules in their labour force surveys, for example Rwanda and Zambia. The recent labour force survey in Zambia (2018), includes for instance a working time section, then collects time in the section on the own-use production (which curiously includes a question on time spent in looking after children aged 17 years or younger and gives a few examples of such activities as bathing, playing with children, taking children to school, sports or other activities, instructing, tutoring or helping children with homework, advising or talking with teens about their problems, etc.), and another section on own-use production-time use (section I). But not any analysis of the data collected on time use shows up in the survey report (except for working time).

Chart 29: Modules and questions on time-use in the Zambia labour force survey 2018

STRICTLY CONFIDENTIAL

Central Statistical Office
Security
P.O. Box 31908, Lusaka, Zambia
Lusaka, Zambia
Tel No.: +260 211 256973/+260 211 253468
225722
Fax No.: +260211253468/+260211253908
225169
Email: info@zamstats.gov.zm
mjss@mjss.gov.zm
www.zamstats.gov.zm
www.mjss.gov.zm


Republic of Zambia
Central Statistical Office
Ministry of Labour and Social Security

Ministry of Labour and Social Security
P.O. Box 32186,
Tel No.: +260 211
Fax No.: +260 211
Email:

2018 LABOUR FORCE SURVEY

SECTION E: WORKING TIME
This section covers the working time for all persons aged 5 years or older
READ: Now I am going to ask you some questions about the working time for all working persons aged 5 years or older

E1	Thinking about the last 7 days, how many hours did (NAME) work in his/her job?	Write the day and number of hours E.g. Main Job other jobs Day Hour -----	Number of hours in job
E2	Is (NAME) 's main job/business.....?	1 <input type="checkbox"/> 2 <input type="checkbox"/>	Full-time Part-time Full/Part Time
E3	How many hours does (NAME) usually work per week in his/her...?	a. Main job <input style="width: 30px; height: 20px;" type="text"/> b. All other <input style="width: 30px; height: 20px; margin-right: 10px;" type="text"/> <input style="width: 30px; height: 20px; margin-right: 10px;" type="text"/> jobs c. OVERALL <input style="width: 30px; height: 20px; margin-right: 10px;" type="text"/> TOTAL	Hours per week

Interviewer: add the total and confirm with the respondent - note that the total may not equal the sum of the jobs

SECTION H: OWN-USE PRODUCTION					
These questions are about own-use production activities that persons aged 5 years older engage in without any pay to care for or maintain their household					
H1	During the last 7 days, that is from [DATE] up to [DATE/yesterday], did (NAME) do any of the following activities to produce foodstuff intended mainly for consumption by the household? READ OUT A. Grow any crops, vegetables or fruits B. Gather other foodstuff such as [wild fruits, mushrooms] C. Rear or tend animals D. Fish/ Kapenta E. Hunting If any item = Yes continue	1 <input type="checkbox"/> 2 <input type="checkbox"/>	Yes No	→ H4	Own use activities in last 7 days
H2	How many hours did (NAME) spend on these activities in the last 7 days?	No. of Hrs	Hours In the last 7 days		
H3	Which type of animals or products mainly for consumption by the household was (NAME) working on?	SEE ISIC IN THE MANUAL (e.g.: fish, cattle, chicken, maize, potatoes, rice) (ISIC CODE) <input type="text"/>		Type of animals or products	
H4	During the last 7 days, did (NAME) spend any time providing care, help or assistance to household members aged 18 years or older because of a disability, illness, or challenges related to old age? READ For example: Administering medication, feeding, helping them with bathing, and personal hygiene, etc.	1 <input type="checkbox"/> 2 <input type="checkbox"/>	Yes No	→H6	Assistance to 18 years or older
H5	How many hours did (NAME) spend on these activities during the last 7days?	----- Number of Hours	How many hours		
H6	Did (NAME) spend any time looking after children aged 17 years or younger living in this household? READ For example: Bathing playing with children, taking children to school, sports or other activities, instructing, tutoring or helping children with homework, advising or talking with teens about their problems, etc	1 <input type="checkbox"/> 2 <input type="checkbox"/>	Yes No	→I1	Looking after children
H7	How many hours did (NAME) spend on these activities during the last 7days?	----- Number of Hours	Number of hours looking after children		
SECTION H: OWN-USE PRODUCTION- TIME USE					
These questions are about own-use production activities that engage in without any pay to care for or maintain their household					
H8a	During the last 7 days how much time did (NAME) spend on Cleaning the house, washing clothes, cooking or shopping for the household	----- Number of Hours	Number of hours spent cleaning		
H8b	During the last 7 days how much time did (NAME) spend on Preparing and preserving food , such as [Mealie meal, dried fish/meat, cassava].	----- Number of Hours	Number of hours spent preparing meals		
H8c	During the last 7 days how much time did (NAME) spend on Making goods for use by the household, such as [furniture, pottery, baskets, clothing, mats].	----- Number of Hours	Number of hours spent making goods		
H8d	During the last 7 days how much time did (NAME) spend on Paying household bills or arranging services to fix or maintain the household's dwelling or car	----- Number of Hours	Number of hours spent paying household bills		
H8e	During the last 7 days how much time did (NAME) spend on doing repairs or maintenance works, such as [fixing broken appliances or fixtures, painting walls, etc]	----- Number of Hours	Number of hours spent doing repairs		
H8f	During the last 7 days how much time did (NAME) spend on Doing construction work to renovate, extend or build the household's dwelling.	----- Number of Hours	Number of hours spent doing construction		
H8g	During the last 7 days how much time did (NAME) spend on Fetching water from natural or public sources for use by the household	----- Number of Hours	Number of hours spent fetching water		
H8h	During the last 7 days how much time did (NAME) spend on Collecting firewood or other natural products for use as fuel by the household	----- Number of Hours	Number of hours spent collecting firewood		

Table 12 and Charts 30 and 31 below present the results of the Ghana Living Standards Survey (GLSS) over the period 1991-2012 (the last round of the survey in 2016 stopped publishing information on time-use).

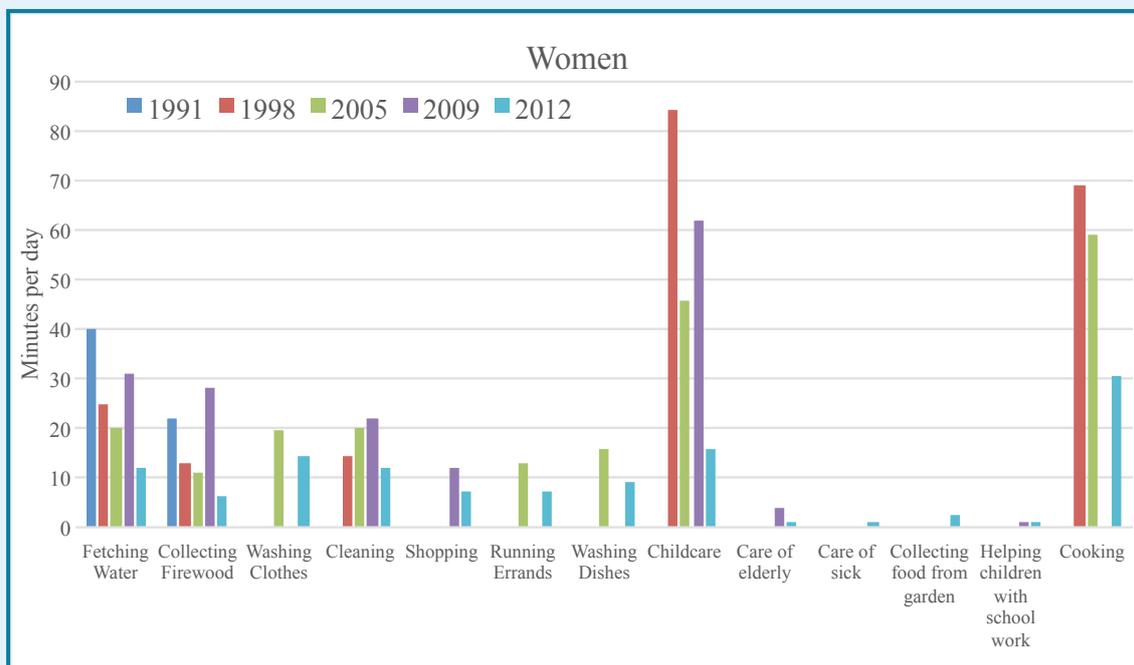
Table 12: Average time spent on various housekeeping activities by population aged 7 years and older in Ghana, by sex (in minutes per day)

Activity	GLSS 4 1998-99			GLSS 5 2005-06			GLSS 6 2012-13			GTUS 2009		
	Time participants	Participation rate	Time population	Time participants	Participation rate	Time population	Time participants	Participation rate	Time population	Time participants	Participation rate	Time population
Fetching Water	Females	41	60.2	25	31	64.2	20	19	63.4	47	66.9	31
	Males	33	37.7	12	23	40.9	9	14	39.8	36	59.2	21
Collecting Firewood	Females	37	34.6	13	30	37.5	11	23.1	27.7	100	28	28
	Males	30	16.0	5	25	16.9	4	19.3	15.5	145	25	36
Washing Clothes	Females				26	75.7	20	19.5	73.0			
	Males				17	43.4	7	12.4	39.9			
Cleaning	Females	20	71.0*	14	27	73.7	20	17.1	70.8	32	68	22
	Males	14	24.9*	3	21	37.0	8	11.1	32.1	33	31	10
Shopping	Females							16.8	41.7	57	21	12
	Males							12.9	16.7	56	11	8
Running Errands	Females				30	43.3	13	16.7	43.6	9		
	Males				35	45.0	16	19.4	41.2	6		
Washing Dishes	Females				24	65.1	16	14.1	65.4			
	Males				20	30.4	6	10.1	49.0			
Child-care	Females	204	41.3	84	129	35.6	46	46.9	33.2	105	59	62
	Males	108	12.5	14	67	13.7	9	32.1	12.3	57	28	16
Care of elderly	Females							33.0	3.8	72**	5	4
	Males							24.1	2.0	70**	5	4
Care of sick	Females							30.9	3.2			
	Males							24.4	1.7			
Collecting food from garden	Females							21.0	11.7			
	Males							21.1	11.4			
Helping children with school work	Females							13.2	6.7	38	3	1
	Males							12.2	6.6	61	4	2
Cooking	Females	107	64.7	69	82	71.9	59	44.6	68.5	98		
	Males	55	12.3	7	46	17.7	8	26.4	15.7	27		

Sources: Based on Ghana Statistical Service: GLSS 4 1999-98; GLSS 5 2005-06; GTUS 2009 and GLSS 6 2012-13.

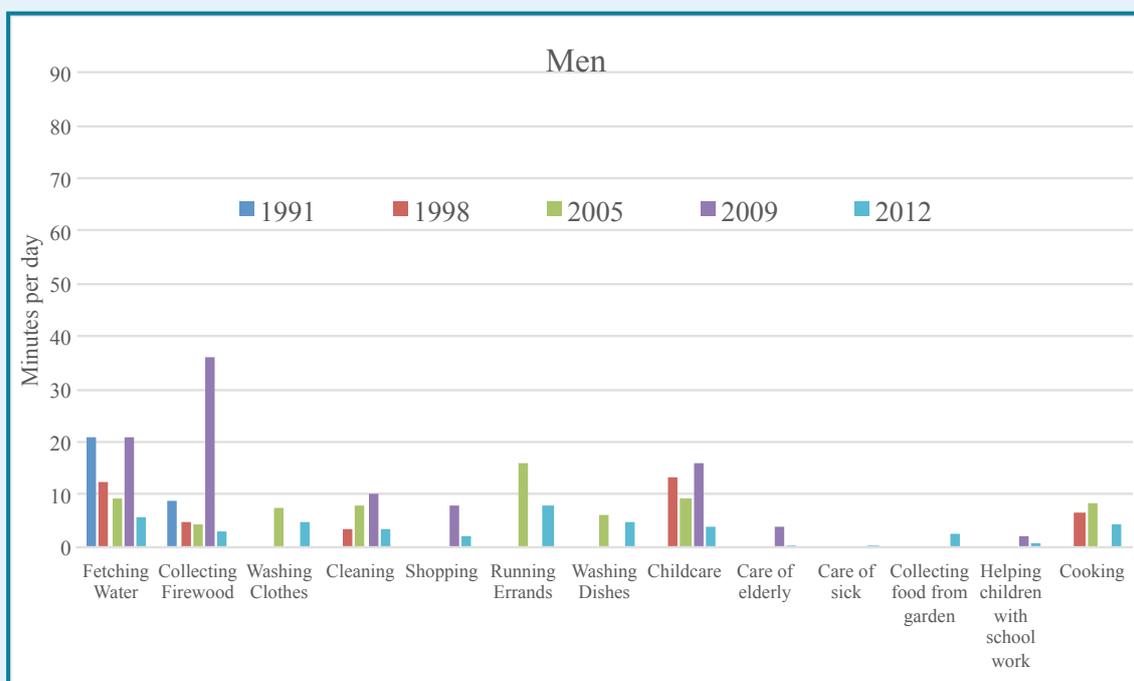
Notes: * Sweeping ** Care of adults

Chart 30: Trends in time spent by women in various activities in Ghana from 1991 to 2012 (in minutes per day)



Source: Table 12 supra

Chart 31: Trends in time spent by men in various activities in Ghana from 1991 to 2012 (in minutes per day)



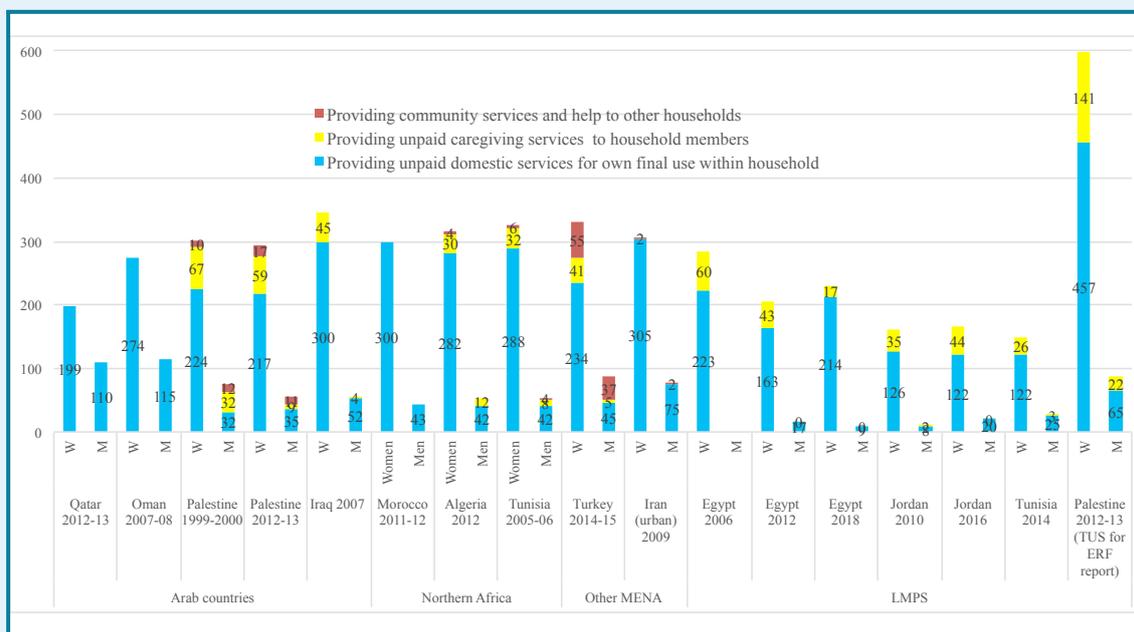
Source: Table 12 supra

A striking feature emerging from both charts – for women and men – is that there is a constant decrease of time durations in all activities over the years (from 1991 to 2012) and across the three living standard surveys (LSMS-type), a finding that could be interpreted as a progress potentially highlighting for instance a better access to water and wood/fuel for the use of the household. As for the 2009 time-use survey (the diary survey) it leads to systematic longer periods of time spent in all activities by women as well as by men (the only exception is for women’s childcare in 1991), pointing out the underestimation resulting from short module of stylised questions or, at any rate, from the wording of questions.

It is also interesting to look at the data on time-use collected by the Labour Market Panel Surveys (LMPS) in Egypt (ELMPS 2006, 2012 and 2018), Jordan (JLMPS 2010 and 2016) and Tunisia (TLMPS 2014). Though not official, these surveys were conducted and implemented by the Economic Research Forum (ERF) an international think tank based in Cairo, in collaboration with the national institutes of statistics of the countries concerned. A recent ERF program on ‘Care Work and Care Policies in the MENA Region’ provides an opportunity to compare the findings on time-use from these surveys with data on time-use collected in various countries of the MENA region with the diary methodology. Charts 32, 33 compare the number of minutes per day spent by women and men in the various types of unpaid care work (direct and indirect) and in total unpaid and paid work in countries applying the diary method (left-hand side of Charts 32 and 33) with the LMPS surveys using the short stylised questionnaires and more generally (Palestine) with data used for the above-mentioned study on care work and care policies (right-hand side). Both charts show that LMPS’s stylised questionnaires end up with lower figures than most diary surveys. Furthermore, the treatment of the Palestine time-use survey shows that time for participants has been privileged (as the figures on the right-hand side and on the left-hand side come from the same diary survey), raising even more concern about the low figures extracted from LMPSs. As a matter of fact, where stylised questionnaires are used, it is never clear whether the indicator is time use for participants, time use for total population or even time use for the population that has responded to the questions on time use.

Charts 34 display the gender gaps in unpaid care work, paid work and total work, as measured by the ratio of women to men. Here again, the stylised questionnaires systematically end up with higher figures than diary surveys as regards unpaid care work (except for Tunisia) and lower figures for paid work and for total work. They seem to underestimate women’s contribution to the various forms of work and/or to overestimate men’s contribution.

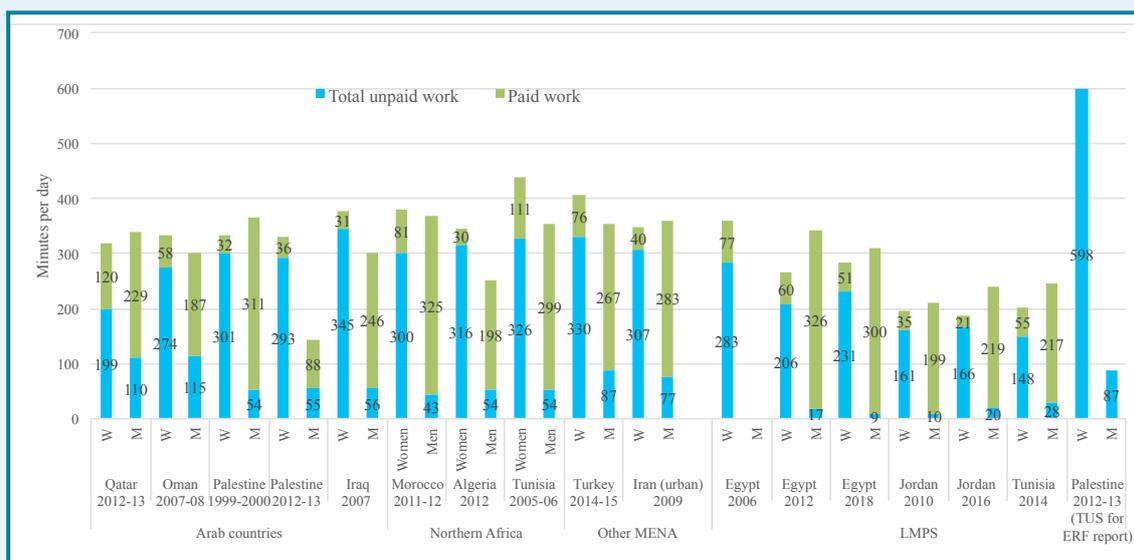
Chart 32: The three categories of unpaid care work in Arab countries, Northern Africa and other MENA countries as compared with LMPS and ERF national reports (minutes per day)



Sources: Based on Charmes (2019) for Arab countries, Northern Africa and Other MENA countries, and ERF national reports for LMPS.

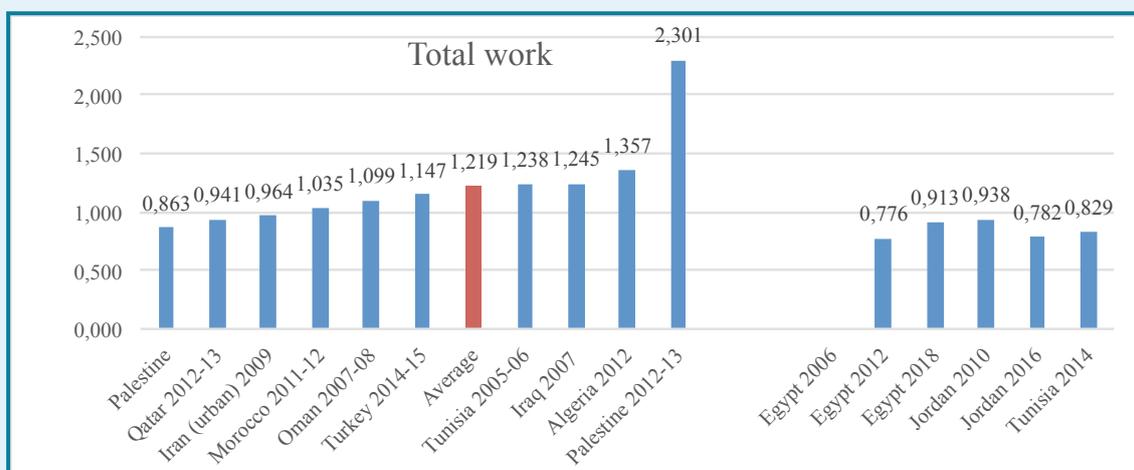
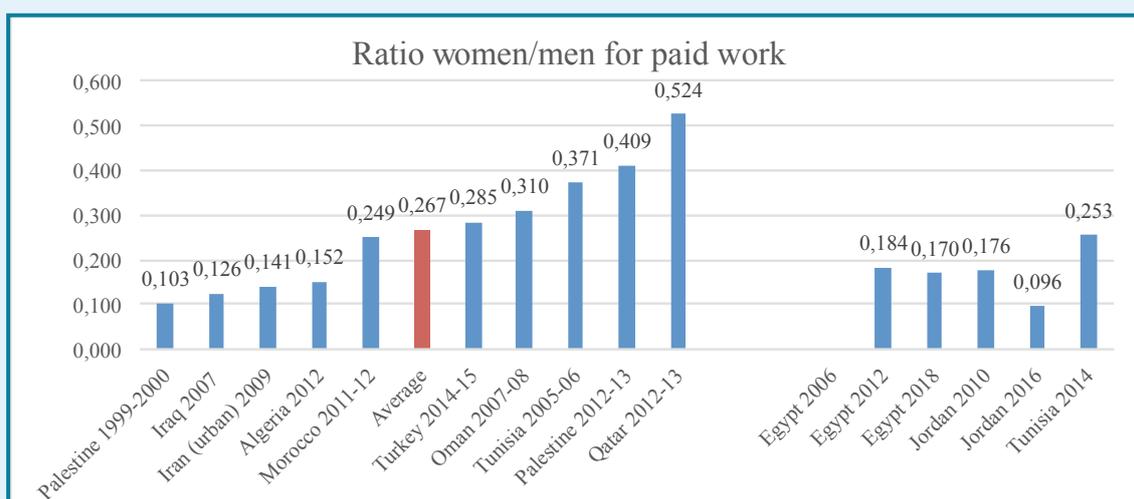
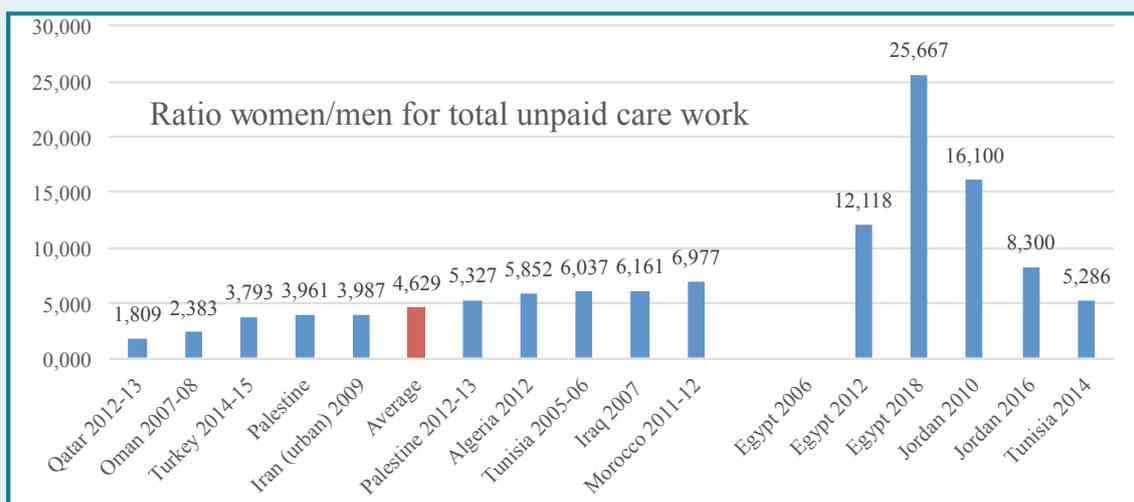
Notes: “providing community services and help to other households” is a missing category in some countries. Where unpaid caregiving services to household members are not distinguished, they are included in the general category of domestic services.

Chart 33: Unpaid care work and paid work in Arab countries, Northern Africa and other MENA countries collected through diary surveys as compared with Labour Market Panel Surveys conducted in three countries



Sources: Ibid Table 32

Chart 34: Gender gaps measured by the ratio of women to men in unpaid, paid and total work in two types of surveys



Source: Ibid.

Note: countries are ranked by increasing order of the variable

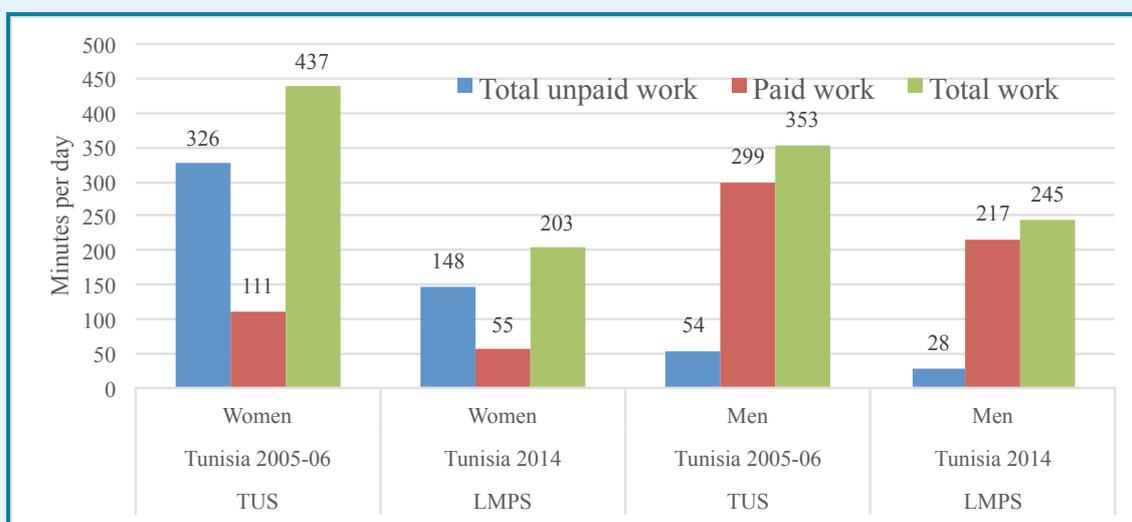
The three rounds of the Egyptian LMPS are also interesting to compare in that they allow to gauge the impact of changes in the number of questions on the time measured. Table 13 shows that the list of stylised questions dropped from 12 activities in 2006 to 6 in 2012. It goes up to 15 in 2016. As a result, time spent by women in unpaid care work dropped dramatically between 2006 and 2012 and returned to a higher level in 2018. (Time spent by men has not been measured in 2006).

Table 13: Time-use activities in LMPS questionnaires for Egypt

ELMPS 2006	ELMPS 2012	ELMPS 2018
Agriculture	Agriculture, processing	Agricultural activities for own purpose
		Raising poultry/livestock for own purpose
Processing		Producing ghee/butter
		Producing non-food goods (for example baskets or clothes) for own household consumption
Cooking	Cooking, washing, cleaning	Cooking
Washing dishes		Washing dishes
Laundry		Doing laundry and ironing
Cleaning house		Cleaning house
Collecting water	Collecting water, firewood,	Collecting water
Collecting firewood		Collecting firewood or other fuel
Shopping	Shopping	Shopping for food, clothing, household items
		Managing household (paying bills, keeping accounts, ordering goods and services)
Construction	Maintenance, construction	Helping in construction work or small repairs for the household/house
Caring sick, elderly	Caring for children, sick, elderly (while not doing other chores)	Caring for the sick or the elderly (while not doing other chores)
Caring children (while not doing other chores)		Taking care of children (while not doing other chores)
Caring children at same time	Caring at the same time	

Tunisia is the only country of the study for which both types of surveys are available, with a diary survey in 2005-06 and the TLMPs stylised questionnaire in 2014. Of course, 8 years separate the two surveys. However, the observed differences cannot be explained by underlying trends. As shown on Chart 35, the drop is dramatic both in unpaid care work and paid work and consequently in total work as regard women. And it is the same, although to a lesser extent, for men. Even if the economic situation – in particular the higher unemployment rates in 2014 – can partly explain the drop in time spent in paid work by women as well as by men. All in all, the short stylised questionnaire clearly underestimates the time spent in unpaid care work for both women and men.

Chart 35: Comparisons of time use in Tunisia according to the methodological approach



Source: Author

In conclusion the findings from short modules on time-use activities attached to living conditions surveys, labour force surveys, or any other type of household surveys, are certainly useful in the absence of any other source on time-use. But their incompleteness, non-systematic and non-harmonised ways and means of data collection result in publications that prevent the users from understanding the full meaning of unpaid care work. In particular it can be stressed that publications of results of such stylized short lists of activities – as already mentioned – seem to privilege time spent by participants in these activities, in parallel with participation rates (but not systematically). But probably because the reports are drafted by non-specialists of data on time-use, it is never clear and rarely specified whether the data refer to time spent by participants or by total population. Under these circumstances it is very difficult to draw a general comparative overview of the findings of such data collections. Furthermore, whilst they do not always lead to publication (in particular, recent rounds of some of the living conditions surveys quoted above have stopped analyzing these data: for example, the GLSS 7th round in Ghana). Where micro-data have been made available to researchers, such data have been used for multidimensional analyses without ensuring their reliability.



10

ISSUES,
CHALLENGES AND
RECOMMENDATIONS

10.1 COVERAGE AND GENERALISATION

So far, and despite the boost registered in the aftermath of the Beijing Conference in 1995 (Charts 2 supra), we have identified some 82 countries that have conducted time-use surveys at national (or at least urban) level, mainly through the technique of diaries and in some cases through extended lists of stylized questions. They represent only 38,1% of all countries in the world, and 43.4% of the 189 countries covered by the Human Development Report. Among them, 44 (53.7%) have repeated their time-use survey, at least once (Table 1 supra).

The question of the geographical expansion of their coverage is therefore raised. Table 14 below shows that the least covered regions are Africa and South Eastern Asia and the Pacific, with less than one third of countries covered, whereas the most covered are Northern, Southern and Western Europe, Eastern Asia, Eastern Europe and Latin America and the Caribbean (with almost or more than two thirds of countries covered) and even more than four fifth in Northern, Southern and Western Europe. Expectedly, only one fifth (20%) of developing countries have carried out time-use surveys, against more than two fifths (41.4%) of emerging countries and between two thirds and three fourths (71.4%) of developed countries (and almost all these latter countries have repeated them).

Table 14: Regional coverage of time-use surveys

	Nr of countries	% coverage	In % of HDR countries
Africa	14	25.9	25.9
Latin America and Caribbean	15	41.7	60.0
Arab States	4	36.4	36.4
Eastern Asia	5	62.5	62.5
South Eastern Asia and the Pacific	4	13.8	30.8
Southern Asia	3	33.3	37.5
Northern, Southern and Western Europe	24	70.6	85.7
Eastern Europe	6	60.0	60.0
Central and Western Asia	5	45.4	45.4
Northern America	2	100.0	100.0
Developed countries (high income)	35	52.2	71.4
Emerging countries (middle income)	41	34.7	41.4
Developing countries (low income)	6	20.0	20.0
World	82	38.1	43.4

Why, in the space of 25 years, the time-use surveys have not yet achieved generalisation? Is it a matter of cost or complexity or heaviness of data collection? Or a matter of lack of interest in their results and the objectives they pursue? Or a matter of misunderstanding of the indicators they produce?

10.2 COST OF TIME-USE SURVEYS

Time-use surveys are costly: not more, but not less than other household surveys. This is why, beyond the preference for stand-alone time-use surveys, the inclusion of time-use diaries as modules of multipurpose household surveys might be a solution for their generalisation: the incremental cost being more affordable.

Tables 15 and 16 below synthesise the information gathered on costs for four surveys technically and financially supported by UN Women, in Morocco, Algeria, Uganda and Mexico, in the recent period.

All four surveys are stand-alone surveys and only two were conducted on an entire year (with a rotating sample). Comparing Algeria and Morocco, the cost per questionnaire/diary is double in Morocco (66.8 \$, against 33.6 in Algeria), which can be explained in that a rotating sample requires from the interviewers to conduct the interviews all across the country each of the 12 months in the year. Still the cost per questionnaire is as high in Mexico (63.7 \$) where the survey took place over a period of 2 months and used the technique of stylised questionnaires. Although it is difficult to generalise on the basis of this small set of countries, it seems however that the diary surveys are not more expensive than the surveys with stylised questionnaires. As a matter of fact, if several questions (are you involved in such an activity? for how many hours and minutes on weekdays? and for how many in weekend days?) are to be asked for more or less one hundred activities (89 in Mexico), it is obvious that the stylised questionnaire may last more than 1 hour (and even 2 hours) for each individual, not to mention the collection of individual characteristics and household characteristics (with a possible gain of time if the list of stylised questions is split into several sets asked separately to each member of the household successively). The evaluation of the time-use survey in Algeria indicated that the individual questionnaire (diary) required in average 15 minutes to be filled (10 minutes minimum and 45 minutes maximum). One can also note that there were around 350 diaries/questionnaires filled per interviewer in Algeria and Morocco against 160 stylised questionnaires per interviewer in Mexico. In Mexico, there were in average 3.4 questionnaires filled per interviewer/day.

Staff of interviewers, controllers, supervisors, including per diem is the main budget item (around 50% in the three countries in Table 16) and with vehicles and transport costs, it comes nearly 80% of the total budget, or even more.

Table 15: Costs of data collection in some countries

	Sample size (households)	Sample size (individuals /diaries)	Nr interviewers	Nr Supervisors	Nr Vehicles /drivers	Total cost in US \$	Share UN Women	Share national	Cost per household (in \$)	Cost per diary or per questionnaire (in \$)
Morocco 2011-12	8,990	18,337	52	26	26	1,224,722	47%	53%	136.2	66.8
Algeria 2012	9,015	22,138	65	22	22	744,680*	350,000	53%	82.6	33.6
Uganda 2017	3,364	4,296	36* 50 days	12*50	16*50	252,151			75.0	58.7
Mexico 2014	18,996	48,010	285* 50 days	85*50		3,060,208**			161.1	63.7

Sources: Based on materials provided by UN Women regional offices.

Notes: * Assuming that UN Women contribution is equal to 47% of total cost.

** 1 US \$ = 14, 7539 Mexican Pesos in 2014

Table 16: Costs structure for 3 time-use surveys

(In US \$, except for Mexico)	Staff	Per diem and field expenditures	Training	Administrative & Communication	Vehicles and fuel	Computer equipment & services	Tax	Total
Morocco 2011-12	592,400	38,995			407,757	29,321		1,224,722
%	48.4	3.2			33.3	2.4		
Uganda 2017	36,687 *	74,768	8,074	3,865	71,546	1,568		252,151
%	14.5	29.7	3.2	1.5	28.4	0.6		
Mexico 2014 (in Pesos)	21,680,588	12,174,837	730,987	46,110	4,215,391	74,500	6,227,586	45,150,000
%	48.0	27.0	1.6	0.1	9.3	0.2	13.8	100.0

Sources: Based on materials provided by UN Women regional offices.

Notes: * Including honoraria for draft report. Given the diversity of items among countries, there is no strict homogeneity in the various categories (for example, the category 'vehicles and fuel' in Morocco includes the salaries of drivers).

Tables 17 and 18 below reflect the costs structures for the Uganda and Morocco surveys: whereas field work accounts for 51.6% in Uganda, it amounts to more than 86% in Morocco where the analysis and dissemination account for less than 7 %. At the opposite, the post-data collection expenditures account for more than 25 % in Uganda (where it includes the honoraria for drafting the chapters).

Table 17: Costs structure for Uganda time-use survey 2017

	Cost in US \$	%
Administrative	3,865	1,5%
Listing	40,686	16,1%
Pre-test	4,194	1,7%
Training	8,074	3,2%
Field work	130,137	51,6%
Data processing	1,568	0,6%
Report	49,168	19,5%
Dissemination	14,459	5,7%
Total	252,151	100,0%

Source: Based on materials provided by UN Women regional office

Table 18: Costs structure for Morocco time-use survey 2011-12

	Cost in US \$	%
Preparatory stage	29,321	2.4%
Pilot survey	53,208	4.3%
Execution of main survey	1,057,917	86.4%
Analysis and dissemination	81,761	6.7%
Total	1,224,722	100.0%

Source: Based on materials provided by UN Women regional office

How to reduce costs since such costs may be seemed prohibitive to decision-makers? Embedding individual diaries as modules of multipurpose household surveys can help reducing costs on vehicles and transport, even though the teams of interviewers are specialised for time-use data collection and are therefore not the same as for the core survey (as was the case in the Benin and Cameroon surveys for example).

The biggest problem of cost increase for a stand-alone time-use survey using a full diary, compared to a survey with only questionnaires, is related to the coding phase of post-coded diaries. Curiously this item does not show up in the structure of costs for the countries examined. The recent developments of computer-assisted personal interviews (CAPI) save time and reduce costs at the coding stage but also at supervision level as already mentioned with the example of the Uganda time-use survey in 2017-18. The extra costs in terms of equipment are widely compensated by the reduction of costs for coding and supervision. The related costs can be even more contained by using the light diary and it can be further reduced if they are a module of other surveys.

10.3 ARE DIARIES ADAPTED FOR APPLICATION TO LOW-LITERATE POPULATIONS IN DEVELOPING COUNTRIES?

Diaries are not only for the literate and self-respondents. They have been successfully used in many developing and emerging countries where they were filled by the interviewers in the field and not left behind. Even though cell-phones now cover a large part of the world population, it is still obvious that rural population in remote areas or even urban populations in shanty towns may not have the same sense of time as what is collected in a diary, about the time at which an activity occur and for which length. Clocks and watches are less widespread than cell-phones and cell-phones are not really primarily used to provide time.

However, in all societies, the course of the day is punctuated by natural or religious events or practices that help divide the 24-hour day in major time slots: sunrise, midday, sunset, themselves divided in sub-slots corresponding with local traditions or habits (see for instance Charmes, 2010 for examples in Western Africa (Guinea)): the cock crow, the time for dancing and socialising, etc.). In Islamic countries the five prayers at dawn, before sunrise (1) midday, after the sun passes its highest (2) the late part of the afternoon (3) just after sunset (4) between sunset and midnight (5) are markers closely followed and respected by rural and more generally poor and modest populations. And everywhere school rhythms (time when children leave home to go to school and when they come back from school, which also indicate duration of travel to and from school) also punctuate family life. Within these segments/markers, the interviewer attempts listing the successive activities performed by the individual and allocate the respective lengths to these activities by a more in-depth interview of the individual. Traditional units of measurement can also be taken into account (for instance in Madagascar the areas of rice fields are traditionally measured in terms of number of women/day required for rice transplanting and the time when the workday starts and ends is known from all). Noteworthy the agricultural tasks are generally lengthy and repetitive and there is a relative uniformity in the course of the day for rural populations. Interviewers' training and manuals should be systematically enriched with a variety of such examples.

It should also be noted that from this point of view, the stylized lists of time-use activities are not easier to fill given that the notion of hours and minutes is even less understandable and manageable at the level of an activity for an entire period of a day or a week.

In any case, the training of interviewers (who are generally recruited on a regional-ethnic-gender basis for the knowledge of the communities and populations to study) and the testing phase of the questionnaire/diary are essential steps of the implementation of the survey that must not be neglected, especially regarding time-use surveys.

In the early field research on the measurement of agricultural tasks and energy consumption, it was common that observation be made through stopwatches, and at least direct observation by the interviewer (without interaction with the individual). Today, as already mentioned in §5.2 supra, the use of smartphones and picture-based applications (Daum et al. 2017 and 2018) for measuring time use among small farmers in rural Zambia opens new ways toward an improved capture of time among populations with low sense of time - or rather with a sense of time differing from those prevailing elsewhere. However, the universalisation of cell-phones does not mean the generalisation of smartphones and the application of such methods remains limited (as to their scope and coverage) to experimental studies and their implementation at the scale of national household surveys may reveal difficult.

Still, the sense of the notion of time among low-literate populations should not be overstated as a major challenge for time-use surveys based on diaries or lists of stylized questions, and training of interviewers is key for the success of their implementation.

10.4 RAISING POLICY-MAKERS' AWARENESS AND OUTREACHING THE OBJECTIVES AND THE FINDINGS OF THE TIME-USE SURVEYS

Still, raising awareness and sensitising policy-makers to the main goals and outcomes of time-use surveys remain strategic objectives for time-use surveys' advocates since the persons in charge of budgetary decisions are generally insufficiently concerned with such matters. In this sense more emphasis and more means should be allocated to the stage of dissemination and policy uses, as well as to the prior stage of sensitisation that should be expanded to a greater number of stakeholders than usually.

In developing countries, the ministries of women's affairs generally suffer from weak and scarce resources (necessary to build capacity to use the data to inform decisions) and must arbitrate between urgent competing priorities and the national statistical offices, which are their natural instrument for data collection, have also their priorities. Generally, gaining the support of these two institutions is sufficient for convincing donors to allocate funds to carry out a time-use survey. However, it would be important to broaden the number of stakeholders so that they can subsequently take ownership of the survey outcomes and convert them into appropriate sectoral measures that would have been discussed beforehand.

There are indeed two pitfalls to avoid when conducting a time-use survey, especially in developing countries: 1) At the initial stage, when the decision to conduct the survey is about to be taken or is in discussion, time-use surveys, which are often funded (at

least partially) by external donors, require to sensitise policy-makers outside gender ministries or statistical offices in charge of data collection more broadly and effectively ; 2) At publication stage, consultants in charge of drafting the survey report must be knowledgeable and specialists of time-use data: it is striking to note that the sections on time-use resulting from the analysis of short time-use modules embedded in multipurpose household surveys are often disappointing, misleading and not enough gender-disaggregated. Even in developed countries, the most basic and primary tabulations provided to the users on NSO's websites are not systematically disaggregated by sex (sex is treated as a variable among others) whereas any time-use statistic not disaggregated by sex is almost a nonsense. As a consequence, the dissemination of survey outcomes may be deceiving or falling short of the expectations of the stakeholders other than the direct sponsors.

Sensitisation must therefore take place before launching the survey as well as at the stage of results publication and a strong strategy must be thought and built to these aims, long ahead the fieldwork.

Beyond survey reports, outreaching publications should be systematic, where the major results would be presented in more-friendly and more usable manner toward a better understanding of challenges at stake and to be addressed in combination with appropriate policy measures to be designed, proposed and discussed before being adopted.

The background features abstract shapes in teal and light blue. On the left, a large teal circle overlaps a smaller light blue circle. On the right, a large light blue shape with a rounded top edge is visible. The bottom half of the page is a solid teal color.

11

RECOMMENDATIONS

Designing time-use surveys and making them easier to conduct and to analyse are the main objectives of the recommendations that follow and are based on good practices and lessons learned from the variety of time-use surveys carried out across the world, and during some 5 decades, in a multiplicity of contexts. The recommendations are supplemented with pros and cons, or country examples, with a constant underlying concern for the application of time-use surveys in the context of developing and emerging countries.

1. Data collection through *diaries* should be preferred to lists of stylised questions. Diary is the only method ensuring that the time captured in all activities recorded does not exceed (or is less than) 24 hours. Stylised questionnaires naturally and logically mix main and secondary activities. Furthermore, stylised questionnaires may be overburdening the interviewee as well as the interviewer and end in longer time interviews with increased costs, where the list of questions exceeds a certain number.
2. However, if *stylised questionnaires* are used, *all activities should be covered* in the time-use module: paid work, as well as unpaid work, as well as free time and personal care. If paid work is captured in the employment module, the number of hours worked per week is at risk of not being equal to the number of hours actually worked recorded in parallel with other activities (questions are not identically designed). Moreover, if personal activities are not recorded, it is impossible to check whether the declared number of hours spent in unpaid work is overestimated or underestimated.
3. An *hybrid approach* could consist in supplementing time-use diaries by stylized questions regarding simultaneous provision of supervisory care (and any other kind of simultaneous activities that could be found interesting to focus on). Such an hybrid approach could strengthen the case for *light diaries* that reduce respondent burden but impose some temporal structure on their responses.
4. *Complete diaries or light diaries* should be chosen depending on national users' needs, the level of experience of national statistical systems, with the possibility of administering the light diary to the full sample and the complete diary to a sub-sample, as in Japan. However complete diaries may be less complex to fill with computer-assisted interview technologies, in particular the codification of activities at detailed level can be greatly facilitated (as in the case of the recent Uganda time-use survey).
5. *Light diaries* should be based on a *list of activities* combining ICATUS at one, two or three digits, in order to capture some important activities depending on national contexts (such as water fetching, firewood or fuel fetching, or cooking, cleaning, etc.), without exceeding 20 to 30 activities.
6. *All household members* over a minimum age should be interviewed rather than a random selection of members. This option is not only time-saving, but also less costly provided that several members are interviewed at the same place. However, it generally requires multiple visits/contacts with the households in order to limit the non-response rates, but increases the cost and the time necessary to complete the diaries or questionnaires (and recourse to proxy respondents is also a risk in the case of stylised questions). The risk of overburdening the household exists and also the risk of uniformization of the responses in case the interviews are conducted in the presence of other members. The interview of all household members is also key for allowing analyses of time-use at household level.

7. The choice of *minimum age* can be left to countries, but then the results should be systematically presented in three sets: total population, the less than 15 (which is the most widely shared minimum age for labour force statistics) and the 15+ (independently from tabulations by age groups).
8. *Time slots* should not be less than 10 minutes (which means 6 slots per hour) and not exceed half an hour (2 slots per hour). The use of time slots is preferable to the record of exact time (beginning and ending time) except for left-behind diaries to be filled by the interviewees themselves.
9. *Weekly variations* should be taken into account by recording two diaries for two consecutive days or one weekday and one weekend day rather than one diary combined with an equal representation of all days of the week in the sample (in the reality of fieldwork, it is difficult to ensure that such an equal representation respects the laws of probability). However, given that the diary is generally applicable for yesterday's day, the second diary may collide with recall issues.
10. *Seasonal variations* should be taken into account through rotating samples over the year or at least two, three or four rounds corresponding to agricultural seasons. This impacts the cost of the survey.
11. The *list of activities* needs to be complete, though non exhaustive in details. This recommendation concerns stylised questionnaires (see item 2 above).
12. For developing countries and in general for countries where production activities for own final use by the households are important or are given a particular emphasis (transition countries for example), the reference to ICATUS should be preferred as *classification of time-use activities*.
13. Other classifications (age group, educational level, marital status, activity status, employment status, age and number of children in the household, etc.) must be in adequation with national practices, but should also provide the equivalences required for international comparisons (as well as for comparisons over time). Age groups have a strong impact on time spent in learning or in paid work. Although the definitions of adulthood, youth or old age, vary from one society to the other, it is important to be able to make comparisons on identical age groups. Another example is about categorising households by the presence and the number of children under a certain age: national practices vary extremely (for instance under 5, 5 to 11, 11 to 17, or 6 and 18, or 7 and 18, etc., or also the number of children).
14. *Simultaneous activities* should preferably adopt an approach privileging the capture of care of children or of adults as a secondary activity, and avoid that care be in competition with use of mass media or use of electronic devices, for instance. The absence of clear instructions or, on the contrary instructions providing examples, which are not necessarily about care, but rather about the use of mass media has not been without consequence and it is simply impossible to achieve comparable results on simultaneous activities between countries. As they are pervasive, the use of mass media or ICT risk to obscure or pollute all other simultaneous activities, which are carried out in a passive way, especially care ("supervisory care" or "on-call time"). Without denying the special interest that they deserve, the radio, TV or smartphones are probably switched on all day long and interfere with all other

activities, but the gender dimension of time-use surveys should lead us to focus on care, as regard simultaneous activities.

15. In addition to the collection of secondary activities, and following recent examples of diaries that have included a specific question in an extra column of the diary - separate from simultaneous - to capture the impact of new technologies on our use of time, passive or on-call care could also benefit of the same treatment, i.e. a specific column in the diary, in parallel to ICT or mass media use.
16. *Contextual questions* such as where, with whom, for whom and modes of transport should be systematic and also harmonised, particularly the “with whom” (regardless of activity), and “in the same household” rather than “in the same room”. These questions are important for distinguishing between paid work activities, unpaid work activities, especially “supervisory” care, volunteering, socialising, etc.
17. *Non response* rates should be carefully looked at and the necessary sample adjustments should be made at individual (diary) level in order to ensure that the population is correctly represented in terms of sex, age, activity/employment status and urban/rural location. It is highly probable that some household members are more at risk of being absent at the time of the visit of the interviewer (adults in paid employment for instance, or children at school). Although these categories of household members require new visits and appointments, the probability of non-response is higher. Moreover, it should be agreed on a common definition of non-response and a more standardized way to deal with it.
18. Though valid for all household surveys, and more generally for all statistical surveys, time-use surveys – especially those using the diary approach - require a particularly strong and effective *training of interviewers and supervisors* and a particular attention to the *drafting of field manuals*. These should comprise many concrete examples of the difficulties that may arise, especially regarding the understanding and the sense of time among the surveyed populations. The preliminary pilot or test phase of the surveys should be used to feed the training and field manuals with the necessary knowledge and the necessary concrete examples and their wording in local languages (where applicable).
19. In time-use surveys, *gender* is not a variable among others and all tabulations should be disaggregated by sex. For instance, not all variables need to be cross-classified by the educational level, but all need to be cross-classified by sex. Similarly, gender is not just a chapter of time-use survey reports. It is cross-cutting all dimensions.
20. Limitation of survey reports to a minimum set of tabulations under the pretext that the database is there to respond to any further request, or that micro-data can be made available to users, is not advisable because it means that the information will not be available for the wider audience and will be lost over the years.
21. *Repetition of surveys* should be planned. Though changing slowly, indicators of time-use are invaluable as impact indicators of gender policies outcomes. In developing countries, especially in Africa, living conditions surveys and more and more often labour force surveys are conducted with a certain regularity: on a 5-year basis and even less for labour force surveys. Light diaries could be systematically appended to labour force surveys and complete diaries to living conditions surveys. Where labour force surveys are not yet conducted, light diaries could be appended to living conditions surveys every 5-year and complete diaries every 10-year.



12

REFERENCES

- Aguirre Rosario and Ferrari Fernanda (2017), *Las encuestas sobre uso del tiempo y trabajo no remunerado en América Latina y el Caribe, Caminos recorridos y desafíos hacia el futuro*, CEPAL, Santiago de Chile, 99p.
- Antonopoulos, Rania and Hirway, Indira eds., (2010), *Unpaid Work and the Economy, Gender, Time Use and Poverty in Developing Countries*, The Levy Economics Institute at Bard College, Palgrave-MacMillan, 336p.
- Ås, Dagfinn (1978), Studies of Time-Use: Problems and Prospects, *Acta Sociologica*, Vol. 21, No. 2 (1978), pp. 125-141.
- Bardasi, Elena and Wodon, Quentin. 2006. "Measuring time poverty and analyzing its determinants: concepts and application to Guinea." In *Gender, Time Use and Poverty in Sub-Saharan Africa*. The World Bank Working Paper #73, edited by C. Mark Blackden and Quentin Wodon. Washington, D.C.: The World Bank.
- Becker, Gary (1965), A theory of the allocation of time, *The Economic Journal*, Sept. 1965, pp.493-517.
- Becker, Gary (1981), *A Treatise on the Family*, Harvard University Press.
- Buddlender, Debbie (2004), *Why should we care about unpaid carework?*, UNIFEM, New York, 65p.
- Central Statistical Office of Hungary (2016), *The value of Household Work, Household Satellite Account in Hungary*, Statistical Mirror 5 April 2016, Budapest, 6p. (In Hungarian), Központi Statisztikai Hivatal, *A háztartási munka értéke, háztartási szatellit számla Magyarországon*.
- Comisión Económica para América Latina y el Caribe, CEPAL (2019), Repositorio de información sobre uso del tiempo de América Latina y el Caribe, Santiago, 4p.
- Charmes, Jacques (2010), 'Issues in Time-Use Measurement and Valuation: Lessons from African Experience on Technical and Analytical Issues', in Antonopoulos, Rania and Hirway, Indira eds., (2010), *Unpaid Work and the Economy, Gender, Time Use and Poverty in Developing Countries*, The Levy Economics Institute at Bard College, Palgrave-MacMillan, 336p. (pp.215-229).
- Charmes, J. (2015), "*Time Use Across the World: Findings of a World Compilation of Time Use Surveys*", Background Paper for the 2015 Human Development Report, New York: Human Development Report Office, UNDP.
- Charmes, Jacques (2017), 'Time-Use Surveys in Africa: Problems and Prospects' in Hirway Indira. ed. (2017), *Mainstreaming Unpaid Work, Time Use Data in Developing Policies*, Oxford University Press, New Delhi, 430p (pp.141-169).
- Charmes, Jacques (2018), "*The Unpaid Care Work and the Labour Market. An Analysis of Time Use Data Based on the Latest World Compilation of Time-Use Surveys*," Report prepared for the ILO, Gender, Equality and Diversity Branch (GED). Geneva: ILO.

- Charmes, Jacques (2019), *Dimensions of Resilience in Developing Countries. Informality, Solidarities, Unpaid Care Work*. Springer.
- Chenu, Alain and Lesnard, Laurent (2006), Time Use Surveys: A Review of their Aims, Methods, and Results. *Archives Européennes de Sociologie / European Journal of Sociology*, Cambridge University Press (CUP), 2006, 47 (3), pp.335-359
- Clark, Colin (1958), The economics of housework *Quarterly Bulletin of the Oxford University Institute of Statistics* 20: 205-211
- Daum, Thomas; Buchwald, Hannes; Gerlicher, Ansgar; Birner, Regina (2018), Smartphone apps as a new method to collect data on smallholder farming systems in the digital age: A case study from Zambia. In: *Computers and Electronics in Agriculture*, 153, 144-150.
- Daum, Thomas; Buchwald, Hannes; Gerlicher, Ansgar; Birner, Regina (2019), Times Have Changed - Using a Pictorial Smartphone App to Collect Time-Use Data in Rural Zambia. In: *Field Methods*, Vol. 31(1) 3-22.
- Economic Commission for Latin America and the Caribbean (ECLAC) (2016), *Classification of Time-Use activities for Latin America and the Caribbean* (CAUTAL), Santiago, 36p.
- Eurostat (2003), *Household Production and Consumption. Proposal for a Methodology of Household Satellite Accounts*, Task force report for Eurostat, Unit E1, Luxembourg, 61p.
- Eurostat (2009), *Harmonised European Time Use Surveys. 2008 Guidelines*, Luxembourg, 206p.
- Eurostat (2019), *Harmonised European Time Use Surveys (HETUS). 2018 Guidelines, 2019 edition*, Luxembourg, 229p.
- Ezzat, Asmaa and Nazier, Hanan (2019), "Time poverty in Egypt and Tunisia: is there a gender gap?", *International Journal of Development Issues*, Vol. 18 No. 3, pp. 261-289.
- Folbre, Nancy (1991) "The unproductive housewife: Her evolution in 19th century economics thought." *Signs: Journal of Women in Culture and Society* 16: 463-84.
- Folbre, Nancy (2020), "Quantifying Care: Design and Harmonization Issues in Time Use Surveys", Report for the UN Women's flagship Programme Initiative "Making Every Woman and Girl Count" (MEWGC), New York: UN Women.
- Gandini, Luciana; Parker Susan W.; Orozco, Mónica (2013), *Diarios versus cuestionarios. Una comparación de metodologías de medición de uso del tiempo en México (Diary versus questionnaire. A comparison of methodologies for measuring the time use in Mexico)*, IATUR Conference, Rio de Janeiro, Brazil, 7-9 August 2013, 28p.
- Gershuny, Jonathan (2000), *Changing Times: Work and Leisure in Postindustrial Society*, Oxford University Press, Oxford.

- Goldschmidt-Clermont, Luisella (1982), *Unpaid Work in the Household: A Review of Economic, Evaluation Methods*, Women, Work and Development Series, No. 1. International Labour Office, Geneva.
- Grosh, Margaret and Glewwe, Paul eds. (2000), *Designing household survey questionnaires for developing countries, Lessons from 15 years of the Living Standards Measurement Study*, The World Bank, Washington D.C., 3 volumes: 338p. + 389p. + 500p.
- Harvey, Andrew S. and Taylor, Maria Elena (2000), 'Time Use', in Grosh, Margaret and Glewwe, Paul eds. (2000), *Designing household survey questionnaires for developing countries, Lessons from 15 years of the Living Standards Measurement Study*, The World Bank, Washington D.C., (Volume 2: pp. 249-272 and Volume 3: pp.483-493).
- Hirway, Indira. ed. (2017), *Mainstreaming Unpaid Work, Time Use Data in Developing Policies*, Oxford University Press, New Delhi, 430p.
- Hirway, Indira and Charmes, Jacques (2006). *Estimating and Understanding Informal Employment Through Time Use Studies*. Centre for Development Alternative, Working Paper, Ahmedabad, India.
- ILO (2013), *Resolution 1 concerning statistics of work, employment and labour underutilization*, 19th ICLS, ILO Geneva.
- ILO (2018), *Care Work and Care Jobs for the Future of Decent Work*, ILO, Geneva, 478p.
- ILO and UNDP (2018), *Time-use surveys and statistics in Asia and the Pacific, A review of challenges and future directions*, Bangkok, 101p.
- Instituto Nacional de Estadística y Censos (INDEC) (2019), *Hacia la Encuesta Nacional sobre Uso del Tiempo y Trabajo No Remunerado*, Documento de trabajo INDEC N° 30, Buenos Aires, 58p.
- INEC (2014), *Cuentas Satélite del Trabajo no Remunerado del Hogares (CSTNRH) 2007-2010*, Quito, 176p.
- Instituto Nacional de Estadística y Geografía (INEGI México) (2014), *Sistema de Cuentas Nacionales de México: Cuenta satélite del trabajo no remunerado de los hogares de México 2012: Preliminar: Año base 2008*, Instituto Nacional de Estadística y Geografía, México, INEGI.
- INEI (2016), *Cuenta Satélite del Trabajo Doméstico No Remunerado*, Lima, 210p.
- Ironmonger, Duncan (1989), Research on the household economy, in Ironmonger D. (ed.), *Households Work*, Allen & Unwin, Sydney.
- Ironmonger, Duncan (1996), Counting outputs, capital inputs and caring labor: estimating gross household product, *Feminist Economics* 2:(3) 37-64.

- Ironmonger, Duncan (2000), *Household Production and the Household Economy*, University of Melbourne, Research paper, 14p.
- Javeau, Claude (1970), *Les vingt-quatre heures du Belge*, Université Libre de Bruxelles.
- Kuznets, Simon (1941), *National Income and its Composition, 1919-1938*, National Bureau of Economic Research, New York.
- Le Play, Frédéric (1855), *Les ouvriers européens, Etudes sur les travaux, la vie domestique et la condition sociale des populations ouvrières de l'Europe, d'après les faits observés de 1829 à 1879*, 6 volumes, Tours, Mame, 646p.
<https://gallica.bnf.fr/ark:/12148/bpt6k1057844n.texteImage> (1st edition)
<https://gallica.bnf.fr/ark:/12148/bpt6k6103054x/f63.image.texteImage> (2nd edition)
- Michelson, William (2016), *Time Use: Expanding the Explanatory Power of the Social Sciences*, Routledge.
- Nazier, Hanan and Ezzat, Asmaa (2018a), *Gender Differences and Time Allocation: A Comparative Analysis of Egypt and Tunisia*. ERF Working Paper No. 1217. September 2018.
- Nazier, Hanan and Ezzat, Asmaa (2018b), *Time Poverty in Egypt and Tunisia: Is There a Gender Gap?* ERF Working Paper No. 1220. September 2018.
- Pan American Health Organization (2010), *The Invisible Economy and Gender Inequalities. The Importance of Measuring and Valuing Unpaid Work*. Washington, D.C.: PAHO.
- Parker, Susan W. and Gandini, Luciana (2011), *Cuantificación de sesgos en la contabilización del uso del tiempo a partir de metodologías de diarios y cuestionarios*, Cuadernos de Trabajo 30, Instituto Nacional de las Mujeres, Mexico, 140p. + annexes.
- Reid, Margaret (1934), *Economics of Household Production*, New York, John Wiley.
- Samman Emma, Presler Marshall Elizabeth and Jones Nicola (2016), *Mothers, Children and the Global Childcare Crisis*, ODI, London, 89p.
- SNA (1993), *System of National Accounts*, New York, Commission of the European Communities, IMF, OECD, UN, WB.
- SNA (2008), *System of National Accounts*, New York, Commission of the European Communities, IMF, OECD, UN, WB. 662p.
- Sorokin, Pitirim A. and Merton, Robert K. (1937), "Social Time: A Methodological and Functional Analysis", *American Journal of Sociology*, 42, pp.615-629.
- Sorokin P. A. and Berger C. Q. (1939), *Time-Budgets of Human Behavior*, Cambridge, Harvard University Press.

- Stiglitz, Joseph; Sen, Amartya and Fitoussi, Jean Paul (2009), *Report by the Commission on the Measurement of Economic Performance and Social Progress* www.stiglitz-sen-fitoussi.fr
- Szalai, Alexander ed. (1972), *The use of time: Daily activities of urban and suburban populations in twelve countries*, The Hague, Netherlands: Mouton.
- Uganda Bureau of Statistics (UBOS) (2019), *Time Use Survey 2017/2018 Report*, Kampala, Uganda: UBOS, 96p.
- United Nations (2005), *Guide to Producing Statistics on Time Use: Measuring Paid and Unpaid Work*, DESA, Statistics Division, New York, 387p.
- United Nations (2016), *Leave No One Behind. A Call to Action for gender Equality and Women's economic Empowerment*, Report of the UN Secretary-General's High-Level Panel on Women's Economic empowerment, 138p.
- United Nations (2017), *International Classification of Activities for Time-Use Statistics (2016)*, Statistics Division. Draft as of 13th February 2017. New York, 143p. <https://unstats.un.org/unsd/demographic-social/time-use/icatus-2016/>
- United Nations International Research and Training Institute for the Advancement of Women (UN-INSTRAW) (1996), *Valuation of Household Production and the Satellite Accounts*, INSTRAW, Series B,52.
- Van Thienoven, Theun Pieter; Glorieux, Ignace and Minnen, Joeri (2017), 'Exploring the stable practices of everyday life: A multi-day time-diary approach', *The Sociological Review*, vol. 65, 4: pp. 745-762).
- Varjonen, Johanna; Niemi, Iris; Hamunen, Eeva; Sandström, T., and Pääkkönen, H. (1999), *Proposal for a Satellite Account of Household Production*, Eurostat Working papers 9/1999/A4/11, Luxemburg, Eurostat, <http://www.stat.fi/tup/kantilinpito/satel98.pdf>
- Varjonen, Johanna; Hamunen, Eeva and Soinnie, Katri (2014), *Satellite Accounts on Household Production: Eurostat Methodology and Experiences to Apply It*, Working Papers 1/2014.
- Vickery, Clair (1977), The Time-Poor: A New Look at Poverty. *The Journal of Human Resources*, 12(1), 27-48.
- Waring, Marilyn (1988), *If Women Counted: A New Feminist Economics*, Harper and Row, 386p.
- Waring, Marilyn (1999), *Counting for Nothing: What Men Value and What Women Are Worth*, University of Toronto Press, 310 p.

World Bank (1991), *The Social Dimensions of Adjustment (SDA) Integrated Survey. A Survey to Measure Poverty and Understand the Effects of Policy Change on Households*, Washington D.C. Report N°9482-AFR, 237p.

Zacharias, Ajit (2011), “*The Measurement of Time and Income Poverty.*” Levy Economics Institute Working Paper 690 (October). Annandale-on-Hudson, NY: Levy Economics Institute of Bard College.
http://www.levyinstitute.org/pubs/wp_690.pdf.

Zacharias, Ajit., Antonopoulos, Rania., and Masterson, Thomas (2012), *Why Time Deficits Matter: Implications for the Measurement of Poverty.* July 2012. UNDP, Levy Economics Institute of Bard College.

Zuzanek, Jiri (1979), Time budget trends in the USSR: 1922-1970, *Soviet Studies*, Vol. 31, No. 2, Apr., 1979

Zuzanek, Jiri (1980), *Work and Leisure in the Soviet Union. A Time-Budget Analysis*, New York, Praeger.



13

ANNEXES

Table A 1: Overview of TUS main characteristics across regions and countries

AFRICA

Northern Africa										
Year	Period	Type of survey	Minimum age	Sample size (Individuals)	Non response rate	Type of sample	Survey instrument	Mode of data collection	Classification used	
Algeria	2012	Stand alone	12+	9,015 households 22,138 individuals	29.5*	All eligible	One diary	Interview	HETUS	
Morocco	2011-12	Stand alone	7-14 and 15+	8 990 households, 15 486 women and men (15+) 2851 children 7-14	1.7 households 6.3% women 12.3 men 5.0 children	Random selection of one adult male per household, and one child in 5 households among 15 (secondary sampling unit)	One diary	Mixed	HETUS	
Tunisia	2005-06	Stand alone, sub sample of household survey	15+	4,271 households (rate: 1.95% / ..) 11,594 individuals	4,3 for households	All eligible	Two diaries	Mixed	HETUS	

* Non respondents are more numerous among young males and employed persons. Therefore, a factor of correction was imputed in order to correct the bias due to non-response.

Year	Period	Type of survey	Minimum age	Sample size (individuals)	Non response rate	Type of sample	Survey instrument	Mode of data collection	Classification used
Sub-Saharan Africa									
Benin	2 months	Module of household survey	6-65	3,206 households 12,604 individuals	33.2 (hh)	All eligible	One diary	Interview	Pre-listing (63 activities)
	1 month		6+	4,920hh, 13,026 individuals					(84 activities)
Cameroon	1 month	Module of household survey	10+	4,988 households	22.4 households 11.6 diaries	Household head, spouse, random men/women among others aged 10-14 and 15+	One diary	Interview	ICATUS
Cape Verde	3 months	Module of household survey	10+	3,390 households (1/3 sample hh survey) 8,154 individuals			List	Interview	Ad-hoc detailed (34 activities for unpaid work only)
Ethiopia	One month	Stand alone	10+	20,122 households 52,262 individuals	0.8 households 0.9 individuals	All eligible	One diary	Interview	ICATUS
Ghana	2 months	Stand alone	10+	4,193 households 9,297 individuals	0.5 households 13.5 individuals	All eligible	One diary	Interview	ICATUS
Madagascar	2 months	Stand alone, sub sample of household survey	6-65	2,663 households 7,749 individuals		All eligible	One diary	Interview	Pre-listing (77 activities)
Mali	2 months	Stand alone	6-65	680 households 2,249 individuals		Random selection	One diary	Interview	Pre-listing (63 activities)

	Year	Period	Type of survey	Minimum age	Sample size (individuals)	Non response rate	Type of sample	Survey instrument	Mode of data collection	Classification used
Mauritius	2003	2 months	Module of multi-purpose household survey	10+	6,480 households		All eligible			
	2018-19	Oct. 2018 /Sept. 2019	Module Living Conditions Survey	12+	3,500 households 3,994 individuals		1 adult 16+ 1 child 12-15	One diary	Interview	ICATUS
South Africa	2000 2010	3 rounds 4 th quarter	Stand alone	10+	14,553 30,897	12.5	Random selection of two eligible members	One diary	Interview	ICATUS
Tanzania	2006		Module of labour force integrated survey		11,472 households 47,199 individuals					
	2014 2017-18	4 quarters	Module of Household Budget survey	5+		0.4 households	One member selected according Kish grid	One diary	Interview	ICATUS
Uganda	2017-18	4-month period Dec. 2017/ Apr.2018	Stand alone	14+	3,364 households 4,296 individuals	4.0 households 64.3 individuals	Random selection of two eligible members (one male, one female)	One diary	Interview CAPI	ICATUS

AMERICAS

Latin America and the Caribbean										
Year	Period	Type of survey	Minimum age	Sample size (individuals)	Non response rate	Type of sample	Survey instrument	Mode of data collection	Classification used	
Argentina (Buenos Aires)	2005	1 month	Module of household survey	15-74	1,408 individuals	11 households	Random selection of one eligible member	Diary	Interview	ICATUS
Brazil	2016 2017 2017	Year	Module of household survey	14+	20% of the overall sample of 211,344 households (=42,269)	All eligible	All eligible	Reference week	Interview	Limited to other forms of work
Chile	2015	3 months	Stand alone	12+	10,706 households 21,690 individuals	30 households 24 individuals	All eligible	Weekday/ weekend day on one week	Interview	CAUTAL
Colombia	2012-13 2016-17	Year	Stand alone	10+	148,492 44,999 households	All eligible	All eligible	Yesterday	Interview	Ad hoc detailed
Costa Rica	2004 2017	One month 2 months	Module of household survey	12+	32,437 individuals 4,560 households 11,400 individuals	24.9 individuals	All eligible	Past week	Interview	Ad hoc detailed
Dominican Republic	2016	2 months	Module of household survey	10+	22,261 households 22,670 individuals	7.2 households 2.5 individuals	Random selection of one eligible member (Kish method)	Past week	Interview	CAUTAL (38 activities)
Ecuador	2012	2 months	Stand alone	12+	20,767 households	7.6 households	All eligible	Weekday/ weekend day	Interview	CAUTAL
El Salvador	2010	Year	Module of household survey	10+	3,305 households	All eligible	All eligible	Yesterday	Interview	Ad hoc detailed

Year	Period	Type of survey	Minimum age	Sample size (individuals)	Non response rate	Type of sample	Survey instrument	Mode of data collection	Classification used
Mexico	2002 2009 2014	Module of hh survey. Stand alone	12+	5,445 households 17,000 households 18,996 households 48,010 individuals	15 households 3.2 individuals	All eligible	Weekday/ weekend day	Interview	Ad hoc detailed (ICATUS+CMAUT (Mexican))
Panama	2011	Stand alone	15+	3,720 households 6,907	9 households 5.3 individuals	All eligible	Weekday/ weekend day	Interview	Ad hoc detailed
Paraguay	2016		14+	4,272 households		One able to respond for all eligible	Past week	Interview of one able to respond for all	CAUTAL
Peru	2010	Stand alone	12+	4,580 households		All eligible	Weekday/ weekend day	Interview	Ad hoc detailed
Uruguay	2007 2013	Module of household survey	14+	3,391 households, 7,447 individuals		All eligible	Weekday/ weekend day	Interview	Ad hoc detailed
Northern America									
Canada	1986 1992 1998 2005 2010 2015	Module of household survey	15+	25,000	61.8		One diary	Computer assisted telephone interview	
USA	2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 and 2019	Stand alone	15+	3,375 households per month in 2003 2,190 households per month since 2004	From 42.2 in 2003 to 54.4 in 2017	Random selection (one person)	One diary	Computer assisted telephone interview	ATUS

ARAB STATES

Year	Period	Type of survey	Minimum age	Sample size (individuals)	Non response rate	Type of sample	Survey instrument	Mode of data collection	Classification used	
Arab States										
Iraq	2007	2 months	Module of household survey	10+	6,048 households		All eligible	One diary	Interview	Pre-listing (27 activities)
Oman	2007-08	Year	Stand alone, sub sample of household survey	15+	2,500 households 9,063 individuals	8.7 (individuals)		One diary (light)		Pre-listing (23 activities)
Palestine	1999-2000 2012-13	Year	Stand alone	10+	8,038 4,605 households	28.4 households	Random selection 1 male, 1 female	One diary	Interview, left behind diaries, control and collection	ICATUS
Qatar	2012-13	Year		15+	16,754			One diary		Pre-listing

ASIA AND THE PACIFIC

Year	Period	Type of survey	Minimum age	Sample size (individuals)	Non response rate	Type of sample	Survey instrument	Mode of data collection	Classification used
Eastern Asia									
China	2008	Stand alone	15-74	37,142 individuals 20,226 households 48,580 individuals		All eligible	Two diaries (one week-day, one weekend day)	Interview	Mixed HETUS/ ICATUS
	2018		15+				Full diary in 10 provinces Light diary in 10 provinces + Shanghai		
Japan	1976, 1981, 1986, 1991, 1996, 2001, 2006, 2011, 2016						Two diaries for two successive days For time use during a single day, two questionnaires are used: Questionnaire A adopts a pre-coding method (on 190,000 individuals), while Questionnaire B is designed to elucidate time use in more detail (after-coding method) for 10,000 individuals. Questionnaire A is used for around 6,912 of 7,320 EDistricts, and Questionnaire B for the remaining 408 EDs	Enumerators deliver the questionnaires to each household to be surveyed, collect the completed questionnaires, and interview the households as necessary. On-line response possible	Correspondence HETUS
		Stand alone	10+	In 2016: 88,000 households 200,000 individuals					
		One month							
		One month	Stand alone	10+					
		One month One month 2 rounds 3 rounds	LFS LFS Social survey Stand alone	10+	43,000 32,000 20,657 12,720 households 31,800 individuals		All eligible	Two diaries on two consecutive days	Self-recorded Mixed
Korea	1999 2004 2009 2014								

Year	Period	Type of survey	Minimum age	Sample size (individuals)	Non response rate	Type of sample	Survey instrument	Mode of data collection	Classification used
Mongolia	2007 2011 2015 2019	Stand alone	12+	3,135 (7,136) 3,998 households 10,693 individuals 3,990 households 13,626 individuals	#0	All eligible who were at home	One diary	Diary days by Paper Assisted Personal Interview	ICATUS ICATUS 2016 for TUS 2019
Taiwan	2004	Stand alone	15+	11,000 households 15,000 individuals		1 in small households, up to 3 in larger households	A diary for two consecutive days		Pre-coded list of 29 activities

South Eastern Asia and the Pacific										
	Year	Period	Type of survey	Minimum age	Sample size (individuals)	Non response rate	Type of sample	Survey instrument	Mode of data collection	Classification used
Australia	1992 1997 2006	Four 13-day period	Stand alone	15+	3,643 households 6,961 individuals	37.6 for households 17.5 for individuals	All eligible	A diary for two consecutive days	Instructions and two completed sample pages at the beginning of the diary gave respondents an idea of the type of information and level of detail required.	
Cambodia	2004	15 months	Module of household survey	5+ (15-64)	15,000 households		All eligible	One diary	Interview	Pre-listing (22 activities)
New Zealand	1998-99 2009-10	Year	Stand alone	12+	9,159 individuals	28 households	Random selection (two persons)	Two diaries	Mixed	ACTUS
Thailand	2004 2009 2014-15	One month One quarter	Stand alone	10+ 6+	79,560 hh 83,880 hh		Random selection (one person)	One diary	Mixed	ICATUS

Year	Period	Type of survey	Minimum age	Sample size (individuals)	Non response rate	Type of sample	Survey instrument	Mode of data collection	Classification used
Southern Asia									
India	1998-99	Stand alone	6+	18,591 households 77,593 individuals	0.2 households	All eligible	Three diaries (normal, abnormal, weekly variant)	Interview	Ad hoc list
	2019	Stand alone	6+	138,799 households 447,250 individuals		All eligible	One diary	Interview	ICATUS 2016
Iran	3 quarters		15+				One diary	Mixed	ICATUS
Pakistan	2 months	Stand alone	10+	19,380 households	1.1 households	Random selection (two persons)	One diary	Interview	ICATUS

EUROPE AND CENTRAL ASIA

Year	Period	Type of survey	Minimum age	Sample size (individuals)	Non response rate	Type of sample	Survey instrument	Mode of data collection	Classification used	
Northern, Southern and Western Europe										
Albania	2010-11	Year	Stand alone	10+	2,250 households 10,333 diaries	8.5 households 21.8 two diaries 19.9 one diary All members: 30.7 More than twice number of diaries on Saturdays and Sundays	All eligible	Two diaries	Instructions given by Interviewers for diary keeping	HETUS
Austria	2008-09	Year	Stand alone	10+	8,234		All eligible	One diary	Mixed	HETUS
Belgium	1999	Year	Module and sub-sample (1/4 or 1/3) of household budget survey and labour force survey in 2013	12+	8,382 6,400		All eligible	Two diaries	Instructions given by Interviewers for diary keeping	Ad hoc detailed
	2005			10+	5,559 from 2,744 households		All eligible	Two diaries	Instructions given by Interviewers for diary keeping	Ad hoc detailed
Denmark	2001	Year	Stand alone	16-74	2,739 diaries out of 4,164	34.2	All eligible	Two diaries	Mixed	HETUS
Estonia	1999-2000	Year	Stand alone	10+	3,131 out of 7,225 households among which 6,968 individuals out of 7,313	54.7 + 4.7 (*)	All eligible	Two diaries	Mixed	HETUS
	2009-10									

Year	Period	Type of survey	Minimum age	Sample size (individuals)	Non response rate	Type of sample	Survey instrument	Mode of data collection	Classification used
Finland	1979 1987 1999 2009	Stand alone	10+	3,795		All eligible	Two diaries	Mixed	Ad hoc detailed
France	1974 1986 1999 2010	Stand alone	15+ 11+ (15+)	15,441 17,383		All eligible	Two diaries	Mixed	Ad hoc detailed
Germany	2001-02 2012-13	Stand alone	10+	12,655 5,000 households, 11,000 individuals		All eligible	Three diaries	Mixed	Ad hoc detailed in line with HETUS
Greece	2013-14	Stand alone	10+	3,371 households 8,085 individuals	39.1 households	All eligible	Two diaries	Mixed	HETUS
Ireland	2005	Stand alone	18+	585 households 1,089 individuals	42.1 households 25.6 individuals	All eligible	Two diaries (light)	Mixed	Pre-listing 26 activities
Italy	1988-89 2002-03 2008-09 2013-14	Stand alone	3+ (15+)	50,968 individuals 19,093 households 44,866 individuals		All eligible	One diary	Mixed	Ad hoc detailed in line with HETUS
Latvia	1996 2003	Stand alone	10+ (20-74)	1,469 households 3,804 individuals	32.5 households	All eligible	Two diaries	Mixed	HETUS

	Year	Period	Type of survey	Minimum age	Sample size (individuals)	Non response rate	Type of sample	Survey instrument	Mode of data collection	Classification used
Lithuania	1990					41.7 households 54.5 individuals in large cities, 27.8 in rural areas				
	2003	Year	Stand alone	10+ (20-74)	2,164 households 4,768 diaries		All eligible	Two diaries	Mixed	HETUS
Luxembourg	2014			10-74	2,100 individuals			Two diaries		HETUS
Macedonia	2004 2009 2014-15	Year	Stand alone	10+	2,080 households	30.9	All eligible	Two diaries	Mixed	HETUS
Netherlands	2005-06			12+			All eligible		Mixed	Ad hoc detailed
Norway	1970 1980 1990 2000 2010	Year	Stand alone	16-74 16-74 16-79 9-79 9-79	4,000		All eligible	Diaries for two con- secutive days	Mixed	Ad hoc detailed
	1999	2 months	Stand alone	15+	4,515 households 10,013 individuals 10,146 individuals	17 households	All eligible Quota sampling	One diary	Interview	Ad hoc de- tailed
2015										
Serbia	2010-11	Year	Stand alone	15+	2,340 households	20.3 households 21 individuals	All eligible	Two diaries	Mixed	HETUS
Slovenia	2000-01	Year	Stand alone	10+ (20-74)	2,364 households	47.5 households	All eligible	Two diaries		HETUS
Spain	2002-03 2009-10	Year	Stand alone	10+	19,295		All eligible	One diary	Mixed	HETUS

Year	Period	Type of survey	Minimum age	Sample size (individuals)	Non response rate	Type of sample	Survey instrument	Mode of data collection	Classification used
Sweden	1990-91	Stand alone	20-84	2,998 individuals/ households selected from national register according to age, sex, and also single women with children under 18. Their spouses/partners are included	59 Individuals	All eligible	Two diaries	Telephone interviews for background information and diaries Mixed	Ad hoc detailed
	2000-01 2010-11	Year							
UK	2000 2005	Stand alone Module of household survey	8+ 16+	21,000 diaries 5,000 diaries 9,388 individuals in 4,238 households provided 16,553 diary days	59.6 (households) 18.9 diaries Net non-response rate: 67.2	All eligible Random selection	Two diaries	Mixed Interview	Ad hoc detailed
	2015	Stand alone	8+			All eligible			

*Estonia: In total, 2,425 households (77.5% of the 3,131 households who completed the Household Questionnaire) completed the diaries; among them, all eligible household members of 2,372 households (75.8%) completed both the working day and weekend diaries.

Year	Period	Type of survey	Minimum age	Sample size (individuals)	Non response rate	Type of sample	Survey instrument	Mode of data collection	Classification used
Eastern Europe									
Belarus	2014-15	Stand alone	10+	6,000 households					
Bulgaria	2009-10	Stand alone	10+	3,132 households 5,503 individuals		All eligible	Two diaries	Mixed	HETUS
Hungary	1986-87		15-74	40,000 individuals 43,200		Random selection of 1 per household: if 10-14, the guardian (preferably mother) is also selected			HETUS
	1999-2000	Stand alone	15-84						
	2009-10		10-84	13,000					
Moldova	2011-12	Stand alone	10+	10,642 households	31.8 households	All eligible		Mixed	HETUS
Poland	2003-04	Stand alone	15-64	28,209 households	6 households 67 individuals	All eligible	Two diaries	Mixed Self-administered diary	HETUS
	2013	Year	10+						
Romania	2000		10+	9,018 households	13 households				
	2011-12	Stand alone		18,720 households		All eligible	Two diaries	Mixed	HETUS

Year	Period	Type of survey	Minimum age	Sample size (individuals)	Non response rate	Type of sample	Survey instrument	Mode of data collection	Classification used
Central and Western Asia									
Armenia	2008	Stand alone	15-80	512 households 1,342 individuals	9.1 (refusals)	All eligible	Two diaries	Interview	HETUS
Azerbaijan	2008 2012	Module of the household budget survey	15+	3910 households, 9633 individuals		All eligible	Two diaries	Interview	HETUS
Kazakhstan	2006 2012	Module of a household budget survey	10+	12,000 households 33,830 individuals		All eligible	Two diaries	self-completion by respondents, with exceptions Interview	ICATUS
Kyrgyzstan	2010 2015	Stand alone	12+	4,929 households 5,014 households 14,066 individuals		All eligible	One diary	Interview	
Turkey	2006 2014-15	Stand alone	15+ 10+	5,070 households 11,815 individuals 11,440 households		All eligible	Two diaries	Interview Mixed	HETUS

Notes: Blanks mean that no information was found in the methodological documents or that the survey results were obtained from an international database (OECD for example). The mixed mode of data collection means that diaries are self-recorded by the interviewees and individual/household questionnaires are filled by interviewers.

Table A 2: Main characteristics of Time-use surveys with Diaries

Countries	Length time slot	Number activities per time slot	Weekly variations	Seasonal variations	Simultaneous activities	Contextual questions	Characteristics of individuals, households, premises, etc.
Albania 2010-11	10mn	1	2 randomly designated days (weekday and weekend day)	Year round	Main + parallel or simultaneous	Where, means of transport, presence of other persons	Yes Household: housing and equipment, household characteristics, home-based activities, perception life in couple, childcare and domestic duties, income Individual: Employment, cultural, sports, leisure, activities, associations, services within household and for other households, health status
Algeria 2012	15mn	1	Equal distribution of each day of the week	6 May-10 July	Main + simultaneous	Where, with whom, means of transport, purpose	
Argentina Buenos Aires 2005	30mn	3	El día de referencia del diario de actividades no se predefinió taxativamente -en términos técnicos, no se aleatorizó rigidamente-. Por el contrario, quedó determinado por el día de realización de la EAH o al día en que podía contactarse al miembro del hogar seleccionado, en caso de que no estuviera presente. Esta estrategia tuvo como objetivo que los encuestadores priorizaran entrevistar al miembro del hogar seleccionado con independencia del día en que pudieran encontrarlo/a, y enfatizar que el diario de actividades debía referirse siempre al "día de ayer" -con independencia del día de la semana al que correspondiera-.	1 month 20 Nov-15 Dec	Simultaneous for second and third by Yes or No	Where	
Armenia 2008	10mn	1	2 diaries	1 month 1-31 October	Main + simultaneous	Where, with whom, means of transport	Household questionnaire
Australia 2006	5mn	1	1 diary for two consecutive days	4 periods of 2 weeks	Main + simultaneous	Where, for whom, with whom	The interview questionnaire concentrated on demographic and socio-economic information about each household person in on scope to identify population groups

Countries	Length time slot	Number activities per time slot	Weekly variations	Seasonal variations	Simultaneous activities	Contextual questions	Characteristics of individuals, households, premises, etc.
Austria 2008-09	15mn				Main + simultaneous		
Belarus 2014-15							
Belgium 2013	10mn			Year round	Main + simultaneous	Where, with whom	Households: Possession of durable goods •Revenues of the household •Use of childcare services •Information about eating and cooking habits •Leisure time •Organisation and regularity of weekdays (Monday to Friday) •Satisfaction with life and life environment •Personal information
Benin 2015	1 hour	5	Equal distribution of each day of the week	Year round	Main+ simultaneous	Where, means, for what or for whom	Household characteristics from the main household survey. Complementary questions on care, polygyny, specificity of the day, situation of the person
Bulgaria 2011				Year round			
Cambodia 2004	30mn			15 months			
Canada 2015	Reporting of all activities lasting 10mn at least		Pre-assigned day of the week	Year round		Where, with whom, use ICT	
China 2018	15mn	1	2 diaries (weekday and weekend day)	1 month	Main+ simultaneous		
Denmark 2001	10mn	1	2 diaries (weekday and weekend day)	2 * 8 weeks (Spring and Autumn)	Main+ simultaneous	Where, with whom	Questionnaire starts with questions about the background of respondents such as family, age, education, occupation, economy and housing. The questionnaire involves questions about many different areas for example the respondents work, how comprehensive this is on a weekly basis and what time of day the work is performed. There are also questions about household work, leisure activities, personal consumption, health, stress and political orientation. The questionnaire totally contains 113 questions
Estonia 2009-10	10mn	1	2 diaries (weekday and weekend day)	Year round	Main+ simultaneous	Where, with whom	
Ethiopia 2013	1 hour	4	1 diary	1 month	Main+ simultaneous	Where, for what, for whom, means of transport	Questionnaire contained individual and household characteristics common to standard household surveys

Countries	Length time slot	Number activities per time slot	Weekly variations	Seasonal variations	Simultaneous activities	Contextual questions	Characteristics of individuals, households, premises, etc.
Germany 2012-13	10mn	1	3 diaries	Year round	Main+ simultaneous	With whom, means of transport	The household questionnaire includes 24 questions referring to household composition, housing situation, household net income, received assistance and the use of day care facilities for children under the age of ten. The personal questionnaire has to be filled in by each household member from the age of ten. They answer about 40 questions referring to their labour force participation, their level of education or training, their use of school and out-of-school learning opportunities, their cultural activities and their voluntary engagement as well as questions about their subjective time perception
Ghana 2009	1 hour	5	1 diary	1 month	Main+ simultaneous	Where, for whom, with whom, means of transport	Questionnaire contains individual and household characteristics
Hungary 2009-10			2 diaries	Year round	Main+ simultaneous	Where, means of transport, for whom	
India 2019	30mn	3	1 diary	Year round	Main+ simultaneous	Where	Questionnaire contains individual (age, relationship to head, marital status and economic activity) and household characteristics
Ireland 2005	15mn	1	2 diaries	1 point during the year	Main+ simultaneous	Where, with whom	
Italy 2013-14	10mn	1	3 diaries	Year round			
Japan 2016	15 mn	1	2 diaries	1 point during the year (15-23 October)	Main+ simultaneous	Where, with whom	
Kazakhstan	10mn	1	2 diaries			Where, with whom, transport	
Kyrgyzstan 2015							
Korea 2016	10mn	1	2 diaries on two consecutive days				
Latvia 2003	10mn	1	2 diaries (weekend and weekend day)	From February to August and from October to November	Main+ simultaneous		

Countries	Length time slot	Number activities per time slot	Weekly variations	Seasonal variations	Simultaneous activities	Contextual questions	Characteristics of individuals, households, premises, etc.
Lithuania 2003	10mn	1	2 diaries (weekday and weekend day) randomly selected	Year round	Main+ ancillary	With whom	
Luxembourg	10mn		2 diaries (weekday and weekend day)		Main+ simultaneous	Where, With whom, travel	
Macedonia 2014-15	10mn	1	2 diaries (weekday and weekend day) randomly selected	Year round			Household questionnaire contains data regarding the place of living, household composition, family relations not only to the head of the household, but also to all other household members, housing and living conditions, total income, and other characteristics of the responding household. Individual questionnaire contains data about every person in the household, aged over 10, employed, unemployed or inactive population. Questions on education, health condition, marital status, etc.
Madagascar 2001	1 hour	4	Equal distribution of each day of the week		Main+ simultaneous		Socio-economic characteristics of each individual member
Mali 2008	1 hour	4	Equal distribution of each day of the week		Main+ simultaneous		Socio-economic characteristics of each individual member
Mauritius 2003	30mn	3	Equal distribution of each day of the week (reweighted)	Year round	Simultaneous by Yes or No	Where	Module of a multi-purpose survey. Socio-economic characteristics of household members
Moldova 2011-12	10mn	1		Year round			
Mongolia 2011	10mn	1		Every third week of third month of every quarters March, June, September, December	Main+ simultaneous	Where/mode of transportation, for what, for whom	
Morocco 2011-12	No time slot	1	Equal distribution of each day of the week	Year round	Main+ simultaneous	Where, For what or for whom	Household: characteristics of household members, employment, housing, equipment, unpaid help given and services provided by the household, income, Individual: culture and leisure, participation civil life, perception time management, perception and decisions in couple
New Zealand 2009-10	30mn	6	2 diaries on two consecutive days	Year round	Main+ simultaneous	Where, means of transport, with whom	Household and individual questionnaires
Oman 2007-08	15mn	1					

Countries	Length time slot	Number activities per time slot	Weekly variations	Seasonal variations	Simultaneous activities	Contextual questions	Characteristics of individuals, households, premises, etc.
Pakistan 2007	30mn	3		Year round	Main+ simultaneous	Where, means of transport	Household and individual questionnaires + post-diary
Palestine 2012-13	30mn night, 10mn day				Main+ simultaneous	For what, with whom, means of transport, where	Housing, primary fuel type used in cooking, goods and services available, monthly household income, and other indicators
Poland 2013	10mn	1	2 diaries random selection of one day between Monday and Friday and Saturday or Sunday before or after	Year round		Where, means of transport, with whom	Household questionnaire (Identification; Household composition; Childcare; Living conditions; Income; Receiving help; Interview implementation); Personal questionnaire (Identification; Employment; Free assistance and services to persons outside the household; Social work; Personal characteristics; Interview execution); Logbook (Identification; Description of main and associated activities per day; Final data); Weekly work schedule.
Portugal 1999	10mn	1			Main+ simultaneous	Where, means of transport, with whom	Besides usual individual question, a detailed questionnaire was added for each main TUS activity
Romania 2011-12	10mn	1	Randomly designated days	Year round	Main+ simultaneous		
Serbia 2010-11	10mn	1		Year round	Main+ simultaneous	Where, mode of transport, with whom	
Slovenia 2000-01	10mn	1	Randomly designated days	Year round	Main+ simultaneous		
Spain 2009-10	10mn	1		Year round	Main+ simultaneous		
South Africa 2010	30mn	3		4 th quarter	Main+ simultaneous	Where, means of transport	The questionnaire comprised 5 sections. Section 1 covered details of all household members. Sections 2-5 were administered to the two selected individuals in a household. Sections 2-5 were therefore duplicated to cater for the two selected individuals in a household. Section 2 covered demographic details of a person selected as a respondent in that household. Section 3 was on economic activities for the selected person. Section 4 covered main work activity for the selected person, if they were engaged in economic activities. Section 5 consisted of a diary

Countries	Length time slot	Number activities per time slot	Weekly variations	Seasonal variations	Simultaneous activities	Contextual questions	Characteristics of individuals, households, premises, etc.
Sweden 2010-11	10mn	1	2 diaries weekday/ weekend day	Year round	Main+ simultaneous	Where, means of transport; with whom, with or without internet/computer support	
Tanzania 2014	1 hour	5			Simultaneous by Yes or No	For what, where*inside/outside, means of transport	Questionnaire of an integrated labour force survey
Tunisia 2005-06	15mn		2 diaries weekday/ weekend day				
Turkey 2014	10mn	1	2 diaries weekday/ weekend day	Year round			Household Questionnaire - Individual Questionnaire (individuals aged 10 and over) - Diaries (Weekday and Weekend day) (individuals aged 10 and over) - Weekly Work Schedule (individuals aged 15 and over)
Uganda 2017	1 hour	5	1 diary	5 months	Simultaneous by Yes or No and identification of joint done activities by time slot	Where, means of transport	Demographic information about members of households such as age, sex education etc. It also provides information on housing and living conditions of households
UK 2014-15	10mn	1	Randomly designated days	20 months	Main+ simultaneous	Use of internet, smartphone/computer, Where, with whom, how did you enjoy	

Countries	Length time slot	Number activities per time slot	Weekly variations	Seasonal variations	Simultaneous activities	Contextual questions	Characteristics of individuals, households, premises, etc.
USA 2003 to 2019	Exact duration of the activity or time of start and stop # 5mn		The monthly sample is divided into four randomly selected panels, one for each week of the month. To ensure good measures of time use on weekdays and weekend days, the sample is also split evenly between weekdays and weekend days. 10% of the sample is allocated to report about each weekday, and 25% of the sample is allocated to report about each weekend day. Designated persons from each household are randomly assigned a day of the week about which to report.	Monthly survey		Where, means of transport, with whom	Household roster Employment + modules on eldercare, labour force, earnings and school enrolment

Note: Blanks mean that the information was not found in the documentation made available

Table A 3: Main characteristics of Time-use surveys with stylised questionnaires

Countries	Reference period	Weekly variations	Seasonal variations	Simultaneous activities	Characteristics of individuals, households, premises, etc.	Definition unpaid work
Brazil	Week		Year round			
Chile 2015			3 months		Características socio demográficas de las y los integrantes del hogar, Educación, Cuidados permanentes, Ayudas que recibe el hogar, Ingresos del hogar, Trabajo en la ocupación, Contextualización al uso del tiempo, Caracterización del tiempo de trabajo y traslado, Cuidados a integrantes del hogar, Trabajo doméstico, P: Ayuda no remunerada a otros hogares, Cuidados personales, Actividades de educación y aprendizaje, Ocio y vida social, Satisfacción con el uso del tiempo.	
Colombia 2012-13	Day		Year round			SNA boundary Distinguishing production of goods for own final use la ENUT, basa su estructura conceptual en la separación de las actividades humanas en dos grandes grupos, las actividades de trabajo y las actividades personales, a su vez, siguiendo la estructura del Sistema de Cuentas Nacionales (SCN), las actividades de trabajo se separan en dos grandes grupos, el trabajo incluido en la frontera de producción del SCN y el trabajo que se encuentra por fuera de dicha frontera
Costa Rica 2017	week		2 months Oct-Nov		Questionnaire on housing and household characteristics, on external support to housework, on time use	

Countries	Reference period	Weekly variations	Seasonal variations	Simultaneous activities	Characteristics of individuals, households, premises, etc.	Definition unpaid work
Dominican Republic 2016	week		2 months Nov-Dec			<p>SNA boundary While it is true that the data of ENHOGAR 2016 are the first available in the country on the use of time and represents a novelty of information, when exploiting them should be considered the limitations that present, as:</p> <ol style="list-style-type: none"> 1. The small number of questions limits a broader analysis of the activities that people perform during the day and the time allocated to each of them. 2. All domestic work activities are left out that are carried out outside the home as take to wash the car, take the clothes to the cleaners, make the purchases and the transfers associated with these activities of domestic work unpaid. 3. The grouping into a single question the activities linked to care, prevents analyzing in detail the time that dedicates from the homes to different types of care. 4. The module did not consider any questions related to work activities for the community or activities of voluntary work. 5. It is not possible to differentiate the time that people spend to the unpaid care of household members the time that devote to the unpaid care of members of others homes.
Ecuador 2012	week	From Monday to Friday and from Saturday to Sunday				<p>Trabajo no remunerado: Comprende todas aquellas actividades del trabajo doméstico para el hogar, el cuidado brindado a miembros del hogar, el trabajo doméstico y de cuidado para otros hogares, el trabajo para la comunidad y voluntario no remunerado. La producción de bienes y servicios generada por los hogares se destina para el consumo del propio hogar o terceros de forma gratuita.</p> <p>Trabajo remunerado: Comprende todo el trabajo que realiza la población económicamente activa para la obtención de una remuneración sea dinero, especie o la obtención de un beneficio. La producción de bienes y servicios se destina al mercado, sea para venta o intercambio.</p>
El Salvador 2010	Day		Year round			

Countries	Reference period	Weekly variations	Seasonal variations	Simultaneous activities	Characteristics of individuals, households, premises, etc.	Definition unpaid work
Mexico 2014	Week	From Monday to Friday and from Saturday to Sunday	2 months Oct-Nov	El análisis de actividades simultáneas apoyado en la consulta de experiencias internacionales y de la misma ENUT 2009, arrojó que las actividades con más problemas de simultaneidad son: cuidado a personas del hogar, realización de quehaceres domésticos, actividades de entretenimiento (ver televisión, escuchar música), actividades de cuidado personal (peinarse, bañarse, cepillarse los dientes, ir al sanitario) y actividades del uso de medios masivos de comunicación; por lo que la estrategia que se aplicó consistió en implementar cambios a la estructura del cuestionario con el objetivo de disminuir el efecto de simultaneidad en la declaración de tiempos.	Características de la vivienda. Identificación y características de los hogares. Características sociodemográficas. Características personales. Trabajo y sus características. Actividades cotidianas. Percepción del bienestar. Actividades sin pago de personas que no son del hogar.	SNA/non SNA
Panama 2011	Week		One month			
Paraguay 2016						Production of primary goods for own consumption included in unpaid work
Peru 2010	Week	From Monday to Friday and from Saturday to Sunday	2 months Nov-Dec			Production of primary goods for own consumption/ collecting firewood included in unpaid work
Uruguay 2013	Week					

Note: Blanks mean that the information was not found in the documentation made available

Table A 4: Overview of TUS short modules in multipurpose household surveys and their main characteristics across regions and countries

Country	Year	Survey	Sample/Age	Number of activities	Mode of data collection/ reference period
Argentina	2013	Module on unpaid work and attached to the annual household survey	Urban areas Age 18+	Time recorded for 5 activities	Face to face recall interview, last 7 days
Comoros	2003	Module of EIM	Age 7+	Time recorded for 8 activities	Face to face recall interview, last 7 days
Ghana	2005-06	Module of the 4 th , 5 th and 6 th rounds of the GLSS	8,687 households, age 7+ among the 37128 members	Ad hoc classification with 8 activities. Time spent recorded	Face to face recall interview, last 7 days
Guatemala	2000	Module of ENCOVI	7,940 households, Age 7+	Time recorded for 23 activities	Face to face recall interview, yesterday
Guinea	2003	Module of EIBEP	Age 6+	Time recorded for 9 activities	Face to face recall interview, last 7 days
Lesotho	2008 2013	Module of HBS Module of ILFS	8,182 individuals, age 15+	Time recorded for 4 activities when they occur and ratings for 11 activities 5 activities for employed/unemployed population	Face to face recall interview, last 7 days
Liberia	2010	Module of the LLFS	6,233 households, age 5+	Time recorded for 6 non market SNA activities and 7 household activities	Face to face recall interview, last 7 days
Malawi	2004	Module of the 2 nd Integrated Household Survey	Age 5+	Time recorded for water, wood, and other household chores	Face to face recall interview, last 7 days
Niger	2011	National Survey on Household Living Conditions and Agriculture (ECVMA)	Age 5+	Time recorded for 8 activities excluding personal care	Face to face recall interview, last 7 days
Nigeria	2003-04 2011	Module of NLSS GH panel Survey GH Panel Survey wave 4	Age 5+	Time recorded for 14 activities Water and wood fetching	Face to face recall interview, last 7 days
Rwanda	2005 2010 2017	Module of EICV 2 Module of EICV 3 Module of EICV 4 LFS 2017	Age 6+ 16+	Time recorded for 6 activities Time recorded for 7 activities	Face to face recall interview, last 7 days
Uganda	2005-06 2009-10 2016-17	Module of the UNHS Uganda Panel Survey NLFS	7400 households, Age 14-64 Age 5+ Age 5+	Time recorded for 4 activities (water, wood, cooking, care) 8 activities 7 activities	Face to face recall interview, last 7 days
Zambia	2005 2018	Module of the LFS	7886 households, Age 5+	Time recorded for 22 activities SNA/ non-SNA	Face to face interview, one diary day

Sources: Based on Charmes (2011) and updated since 2011

Table A 5: Participating ESS-countries and data collection periods of HETUS waves 2000, 2010, 2020

No.	HETUS wave 2000	HETUS wave 2010	HETUS wave 2020 ^[1] : State of planning: July 2020
1	1998-1999: France	2008-2009: Italy	2019-2021: Estonia
2	1999-2000: Estonia	2008-2009: Austria	2019-2022: Norway
3	1999-2000: Finland	2009-2010: Estonia	2019-2020: Finland
4	2000-2001: Slovenia	2009-2010: Spain	2019-2020: Italy
5	2000-2001: Sweden	2009-2010: France	2019-2020: Slovenia
6	2000-2001: United Kingdom	2009-2010: Hungary	2020: North Macedonia
7	2000-2001: Norway	2009-2010: Finland	2020-2021: Netherlands
8	2001-2002: Bulgaria	2010-2011: Romania	2020-2021: Luxembourg
9	2001-2002: Germany	2010-2011: Norway	2020-2021: Belgium
10	2002-2003: Spain	2010-2011: Serbia	2020-2021: Hungary
11	2002-2003: Italy	2011-2012: Netherlands	2020-2021: Bulgaria
12	2003: Latvia	2012-2013: Belgium	2021: Croatia
13	2003: Lithuania	2012-2013: Germany	2021: Germany
14	2003-2004: Poland	2012-2013: Poland	2021-2022: Serbia
15	2005-2006: Belgium	2013-2014: Greece	2022: Poland
16		2014-2015: United Kingdom	2022: Greece
17		2014-2015: Luxembourg,	2022: Albania
18		2014-2015: Turkey	2022-2023: Romania
19			2023-2024: France
20			2024: Turkey

Source: Eurostat

Note: ^[1] Have not decided yet (07/2020): Austria, Ireland, Latvia, Portugal, Slovakia, Spain, United Kingdom.