
INTERNATIONAL LABOUR ORGANIZATION
Sectoral Activities Programme

Report II

Measurement of working time

Meeting of Experts on Labour Statistics
Geneva, 1–10 April 2008



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1. Introduction

Historical background

1. The International Labour Organization has long been concerned with the regulation of working time as one aspect which has a direct and measurable impact on the health and well-being of working persons, their level of fatigue and stress (and on that of the people close to them). It also has an important impact on productivity levels and labour costs for establishments, and on the general quality of life in all countries. Measuring levels and trends of the hours worked in an economy, and for different groups of workers, is therefore important when monitoring working and living conditions as well as when analysing economic developments. The importance of working time is reflected in the preamble to the ILO Constitution and in the 25 ILO Conventions adopted in this field by the International Labour Conference, the first of which (the Hours of Work (Industry) Convention, 1919 (No. 1) introduced the standard of an eight-hour day and a 48-hour week. These standards cover a wide range of working time issues, such as the regulation and reduction of maximum daily and weekly working time, the regulation of night work, weekly rest, paid annual leave and maternity leave, part-time work, workers with family responsibilities and the measurement of working time.
2. The International Conference of Labour Statisticians (ICLS) has dealt with the measurement of working time, adopting two resolutions, the resolution concerning statistics of wages and hours of labour (1923) and the resolution concerning an integrated system of wages statistics (1973), which recommend the measurement of working time as part of a system of wages statistics. It has recognized the importance of working time statistics when constructing wage indices to measure changes in the standard of living of the working class (First International Conference of Statisticians convoked by the Social Science Research Council of the United States of America, 1929). However, the ICLS has only adopted one resolution that defines working time for measurement purposes. This is the resolution concerning statistics of hours of work (Tenth ICLS, 1962).

Activities of other organizations

3. Several international organizations have been instrumental in developing and/or implementing standards or guidelines for the measurement of working time on behalf of their constituents: the Statistical Office of the European Communities (EUROSTAT); its labour market statistics working group (LAMAS); the Organisation for Economic Co-operation and Development (OECD); and the United Nations Statistics Division, the Department of Social and Economic Affairs.
4. Under the auspices of the United Nations, the Paris Group on Labour and Compensation (a city group for the purpose of informal consultation) was created in 1997. This group of labour statisticians, from national statistical institutes, the OECD, EUROSTAT and the ILO have, on several occasions, discussed and reviewed ILO proposals for the revision of working time measurement standards, making substantial contributions in the form of studies and comments, to the work of revising the existing 1962 resolution.
5. At the national level, many statistical offices, in particular in countries with well-developed statistical systems, have been individually measuring statistics of hours of work for many years. This is another reason why it is thought that the measurement of working time should be revised at the international level, in order to take into account national

practices and integrate them into a general measurement framework that may also serve to guide countries wishing to develop working time statistics.

Justification for revised international standards

6. The economic and social changes that have occurred in recent decades require relevant working time statistics to reflect new realities and the development of new socio-economic policies, which should be based on studies of working time and of other work issues, including the intensity of work. The process of revising and developing new international statistical standards within the spirit and principle of tripartism also means involving the social partners throughout the process.
7. In view of the multiple objectives and purposes (discussed in Chapter 2) of measuring statistics of working time in the modern era, the current standards, adopted by the Tenth ICLS in 1962, are now outdated and require revision. Under the broad topic of working time, since 1962 countries have defined and measured various working time concepts in order to describe developments within their society. A comprehensive review of the current international definitions, their limitations and relevance to the proposed basic components of working time, namely working hours and working time arrangements, has shown the need for revised standards. These new standards may serve to provide guidance on a larger number of measures and measurement issues related to the variety of statistical sources now available for measuring statistics of working time. Revised standards may also serve countries wishing to improve or develop a comprehensive system of statistics of working time that account for all productive activities, in order to complement their statistics on the economically active population and on demand for labour in production, and to provide guidelines for their presentation and international reporting.
8. It is also recognized that the possibility should exist to extend the scope of measurement of working time statistics, for countries wishing to do so, beyond the labour force framework, to allow for coverage of working time in all productive activities in market and non-market sectors within countries, and in respect of measures of annual hours or time worked over a long period.

Structure of the report

9. The report is organized in ten chapters as follows: Chapter 1 introduces the background and reasons for revising the international standards on working time; Chapter 2 presents the main objectives and uses of statistics of working time; Chapters 3 and 4, respectively, describe the existing international standards and their limitations which explain the need for revision; Chapter 5 reviews the proposed draft resolution and proposed framework, and presents each working time concept and definition; Chapter 6 covers methods of data collection and measurement issues concerning working time; Chapter 7 deals with the analytical measures proposed; Chapters 8 and 9, respectively, set out the recommended classifications and data presentation, and the modalities for international reporting of results; and, finally, Chapter 10 presents the conclusions and proposed main recommendation that the Group of Experts may wish to make concerning the international revision of the measurement of working time.

2. Objectives and uses of working time statistics

10. Statistics on working time, referred to as hours of work since they were first collected, were used to assess and monitor working conditions. A main interest at the outset was to assess working time regulations. This gave way to the development of the concept of normal time. Working time statistics were later used as a tool for economic analysis and to calculate economic indicators, such as average hourly earnings, average labour cost per unit of time and labour productivity. The concept of hours actually worked was mainly developed to estimate the volume of labour. Together with normal hours, these two concepts could also be used to identify part-time workers and persons affected by underemployment. Both were valuable in responding to a variety of issues, such as: number of working hours, including overtime, as compared to contractual or legal hours; hours not worked and the reasons, such as illness or annual leave; what number of workers were working part time, in annualized schemes or on shift work, more or less than others in time-related underemployment and in overemployment; and number of hours people worked in total, including housework and other activities.
11. Producers and users of statistics of working time have helped to meet these objectives and provide some answers to such fundamental policy concerns. The means to construct a statistical description of the components of working time of persons that may be used and compared within and by countries worldwide, requires a set of variables that relates to the context and time during which productive activities are carried out, as well as to their scheduling and flexibility over time.
12. Working time must be defined for measurement purposes. This may differ from the notion of working time as defined through legislation. Labour law is often specific to different groups of social partners and is often not comparable between them, yet it is necessary, including for labour/management negotiation. The measurement of working time, on the other hand, should be capable of providing national (or regional) estimates that are comparable between different groups of persons working. This requires standard concepts and thus may differ from labour laws designed for particular groups or activities.
13. In addition to the original hours of work definitions (ICLS, 1962, described in Chapter 3), other working time concepts have proved to be useful for other purposes, such as studies of the relationship of underemployment and productivity with income, as well as for national accounts measures. The concept of employment defined in the resolution concerning statistics of the economically active population, employment, unemployment and underemployment (Thirteenth ICLS, 1982) incorporated the notion of hours of work when it defined “some work” as based on the one-hour criterion. Information on employment by hours of work would make it possible to identify extremes of short and long hours of work, or to distinguish between part-time and full-time work. Statistics on overtime are useful to evaluate conditions of work and the response of establishments to market demand, while statistics on time of absence by type could help to explain the functioning of the economy and employer efforts regarding leave entitlement, and to indicate levels of discontent among workers. The regulation of resting time is linked to the regulation of working time. Statistics on leave entitlement and on actual leave taken are useful to monitor the implementation of these leave regulations. Accounting for time spent at the workplace on activities possibly considered as not directly productive, and the counterpart time spent on directly productive activities, using a refined measure of hours actually worked, might also serve to refine measures of productivity or labour cost.

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- 14.** Working time is a valuable topic for developed and developing countries. In both, a growing proportion of employees would seem to have non-standard hours different from the originally defined “normal hours”, and the number of persons in self-employment would seem to be on the increase. In these changing circumstances, information about time actually worked by persons is necessary to meet the objective of improved, precise estimates, and to provide comparability over time and between groups of working persons as well as between countries. Working time statistics are now seen as central for issues relating to a healthier balance between family and working life, in order to design social protection programmes that are no longer based on a traditional household model, which has all but disappeared in many countries.

3. Existing international definitions

In ILO Conventions

15. “Hours worked” have been defined by ILO Conventions in relation to the time when (paid) workers were at the disposal of an employer, that is, when available to receive work orders from an employer or person in authority. During such periods of availability, workers were expected to be ready to work, if work were possible, requested or necessary. Expanding this general concept to be meaningful for the self-employed might mean the time when the self-employed were available for their work, or at the disposal of, or available to receive purchase orders from, an employer or client (not to be confused with the “availability” criterion used to determine the unemployment definition in the labour force framework, where there is no formal job attachment).

16. The Hours of Work (Commerce and Offices) Convention, 1930 (No. 30), first ascribed “time worked” to availability periods, explicitly excluding “time for rest”, when workers were not available to work:

The term “hours of work” means the time during which the persons employed are at the disposal of the employer; it does not include rest periods during which the persons employed are not at the disposal of the employer.

17. The same issue was taken up in subsequent ILO Conventions, the Reduction of Hours of Work (Public Works) Convention, 1936 (No. 51), and the Reduction of Hours of Work (Textiles) Convention, 1937 (No. 61).

18. “Rest periods” in that context were time not worked during periods when workers were not expected to (be available to) work. Working persons have, of course, generally been able to take short breaks to rest during the time when they were expected to work. The distinction, however, often proved difficult to make in practice, as with other interruptions of work.

19. An attempt to possibly remedy this measurement difficulty may be the reason why the Hours of Work and Rest Periods (Road Transport) Convention, 1939 (No. 67), include periods of rest below a certain length (when workers are neither working nor available to work) in their definition of availability to work:

The term “hours of work” means the time during which the persons concerned are at the disposal of the employer or of any other person entitled to claim their services, or in the case of owners of vehicles and members of their families, the time during which they are engaged on their own account in work connected with a road transport vehicle, its passengers or its load, and includes –

- (i) time spent in work done during the running time of the vehicle;
- (ii) time spent in subsidiary work;
- (iii) periods of mere attendance; and
- (iv) breaks for rest and interruptions of work, which breaks or interruptions do not exceed a duration to be prescribed by the competent authority.

In ICLS resolutions

- 20.** The resolution concerning statistics of hours of work, adopted by the Tenth ICLS in 1962, defined two working time concepts covering wage earners and salaried employees. The first concept, normal hours of work, related to the hours of work stipulated in laws or where normal working schedules were set by establishment rules or customs:
4. (1) Normal hours of work are the hours of work fixed by or in pursuance of laws or regulations, collective agreements or arbitral awards.
 - (2) Where not fixed by or in pursuance of laws or regulations, collective agreements or arbitral awards, normal hours of work should be taken as meaning the number of hours per day or week in excess of which any time worked is remunerated at overtime rates or forms an exception to the rules or custom of the establishment relating to the classes of workers concerned.
- 21.** These normal hours with restricted worker coverage could be daily or weekly hours based on an administrative concept that varied among categories of workers and activities, but which included periods when workers would not work (such as commuting time, meal breaks, paid public holidays).
- 22.** The second concept, hours actually worked, related to time worked during a specific reference period:
5. (1) Statistics of hours actually worked should include:
 - (a) hours actually worked during normal periods of work;
 - (b) time worked in addition to hours worked during normal periods of work, and generally paid at higher rates than normal rates (overtime);
 - (c) time spent at the place of work on work such as the preparation of the workplace, repairs and maintenance, preparation and cleaning of tools, and the preparation of receipts, time sheets and reports;
 - (d) time spent at the place of work waiting or standing by for such reasons as lack of supply of work, breakdown of machinery or accidents, or time spent at the place of work during which no work is done but for which payment is made under a guaranteed employment contract;
 - (e) time corresponding to short rest periods at the workplace, including tea and coffee breaks.
 - (2) Statistics of hours actually worked should exclude:
 - (a) hours paid for but not worked, such as paid annual leave, paid public holidays, paid sick leave;
 - (b) meal breaks;
 - (c) time spent on travel from home to work and vice versa.
- 23.** These were hours during any reference period, short or long, and, as for the definitions set in ILO Conventions, when workers in paid employment were actually at the disposal of their employer and available to receive orders to work from an employer or person with authority, if work were possible, requested or necessary. These hours included: periods spent producing goods and services, including as overtime; periods spent in preparatory activities, preparing, cleaning, repairing, maintaining, etc.; periods of time in-between main work activities, waiting or standing by due to lack of supply, breakdowns, etc.; and short rest periods for tea, coffee, etc.
- 24.** The hours actually worked (ICLS, 1962) excluded meal breaks, commuting time and other paid leave, such as paid annual leave, paid public holidays and paid sick leave.

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25. As with the normal hours concept, hours actually worked had restricted worker coverage.
 26. A third concept mentioned, but not defined, related to hours paid for. This included all periods of time, whether worked or not worked, for which paid workers had been paid (generally by the employer) during a specified reference period. It referred to paid employees and incorporated periods of time during which the worker had the right not to work, yet for which payment was received: holidays and certain absences, such as sick leave, maternity leave and military training. Furthermore, hours paid for logically excluded all periods of time worked which were unpaid.
 27. Given wide variations in the payment of public holidays and other periods of inactivity, there are no international guidelines on hours paid for, although statistics on this concept are readily available. The Tenth ICLS observed that statistics on hours paid for could be used for internal purposes but were not suitable as a proxy to hours actually worked.
 28. The ICLS has adopted international standards on the measurement of time lost due to occupational injuries (resolution concerning statistics of occupational injuries, 1982 and 1998) and due to labour disputes (resolution concerning strikes, lockouts and other action due to labour disputes, 1993). These may be seen as subsets of time of absence. It has also discussed, with no formal adoption, the measurement of paid holidays (including both public holidays and paid vacations) (Thirteenth ICLS, 1982) and of absence from work (Fourteenth ICLS, 1987). However, international recommendations on time not worked as a whole have not been adopted.

4. Limitations of the current concepts

Link to administrative concepts

29. The existing international definitions of working time dating from 1962 are not clearly separated from the administrative concept. There is an essential difference between working time defined for administrative purposes and working time defined for statistical purposes. The latter should correspond to the actual production of all economic goods and services.
30. In the administrative context, working time will cover all periods of time, regardless of whether they are spent working or not, for which an agreement has been reached between the parties concerned (individuals, workers organizations, employers, employers' organizations, government). One agreement may consider certain activities as work and pay for them. This may include time spent changing clothing for uniforms, commuting time between home and work and vice versa, or meal times. Another agreement may exclude all such periods from work and not pay for them. The content of working time activities defined in one agreement will be specific to the group of working persons it covers. It may not necessarily be comparable to that defined in another agreement for a different group. Statistics relating to working time thus defined, when aggregated to produce a national measure, will be heterogeneous in content and therefore quite possibly misleading.
31. In contrast, working time defined purely for statistical purposes will reflect the time spent on a standard set of types of activities. Some of these activities may be excluded from legislation on working time and vice versa. The statistical definition can, in principle, be applied uniformly to all persons working. It will be comparable between the different groups and when aggregated produce a comparable national figure that may also be compared between countries.

Link to production boundaries

32. An operational consideration that the existing international standards did not address was the potential to apply working time concepts to time spent on all productive activities, that is, within the general production boundary of the United Nations System of National Accounts. The measurement of the 1962 hours of work concepts has been adapted to employment and its link to the labour force framework in the context of the 1982 resolution concerning statistics of the economically active population, employment, unemployment and underemployment (Thirteenth ICLS), etc., itself based on the production boundary. Time spent on activities producing domestic or personal goods and services for own final consumption within the same household and volunteer work (that for ease of reference will be referred to as "unpaid non-market services" in this report and throughout the proposed draft resolution) fall outside this system boundary. They are thus unlikely to be measured in working time.

Insufficient activity coverage

33. A consequence of the conformity to the production boundary and of the coverage of persons described as inadequate above, is that the international definition of hours actually worked omits the measurement of a number of working situations that may occur in many types of work, and in paid and self-employment jobs. These different activities might include: awaiting customers or business; on-call duty; travelling; professional training,

work at home, attending meetings, getting to agricultural fields; producing goods and services supplied to other units (for money, for barter or for free); all types of volunteer service; producing goods for own final use; producing services for own final use without pay, such as own housekeeping, household meal preparation, own childcare, transport and special care of dependent persons, including the elderly.

34. As these other groups of common activities did not fit easily into the listed definition, or were not included within the production boundary, it is not clear whether any of them were to be included in or excluded from the original concept of hours actually worked, and thus, by projection, to be included or excluded from the revision definitions.

Inadequate worker coverage

35. Total person coverage is essential to obtain useful measures of volume of labour for national accounts, and to perform meaningful labour market analysis. The working time concepts adopted by the Tenth ICLS were limited, however, to wage earners and salaried employees, that is to all paid employment. Both of the definitions contained in the 1962 resolution encompassed only subgroups of workers. The normal hours referred to paid workers covered by laws or collective agreements, or whose establishment fixed a normal working schedule, while the hours actually worked referred to paid employees, typically in manufacturing jobs. This is a serious limitation, in particular in countries where the bulk of the labour force is self-employed and/or in informal employment. The need for total coverage of persons who perform productive activities is also reiterated in the resolution concerning self-employment promotion, adopted by the International Labour Conference in 1990, which called specifically to extend the coverage of labour statistics to all workers, comprising regular employees, self-employed workers, workers in the informal sector, and informal workers in the formal sector. An important aim of this revision of the international working time definitions, therefore, is to ensure their widest possible coverage regarding persons who work.

Lack of measures

36. The ICLS has adopted international standards on time lost (listed above) and discussed the measurement of paid holidays and of absence from work. Other working time concepts such as usual hours, annual hours and working time arrangements have been found to be important and many countries are currently measuring these and others according to their own standards. The proposed draft revision therefore includes a number of other concepts encompassed within working time (all of which are discussed in detail in Chapter 5).

Independence from measurement methods

37. Linked to the issue of coverage is the increasing need for international definitions which can be easily applied to different measurement tools, circumstances and capacities. The existing international definitions are based on a reference period of one week and on time units of one hour, whose implementation is not straightforward when other reference periods or time units exist or are required. Although they make mention of two possible survey types, there was little discussion of measurement concerns. Given that one main objective of international standards in general is to guide countries in developing national definitions according to their own realities, the international concepts should be as independent as possible from particular data collection methods, reference periods or time units.

5. Proposed draft resolution

The conceptual framework

38. The proposed measurement framework for working time must be able to take new developments into account so as to maintain the underlying concepts and definitions. It should be based on and incorporate the elements necessary to enable it to handle real situations. This prerequisite serves to give an indication of how the definitional concepts may be applied in practice, without dictating how they are defined. While each of the concepts may not be universal, they should have the widest possible application to relevant groups of persons and work situations. The proposed definitions strive to be independent of measurement-specific issues so as to escape any bias that might be introduced if the conceptual development were based (implicitly or explicitly) on any one statistical source or measurement instrument. Consequently, the conceptual framework is developed independently of what may currently be measured, leaving the door open for possible refinement of measures for future work.
39. To ensure consistency, the definitions for the various working time concepts are integrated into a framework of working time that covers all productive activities defined within the general production boundary of the present System of National Accounts. This covers all jobs that serve the purpose of calculating labour inputs for national production accounts and all working hours for extended labour analysis of non-labour inputs, such as volunteer work and activities producing domestic or personal services for own final consumption within the same household. This segment of household production has been referred to in the draft resolution as “unpaid non-market services”, where a significant amount of time worked in all countries, and in developing economies in particular, is generally not measured.
40. Working time is equivalent to the sum of all periods of time spent on, or towards, activities which produce economic goods and services. Working time arrangements relate to how these working hours are arranged over time. Working hours relate to different measurable concepts and working time arrangements relate to a set of characteristics that describe how the time is organized for the performance of work. Working time is an umbrella concept that measures working hours and is not intended to capture the intensity or efficiency of the time spent on work.
41. Economic goods and services are those goods and services supplied to other units and, in principle, goods produced for own final use. Employment measures in practice so far generally only include agricultural production and processing. Many countries have excluded all domestic or personal services rendered without pay for one’s own household and household members from measurement.
42. Working time, when defined within the production boundary, while having the advantage of being consistent with employment and production statistics as currently defined and measured, would suffer from the same drawback as the statistics obtained: it would only reflect a partial reality. Applying the strict boundary, the statistics collected on hours of work commonly indicate that men work longer hours than women. This observed difference might, however, become less pronounced, or even reversed, when all productive activities are included, depending on the extent to which the reductions in working time consist of transfers from activities done outside the market to activities done within the market. In fact, in most countries, the working time of women exceeds the working time of men when all productive activities are accounted for. An observed, general, downward

trend can also be seen in the levels of working time in most countries, as measured using the labour force framework.

43. Without affecting the overall framework, countries will decide how to operationalize the measurement of working time related to employment and/or to unpaid non-market services and whether, for special purposes and/or national circumstances, to measure working time for each part of the general production boundary.
44. Remaining coherent with the capacity to determine working time in relation to the productive activities that qualify as “work” in the proposed framework involves identifying all types of activity that facilitate or enhance the production of economic goods and services. It is proposed that in addition to the obvious hours directly spent on productive activities, there are other hours that relate to the activities, which: (i) enable; (ii) facilitate; or (iii) enhance production. These are discussed in detail under the concept of hours actually worked.
45. Working time also inevitably includes periods of unavoidable waiting time in the course of the production process (long recognized in international standards) and the criterion to include such periods is contained in the draft proposal.
46. To remain coherent with the capacity to also determine working time in relation to all types of work, the working time framework must recognize and address the different ways that paid and self-employment relate to the working hour concepts. The challenges posed by rapidly transforming labour markets and increasingly heterogeneous working arrangements imply that self-employment should be explicitly integrated into the revision, where relevant.
47. Self-employed working hours may require a measurement approach in turn more flexible and complex than for fixed working arrangements in paid employment. The working time patterns of the self-employed may not lend themselves to measurement using “objective” scales available for employees. Nonetheless, the assessment of the distribution of working hours of self-employed persons over and across reference periods is essential. A measure of hours actually worked of self-employed persons and comparisons with their typical amounts of working time (measured in hours usually worked) have therefore been encompassed in the framework. Also within work activity, short rests traditionally granted to workers to allow healthy conditions to prevail and the body to recuperate and relax must be applicable to the self-employed for the same reasons. *The experts may wish to determine whether the treatment of self-employment situations is adequately reflected in the draft resolution.*

Proposed concepts and operational definitions

Working hours

48. The draft revised resolution aims to provide theoretical definitions of working hour concepts that are considered important when producing statistics on working time. Some guidance regarding the implementation of the general, theoretical definition is given, for certain groups of persons or activities, which could be used as a link to how a concept can be measured. The draft revised resolution draws attention to borderline situations that should be taken into account in order to facilitate implementation of proposed statistical definitions.

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49. Working hours refer to the time that persons spend directly engaged in producing the economic goods or services that are the principal or secondary output of the economic unit or engaging in related activities that foster the necessary conditions for such production, including participation in training for the producing unit and time in work-related pauses that are a consequence of the activities of the producing unit. Certain working hour concepts comprise elements of time not directly related to the number of hours spent on production, such as those relating to the payment of hours that are not all actually spent on production. *The expert opinion may wish to address this issue in the reference to the general concept of working hours.*

Hours actually worked

Operational definition

50. The definition of hours actually worked in the draft revised resolution attempts to overcome the limitations of the current international definition and to address the widest variety of work situations by applying definitional criteria for their inclusion or exclusion. It is proposed that the key concept and measure of working time is hours actually worked, the time persons spend in the performance of activities that contribute to the production of goods and services during a specified reference period. These activities take place under varying work and compensation arrangements, at all types of obvious location, as well as at home, on the street and at other locations away from the workplace. Hours actually worked are the aggregate of time that may be described as direct hours, related hours, in-between hours and short rest periods.

Criteria for inclusion

51. The fundamental criterion for defining what hours actually worked should be, is that the different types of activities performed during the hours contribute to the production of goods and services according to the System of National Accounts, corresponding to all productive activities.
52. To implement the definition correctly and avoid over-reporting of working hours, the draft revised resolution proposes to make the restriction that work activity outside of the normal work location has to be the main activity to be counted as hours actually worked.
53. The various activities on which time may be spent indicated in the definition of hours actually worked in the draft revised resolution are not intended as a complete list of all possible activities. They are grouped together to indicate clearly subcategories and their relationship to the different types of hours actually worked (direct, related, etc.). Specific activities considered particularly problematic during international debate (Paris Group, Labour Market Statistics (LAMAS) Working Group) have been focused on. The purpose of the lengthy list of activity types as definitional criteria for hours actually worked is to guide producers of statistics to implement the general definition of this key concept in the same way, to the best possible extent, *if considered appropriate by the expert opinion.*

Direct hours

54. The inclusion of direct hours in working hours may pose no conceptual problem. Its measurement in surveys can be less straightforward. While respondents generally understand which activities are defined as work activities, when responding quickly they may not think of hours performed outside of their normal work location as being working hours. Respondents who include them may have difficulty recalling the correct number of

hours involved, given the fact that at home a person performs a wide range of activities that frequently shifts over time and may also be performed simultaneously. These activities in unpaid non-market services are the direct hours spent on such activities as food preparation, shopping, coaching, transporting or awaiting persons in one's charge.

Related hours

- 55.** Hours actually worked include “related hours” to the direct hours that enable, facilitate or enhance productive activities, which may be the direct hours for some jobs. The proposed definition and examples of related hours are the result of the discussion on the polemic of whether certain activities should always be defined as working activities or whether they should be included in some situations, but not in all. Which criteria should then be used to decide when to classify an activity as hours actually worked?
- 56.** One criterion is based on respondents' judgement in household surveys, with the possibility of cross-checking to a certain extent by verifying whether employers paid for their performance, or all or some connected costs. Another type of criterion is the assessment of restrictions on persons during the hours (activities) under consideration. This is only supplementary as it does not serve to classify the activity performed as hours actually worked, if the activity did not contribute to production (according to the production and/or general boundary).
- 57.** It has been considered that certain activities need to be performed to enable production to occur, such as cleaning the workplace, caring for persons in one's charge, preparing materials, thinking about and discussing work processes and methods and putting on work clothing. Activities that facilitate production, such as on-call duty and travelling in connection with work activities, are widespread. Training and the upgrading of the skills required for the economic unit in question (at or outside the work location) are increasingly considered vital to maintain and enhance production.
- 58.** Most statistical surveys, however, will not ask for all of the different activities performed in a job and the hours spent on each of them. Information on hours actually worked is generally collected in a much simpler way, mainly due to response burden and data collection costs. The list of activities is intended to clarify the meaning of the basic definition, and is in no way a requirement for countries to collect data for each component described for hours actually worked. The list may also help producers of statistics to:
- analyse whether hours are spent on activities that should be included and might be underreported in statistical sources; analyse whether hours spent on activities that should be excluded were included – at least to some extent – in statistical sources; and accordingly take steps to avoid misreporting;
 - produce an activity list for survey questionnaires (if considered useful); and for surveys using interviews, for interviewer training and as a tool during interviews to assist respondents.

Time connected to travel

- 59.** It is proposed to include travel time connected to work (excluding commuting time) except, in the case of longer periods of travel, for the hours naturally spent in personal rest (sleeping). Travel time is included because it is seen as an activity necessary for the performance of the direct hours of work, thus contributing to the production of goods and services. The economic unit will normally pay such travel costs and employed persons are heavily restricted as to where they can go and what they can do while travelling.

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60. *For travel that involves staying away from home for one or more nights, should the hours when the employed person is neither travelling nor performing direct work activities also be classified as working time (less sleeping and meals)? Should the notion of restrictions on the employed persons' movements still apply?*

Training hours

61. No mention of education and training is made in the 1962 (Tenth ICLS) definitions of hours of work. This has caused differential treatment of these elements across countries and between surveys. The principle of including some education and/or training within hours actually worked seems settled. Where to draw the line, however, is problematic. ***Should it only recognize on-the-job training and course work in lieu of such training; should it be all education and training paid (provided) by the employer; should there be a test of the relationship of the subject of the education or training to the tasks and duties of the job and, if so, how close should the connection be; how would those criteria apply to the self-employed?***
62. Training hours may be considered as a way of maintaining or improving the human capital of economic units – which may also be a self-employed person. In that way, it has a parallel to activities that maintain and improve fixed capital, already defined as related hours. Using this parallel, it is proposed to restrict the training hours as hours actually worked to when the training is relevant for the production of goods or services within the economic unit. This, then, would also include training for another job in the same economic unit and apply to both paid and self-employment jobs.
63. To ensure that the training is relevant for the economic unit, it is proposed for persons in paid employment that the employer approve the training directly or indirectly by paying some of the costs, such as wages or a training fee. On the other hand, if the training is not relevant for production within the economic unit, the hours should not be classified as hours actually worked, even if the employer pays for some or all of the costs. Employers may do this in certain situations, such as to ease the downsizing of company staff, where training helps employees to qualify for a job outside the economic unit and therefore leave the company voluntarily later on. These costs may be lower for employers (if only in monetary terms) than to dismiss employees.

On-call hours

64. To what extent should on-call hours be classified as hours actually worked? For persons in paid employment, on-call duty may be either a regular or an irregular part of the job. This is in contrast to persons without a job who are on a list or register of persons who can be called upon to perform work – usually for a limited period of time.
65. As long as persons remain at their employer's (ordinary) work location during on-call duty, the hours should be classified as hours actually worked. An example of persons in such a situation is workers awaiting customers in shops and offices. They are performing a duty that the employer considers necessary for production (sales), and the hours, in most cases, will be part of the person's work arrangement.
66. In part due to modern communication facilities, more of these on-call duty work activities can now be performed outside the employer's ordinary work location. This may typically be from the worker's home (although it could be across the world, a mouse-click away). One implication of this is the expanded possibility for the person to take up other activities while remaining on-call, seemingly rendering the situation much closer to leisure time.
67. In contrast, the hours when persons are called for duty and begin performing direct hours (activities) should always be defined as hours actually worked. ***Should this also include***

the necessary related hours travelling (from home) to the workplace if needed to perform the work or should those be considered as additional commuting hours?

68. Regarding the hours when persons are away from the work location and are not called for duty, the draft revised resolution proposes minimum criteria to be fulfilled in order to define the duty as hours actually worked. One criterion is some special payment from the employer for the on-duty hours, even when/if the person is not called upon. Payment, however, need not be by the hour at normal wage rates. The implication is that on-duty hours are performed as an explicit agreement with the employer. All the hours, however, of persons who state they have a job that implies availability on a 24-hour basis, such as top managers, media spokespersons, and so on, would not be included.
69. For on-call duty, in addition to the minimum criterion of receipt of special wage compensation, the draft revised resolution leaves other restrictions up to national application. This is in anticipation of the many possible, related types and strengths of restrictions, such as immediate or emergency duty, wearing a uniform, and so on, that exist in countries. The amount of payments compared to the number of on-call hours as a proxy for the degree of restriction could apply. However, in certain borderline cases this could imply that higher payment as an outcome of collective bargaining might lead to counting a higher number of hours actually worked, without any change in restrictions, type of hours or duties.
70. The proposal also anticipates that certain related activities may apply, in particular, to unpaid non-market services, when the activities are not performed as direct hours. Examples relate to household care-related activities such as transporting or waiting for persons in one's charge, including taking children to and collecting them from school, and caring for and transporting the elderly and other dependants.

In-between hours

71. Periods of unavoidable waiting time in-between working activities are generally unplanned periods or inherent in the nature of the job or work process. Such in-between periods are in a sense involuntary and still clearly intent on production. During them, workers in paid employment continue to be at the disposal of their employer. The self-employed continue at their workplace or at the disposal of clients or in other self-employment functions – as do unpaid non-market service workers; in other words, they all continue to be available to work.
72. This time available for work activity is considered part of production in the System of National Accounts. Other possible terms to describe such in-between periods might be down time (defined in Dictionary.com as “a time during a regular working period when an employee is not actively productive, an interval during which a machine is not productive, as during repair, malfunction, maintenance”), dead time or idle time (defined in Dictionary.com as “unproductive time spent by employees due to factors beyond their control”). The proposed revision lists such inevitable periods of time spent during the course of the production process as waiting or standing by for technical, economic or material reasons, such as work or machinery breakdown or accident, or the lack of power, Internet access or supplies. They remain part of the working hours counted as productive. Terms such as down time, dead time or idle time all incorrectly refer to non-productive time.

Short rest periods

73. Short rest periods that are included within hours actually worked are the short periods used for rest, refreshment and to satisfy natural needs, which allow persons to continue to function in good health within the time spent on productive activities. Such rest periods are

generally authorized by custom or contract, according to national circumstances. They may include tea, coffee or prayer breaks and are not expected to last as long as other periods set aside for daily meals, which are excluded.

Criteria for exclusion

74. It seems clear, theoretically, that as opposed to all the specific types of activities included and described above as hours actually worked, the criterion for exclusion is straightforward, and based on all time not worked, even if paid for. Hence, all periods of leave, for whatever reason, are excluded from hours actually worked, as are long meal breaks as distinguished from short rest periods.
75. By the same logic, the commute (between work and home and vice versa) applicable to persons who do not work from or at home is excluded. This is the case even if the commuting time is paid by the employer, for example, to entice workers to a far-off worksite. The only time during a commute that would not be excluded is if some productive activity were performed during the course of the commute (such as working during a train ride).
76. Education or training, even in skills related to one's productive activities, which is not for the economic unit (whether in the same or another job) is excluded. Educational leave, therefore, even if it is authorized, paid for or provided by an employer in the case of paid employment should be excluded. Similarly, a self-employed person who took up an education project and was on educational leave, and whose enterprise ceased to exist, would not be included.

Hours paid for

77. The hours paid for concept logically applies to persons in paid employment. It refers to all the hours for which payment is received during a specified reference period. This includes payment for time worked and for time not worked. Statistics of hours paid for are commonly available from payrolls and other records. However, there are wide differences within and between countries regarding practices relating to payments in establishments, not only regarding the hours but also the periods when no work is performed. One main issue relating to hours paid for is the hours that are not directly connected to productive activities, hence that do not in reality correspond to working time. Paid hours may include leave and other absences that may not fit the proposed definition of working hours.
78. To standardize the concept, one definitional criterion proposed is that time not worked, but still paid, is to be included only when the employer makes the payment. Hours of absence that may be paid for by the government or through another national funding or social agency such as social security, resulting in the payment being defined as transfer income according to the System of National Accounts, are excluded. This applies, for example, to parental (maternity and paternity) leave in some countries.
79. For conceptual clarity it is also proposed that the concept exclude all hours not paid by the employer, even if they are actually worked. Its usefulness for the calculation of unpaid overtime hours is therefore apparent.
80. *On consideration, can the application of the concept of hours paid for apply to self-employment? Certain occupations (for example, teachers, medical doctors and lawyers) often charge by time units. Should these hours be assimilated into hours paid for and thus apply to these self-employed jobs? Similarly, within the informal sector, self-employed persons are often paid by task or by the hour. There are other examples of*

productive activity that are also paid by time units and that may cross the divide between the formal and informal sectors (e.g. babysitting) – should they be included?

81. Another issue is that, from the individual's viewpoint, even if hours paid for exclude hours actually worked but not paid, as well as absence hours paid by a third party, they are all paid hours. From the establishment's perspective these hours are excluded. It may therefore be necessary to determine further definitional criteria for the application of hours paid for, including in regard to subsidized working hours where payment is equally distributed between the employer and another government agency.

Normal hours of work

82. To remain consistent with the 1962 definition, the normal hours of work concept relates to the number of hours fixed by laws and regulations, collective agreements, or arbitral awards that are required to be performed in relevant paid employment jobs. These may then differ for persons in different groups of paid employment jobs and also for persons or jobs within different occupational or industry groups. In general, the concept refers to collective, prevailing working hours that apply to persons in paid employment. This is in contrast to a measure of the individual working hours that are expected to be performed in jobs based on an employment contract or, according to practice, in the scope of an implicit agreement between persons.
83. The normal hours concept may also apply to persons in self-employment and in unpaid non-market services if or because they themselves practise such hours by choice. This choice can be related to limits mandated by normal opening hours or other work-related relationships. This situation could be more evident in countries where the concept of normal hours of work is widely used. The working hours for persons not connected to, or covered by, relevant laws and regulations, collective agreements or arbitral award systems may, nonetheless, be based on normal hours of work. These normal hours may also have served to define what is referred to as full-time hours.

Contractual hours of work

84. For users, one of the main purposes of statistics on contractual hours is to apprehend the degree of connection to the labour market of employed persons, or the general hours persons are expected to work, irrespective of absences or irregular overtime.
85. Contractual hours of work refer to all the hours of work that are required of persons in paid employment, as specified in their individual employment contracts. These may be explicit or implicit contracts. Contractual hours may include contractual overtime, but exclude other regular or irregular, unpaid overtime. The number of contractual hours in a job can vary between reference periods depending on the organization and scheduling of the job and the length of the reference period.
86. Contractual hours for individual contracts within the same work setting may be different and may (or may not) be equivalent to the prevailing normal hours of work. Hence, the measure of contractual hours is individually based and distinct from the collective measure defined as normal hours of work.
87. Contractual hours may be stated explicitly as a number in a written or oral contract between an employer and a person in paid employment. They could also be stated as full-time or as a percentage of normal full-time hours for the relevant type of job. They may also be more implicitly set, as decided by the opening hours of a shop or restaurant or

the type of working time arrangement connected to a job, or may be specified in written job advertisements.

- 88.** For employed persons with a contract specifying working hours, it will generally be easier to state the number of hours they are expected to work in the job, than their usual hours. However, there are jobs, as in self-employment jobs, where there are no contractual hours. In some countries, contractual hours do not exist or are not common for many paid employment jobs. Similarly, unpaid service work usually will not have contractual hours.

Hours usually worked

- 89.** Statistics of weekly hours usually worked relate generally to the weekly hours most commonly or typically worked by persons during a long reference period. That is, the modal value of the weekly hours actually worked, independently of whether persons possess an employment contract.
- 90.** It is recommended that the hours usually worked be determined as the modal number of hours actually worked per week because this allows for the representation of any overtime hours that are regularly carried out and also accounts for any absences that are only irregular in nature so do not unduly influence the typical schedule. However, when the modal value is not particularly meaningful, the median or mean averages to determine the hours usually worked are proposed. If the mean number of weekly hours actually worked is computed over a long period, then any weeks of unemployment or inactivity are to be excluded. There may, nevertheless, be more and more situations where the typical number of working hours varies in a certain pattern from week to week, for example, or over a longer period. In such cases, the hours usually worked may be counted as the median number of hours actually worked over the weeks.
- 91.** Hours usually worked relate to a wide variety of working situations. They are used to measure the hours in reference to a short (weekly) period or to a longer reference period such as a month, a season or a year. For persons with relatively regular or steady work patterns over the weeks, measurement should be straightforward. The relevant long period may depend upon the stability of work schedules. For sales and agricultural jobs with different schedules during the high and low commercial or agricultural seasons, the relevant reference period could be the current season. For most office-based clerical jobs, the reference period may be irrelevant because their working schedules tend to be stable. Among temporary and casual workers, the relevant long period could be the current working period or season, provided all (shorter) periods when they have not been in employment are disregarded. The long period may also be set as a function of the frequency with which data is collected (e.g. monthly household surveys may use one month as a long period).
- 92.** Hours usually worked is a concept that applies to all jobs. It is of particular relevance for persons in groups of jobs such as self-employed jobs and some jobs in unpaid non-market services where there is no employment contract stating the expected number of working hours. It is also useful when collected for paid-employment jobs where the contractual hours are continuously lower than the hours actually worked.
- 93.** The concept of hours usually worked and the concept of contractual hours of work may give the same number of weekly working hours for many persons in paid employment. Both concepts could be considered as parallel concepts that may meet similar user requirements. Nonetheless, there are important differences. Hours usually worked include all regular overtime. For persons in the same job who change their typical weekly hours just before the reference week, hours usually worked will show the average of the two levels, while contractual hours will provide the new working hour level.

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94. Many respondents in labour force surveys have very irregular work activity and therefore working hours. In practice, the main way to obtain hours usually worked will be to ask for the modal value or the median or, if the former is not possible, the mean, of specific periods of less than a year.
95. The number of hours usually worked, in most cases, may be close to the number of contractual hours plus non-contractual overtime hours performed on a regular basis (these may be typically unpaid overtime hours) minus regular absences from work for persons having contractual hours.

Overtime hours of work

96. The draft revised resolution proposes that overtime should be the hours during a specified reference period in excess of contractual hours plus any hours defined as overtime in the employment contract. In the absence of contractual hours, overtime is the hours actually worked that are considered to be in excess of normal (generally full-time) hours set for comparable jobs by law, regulation or collective agreement.
97. The absence of contractual hours applies to persons in self-employment and within unpaid non-market services who do not have an employment contract, yet at times may also perform hours longer than their hours usually worked. These hours of overtime work are based on normal hours considered full-time hours in laws, regulations or agreements in comparable paid employment jobs.
98. The draft resolution describes the various conditions for the payment of overtime hours, which can be at the same rates as normal hours, at higher rates or, for unpaid overtime, given as compensatory time off, and recommends that information on the different forms of payment may be useful.
99. In relation to usual or contractual hours, and depending on flexibility of organization, scheduling of jobs and national circumstances, it is recommended that other additional working hours performed during the reference period be described as overtime only when such hours are not part of, or are outside, the flexible arrangement.
100. In practice, if in the survey reference period the total hours actually worked over the whole period were higher than the contractual hours for that period, would respondents consider such hours as overtime hours? In that case, the variations in working hours that produced additional hours (due to flexitime or to modifications permitted within scheduled rotation periods) might be counted as overtime hours of work. Might such extra hours in a flexi-system appear as unpaid overtime hours (never paid or never used to take time off)?
101. Countries using normal hours can apply overtime to hours in excess of normal (full-time) hours of work. An issue arises, however, concerning the application of this concept to part-time work. Users and respondents may find it odd to use the concept of overtime hours for part-time work, where hours actually worked are in excess of their contractual hours but do not exceed normal full-time limits per day or per week. *Would a term such as “extra hours” reflect the situation of this group of employed persons, although ideally there should be only one reference definition?*

Absence from work hours

102. Absence refers to time not worked due to events such as working persons falling ill, a machine or system breaking down, or the weather becoming so inclement that one cannot work or reach work locations (if outside the home). In some cases, not just for paid

employees, persons may be forced to stop working, due to lack of clients. Such absence may be more common among the self-employed.

- 103.** Absence also refers to time not worked due to positive or socially desirable events, such as professional training or maternity and paternity leave. Terms such as absenteeism or time lost give a negative connotation that rules out the positive elements and the reality that some absence is involuntary or imposed on working persons and on economic units, and can be unpaid. Absence for certain reasons is also mentioned in the international definition of employment (Thirteenth ICLS, 1982). The proposed draft resolution, therefore, refers to time not worked due to absence as absence from work hours.
- 104.** The proposed definition of absence from work hours is the number of contractual hours not worked within a specified reference period, including leave periods taken according to the employment contract. In the absence of contractual hours, absence would be the difference between the hours actually worked and normal hours in comparable full-time or part-time jobs.
- 105.** Time not worked in the reference period during periods of flexitime off or modifications permitted by work rotation schedules during a short or long reference period, are not considered absence, otherwise a work schedule of varying hours from week to week would be reason for absence even though such periods would be worked within the rotation period.
- 106.** The draft resolution recommends the usefulness of collecting information in order to distinguish between regular absence hours (a component of hours usually worked) and irregular absence hours, and between paid and unpaid absence.
- 107.** The proposal describes three broad groups of reasons for absence: personal reasons; reasons relating to the employer, the economic unit or place of work; and reasons relating to the overall institutional context. Personal reasons include annual leave, illness or injury, educational leave, time to care for others (paternity leave and care of dependants, including the elderly), military conscription, compensation for overtime hours (distinct from flexitime off). Absence affecting or stemming from the economic unit, workplace or employer may be for technical or economic reasons, or be caused by bad weather or industrial relations processes (including disciplinary sanctions). Institutional factors may lead to absence hours on public holidays governed generally by the social or organizational context (and varying from country to country).
- 108.** Absence data from statistics aimed at measuring working time may not be exhaustive for users studying absence. Separate international recommendations exist for absences specifically associated with strikes and lockouts and occupational injuries that affect the economic unit. A more comprehensive treatment and comparison of statistics on absences would require information on all absences, with the duration of each category possibly broken down into reasons such as health, training and education, family context and public holiday.
- 109.** Nonetheless, statistics on absence from work hours are important to study variations in annual hours of work, to help explain movements in employment figures, and to monitor the state of health (including maternal health) of the workforce in general.

Working time arrangements

- 110.** The term working time arrangements describes the organization of work and non-work periods during a specified reference period, such as a day, a week, a month, a year or an even longer period. In order to clarify what is meant by the organization of these working

hours, the proposed draft resolution defines the relevant characteristics of jobs in relationship to the length, variation and scheduling, including flexibility, of the working hours. Different combinations of these characteristics may occur, resulting in a large number of arrangements.

111. Self-employed persons, it may be argued, are not subject to working time arrangements in the usual sense. They may often decide themselves when and for how long they work. Nonetheless, the individual working time arrangements of self-employed persons in atypical jobs may not be as self-decided as could be inferred from their status in employment. In fact, they may follow a pattern imposed on them by their clients or employers, or necessitated by regular office hours.
112. The revised resolution proposes that working time arrangements may formally be recognized in laws, and collective agreements may be explicitly set out in written or oral contracts, or may only be implicitly carried out, based on convention, collective agreement, rule or custom of establishments or the community.
113. Among the various possible combinations of characteristics, a number of formal or contractual arrangements exist across countries that are sufficiently uniform to be singled out. These are sometimes referred to as standard and non-standard or typical and atypical working time arrangements. ***To provide a typology of existing (current) arrangements, is it considered useful to include the descriptive annex in the revised resolution?***

6. Methods of data collection

Measurement issues

- 114.** Given the development of modern, statistical sources available in countries, guidance concerning the specificities of measurement for the various working time concepts is considered useful for revised international standards. A number of key measurement issues, such as the type of unit, the reference period used and approaches to question formulation may be common to the various sources of data. However, for countries wishing in particular to develop (or improve) a new source of data collection for working time statistics, the approach of the draft proposal is organized according to type of statistical source, which is thought to facilitate the usefulness of the revised resolution. The important advantages and disadvantages of each different statistical source are therefore described. Guidance and cautions regarding the separate working time concepts are discussed, as are the different computations possible, adjustments to be made and the use of supplements from other sources where multiple sources exist. The use of a single instrument is not considered to be the best solution.
- 115.** Theoretical concepts must be measurable. The proposed revision assumes that data collection in statistical surveys of both establishments and households/persons is eased if conceptual definitions are in line with respondents' common understanding of the terms used. Working hours being a very familiar concept, survey answers will likely be based on respondents' (individuals or employers) own opinion of the meanings. For measurement purposes, implementation of the eight (new or revised) concepts and definitions may differ from common knowledge. This has implications for the text of the revised resolution to be possibly more detailed regarding methodological recommendations and cautions than other international resolutions.

Definition of unit

- 116.** The draft revised resolution adheres to the principle that the basic unit of data collection for statistics of working time is the job, although it recognizes the importance of statistics being available for both jobs and persons.
- 117.** Measures of working time in establishment surveys almost always use the job as the unit rather than the person. Often these surveys will collect only aggregated data over all jobs or for groups of jobs. Working hours can be aggregated over all jobs, whereas working time arrangements can only be aggregated for different groups of jobs practising the arrangements. If working hours are aggregated over jobs, data on the distribution of jobs by the number of hours cannot be tabulated. If the number of jobs is collected, the average number of working hours per job or by group of jobs in each establishment/enterprise can be obtained to give the distribution of average working hours by establishment variables, such as industry or size of establishment.
- 118.** The International Classification of Status in Employment applied in surveys and censuses classifies the jobs of persons in paid and self-employment (its structure is also able to incorporate definitions of jobs within unpaid non-market services as well). If an employed person has more than one job and only one job is to be recorded and classified, then it should be the main job. The main job is described as the one that has the longest average contractual hours or hours usually worked, that is, the one to which the most time is devoted overall.

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119. Depending on the data source(s), the working hours of multiple jobs may be counted once if the information is from a respondent on one output, or counted separately (twice) if the information comes from separate establishments. This would not be erroneous.
 120. To measure labour input and labour demand, the job may be more appropriate as it allows for disaggregation by economic activities and for a correct distinction of working time in paid and self-employed jobs. For labour market analysis, especially for the socio-demographic analysis of persons in employment or of all productive activity, the measurement of persons may be preferable. From a national accounts point of view, whatever the basis (jobs or persons) on which hours actually worked is measured, their total amount must be the same.

Reference periods

121. Working time describes the volume and the organization and scheduling of working hours connected to persons. These persons may be employed persons as defined in the resolution concerning statistics of the economically active population, employment, unemployment and underemployment, adopted by the Thirteenth ICLS. That resolution recommends two alternative classifications for the economically active population, one based on a short reference period of a week or a day, the currently active population and a long reference period, which could be a year, for the usually active population. The two classifications apply the priority rules somewhat differently.
122. According to the information available to the ILO, the classification of employment recommended for the short period is the more developed and is used within countries and at the international level. For national accounts and production statistics in general, a measure of volume of work for a longer period than a week, such as a month/quarter/year, is needed. But they still need data based on the currently active population concept.
123. Regarding the usually active population concept, the Thirteenth ICLS resolution indicates that the number of days or weeks in employment could be used when defining the usually employed persons. In this context, working hours may be seen as an unnecessary degree of detail to be useful, even if their measurement might provide a more precise classification for certain borderline cases. *Expert opinion may wish to take a position on this matter.*
124. In the draft resolution, therefore, the focus is on current activity status concepts, which are then also used for a longer reference period. The latter imposes some measurement problems, so these are also described in the methods section.
125. Where there is only one possibility to measure working time, however, as in the population census, the draft resolution recommends the inclusion of at least one question. It makes reference to the forthcoming United Nations/ILO *Handbook on the Collection of Economic Characteristics in Population Censuses*. The application of a short reference period (the week preceding the census) can be used to collect working time in hours. A long reference period (the 12 months preceding the census) may be measured in units of weeks, or days where feasible. Establishing the hours usually worked for such a long period will be likely to imply high recall and calculation errors.
126. In applying the usual activity concept to a long reference period of a quarter, season or year, the duration in weeks or months of each job should be obtained first, followed by the contractual hours or hours usually worked each week, either as a total average over the duration of the job or, if more appropriate, as averages of different periods (seasons) in the reference period.

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- 127.** In the subsection on household-based surveys, the proposal reasons that rather than expanding the reference period to capture seasonal variations and calendar effects on hours actually worked, the optimal solution, where possible, is to spread the sample over the year using the short reference period to minimize measurement error associated with recall problems. This also can help to avoid the use of non-continuous reference periods that may introduce bias, because the observed values are not representative for the non-observed values. If that is not an option, it proposes that calculations based on the duration of jobs, average number of contractual hours or hours usually worked, and data on (long-term) absences can be made, rather than directly asking about hours actually worked. Alternatively, calculations can be based on the difference between actual hours and contractual hours or hours usually worked, in the reference week.

Question formulation

- 128.** The information recorded on working hours may not conform to the statistical definition in establishments. In the case of administrative records held by public authorities, the unit reporting the information is normally the employer, meaning that data is collected for jobs. When reported at the job level, the authorities may aggregate data at the person level where possible and depending on the purpose of the registers.
- 129.** To ensure that the producers of the statistics are able to implement the correct definitions in household-based surveys, the use of supplementary questions is recommended, which implies increased cost and response burden. Surveys will be hampered by more response errors. However, concepts initially perceived as very difficult to measure in surveys can be achieved through well-designed question sequences. As information on hours actually worked is particularly prone to rounded answers and to recall problems due to hours being such small units, the proposal offers two possible approaches to improving these situations.
- 130.** The draft revised resolution does not go into great detail, nonetheless the underlying concern regarding a labour force sample survey of additional questions that facilitate the collection of working hours at both job or person levels, is that this may also increase the response burden. It is important to first probe for all jobs in the reference period in order to filter for separate question sequences on working time. This will only have an impact on data regarding multiple job holders. Detailed questions on working hour components and, in the case of multiple job holders, on total working hours in all jobs, can help to reduce response error. Questions on working and absence hours day by day, and for each job separately, may be easier, and hence improve quality, although the overall number of questions will increase. Special attention should be paid to the jobs where activities frequently alternate on a daily basis, which may be between work and non-production.
- 131.** More complex question sequences regarding working time will be easier to answer if they best fit the situation of respondents. Questions relating to employment contracts or to the usual situation are easier to remember, especially in proxy interviews. This approach is a good basis for further specific questions connected to absence hours, overtime hours or hours actually worked in the reference period.
- 132.** In the context of a population census, the question sequence may consist of a single question on hours actually or usually worked during the reference period in respect of the main job or economic activity or of all jobs or economic activities. A set of questions on each concept and main or combined jobs/activities, or separate questions on each concept in respect of the main job/activity and of all other jobs/activities may often improve measurement accuracy for a single question.

Statistical sources

Type	Possible statistical data sources			
	Content	Detail	Concept coverage	Reference period
ES, AR	Administrative concept; paid hours; contractual hours.	Heterogeneous; depends on reporting.	Limited; worker and industry.	Long.
HS	Possible to control – in practice close to administrative concept.	Heterogeneous; depends on questionnaire.	As complete as possible.	Short; full-year possible when continuous.
TUS	Greatest control possible – in practice close to administrative concept.	Homogeneous; generally vast.	As complete as possible.	Short; full-year possible when continuous.
POP	Possible to control.	Heterogeneous; depends on questionnaire; generally minimal.	As complete as possible.	Short; full-year possible.

AR = Administrative records; ES = Establishment survey; HS = Household survey; POP = Population census; TUS = Time-use survey.

Source: ILO Bureau of Statistics, 2007.

Household-based surveys

- 133.** Household-based surveys can collect most working time concepts for persons in all types of employment, for the population as a whole and for all jobs, including informal employment and jobs within unpaid services, for a short reference period. Many of the measurement issues referred to above are relevant in the context of a household survey and the proposal therefore draws attention to possible solutions. Special labour force surveys or modules with supplementary question sequences may be able to collect components of activities that will indirectly improve the measurement of working hours for certain groups of persons in employment, such as in farming and teaching activities or for work defined in the general production boundary.

Time-use surveys

- 134.** While time-use surveys that can capture detailed information on all productive activities performed within a short period may not be concentrated on work activities, for that reason they are given specific mention in the draft proposal. They can prove effective in measuring working time and certain aspects of working time arrangements, and in obtaining good-quality measures of absence from work hours when all activities are recorded. Time-use surveys may also be the more common collection method for working hours of unpaid non-market service work, including volunteer work activities.
- 135.** As expected, the overall quality of statistics collected in time-use surveys depends on the capacity and willingness of individuals to respond to or manage the time diary, which is not necessarily possible or easy for all persons. Also, the level of detail of the information obtained regarding specific activities carried out in all locations where any productive activity takes place may not be adequate. As these problems are not specific to working time measurement, however, the draft resolution confines its recommendation to their usefulness in adjusting or improving results from other surveys.

Population censuses

136. Population census operations generally may not have the interview time and questionnaire space required for a thorough set of questions to cover the main working time concepts or to obtain working hours for each day and for each job or activity in the reference period. However, the draft resolution indicates that a population census might incorporate a single question on hours actually worked or hours usually worked during the reference period for the main job or economic activity. It reasons that although the data quality will be less good than other household surveys, there is the benefit of improving overall measurement accuracy. Where the census is the only data source available (especially to statistically developing countries), the draft resolution recommends the introduction of at least one question on working time.

Establishment-based surveys

137. In respect of establishment-based surveys, the draft resolution describes the types of good quality available data they can collect, relating mainly to the working time concepts linked to payments and to employment contracts. It indicates what other data can be used to calculate concepts when certain working hour concepts are not available, such as number of employees, distinguished by full-time and part-time hours, in combination with data on wage rates and wage income. It draws attention to limitations in the national context that make establishment-based information more problematic, as in countries with a large informal sector that will be poorly covered in a survey. It draws attention to the fact that the working hours of some of the more atypical forms of employment and of casual workers may be more difficult to capture and need to be supplemented by other sources.

Administrative registers

138. By definition, administrative registers cover only specific groups of persons. Therefore the draft resolution describes which types of administrative registers may be useful for working time, such as those that contain information on employment and also in some countries, on unpaid non-market services. Their particular use relates to working time concepts linked to contractual or legislated information. As for all data, the quality of data for statistical purposes generally depends on the type of register and its objectives as determined by the administrative agency.
139. The quality of data collected as the basis for statistics and analysis also depends on the purpose of the register and the type of registrations kept in the responsible agencies. As legislation determines the responsibilities and practices specific to the administrative agencies, the draft resolution advises that to achieve the most efficient use of administrative registrations for statistical purposes, coordination between statistical and administrative authorities within countries is necessary.
140. On the subject of administrative registers, the draft resolution confines its recommendation to the issue that, as they generally cover all periods of the year, they are useful to supplement surveys that are not run on a continuous basis. ***Should the draft go into more detail concerning administrative registers?*** Registers, by definition, cover specific groups of persons in employment, and in some countries also those in unpaid non-market services. Their coverage is not affected by sample-related error, however, there may be underreporting, especially of vacancies and jobs searched for, and of groups not covered such as (illegal) immigrant labour. Registers provide detailed breakdowns for the groups, sectors or industries covered that may not be possible from sample surveys, although the number of characteristics contained may be limited and the classifications used may not be standardized. The possibility of identifying reference periods in registers is important for the quality of the statistics.

7. Compiled measures

141. Among the various working time indicators, statistics on total hours actually worked or the volume of employment, and the related measured annual hours actually worked, are becoming increasingly essential, and reflect more fully and therefore better elucidate new developments in work flexibility. These two measures are singled out because an estimate of the annual hours worked relates to the average hours worked per worker and per year, in the economy or for a group of workers, and therefore incorporates variations in part-time and part-year employment, in annual leave as well as in flexible daily and weekly working schedules. This is an important contrast with conventional measures of employment and weekly working hours. The volume of employment relates to the total hours actually worked by all persons employed during the year, and is the preferred measure of labour input to be used as the denominator in labour productivity equations.
142. Economic indicators such as earnings per hour and productivity are very sensitive to changes in the content of working time, so it is essential to have consensus, not only for international comparisons, but also for reliable national analysis. The two compiled or aggregate measures, total hours actually worked and annual hours actually worked, stand on their own and are defined and described in the draft resolution. The former measure is needed to compute labour input into production for the full calendar or fiscal year and, depending on national circumstances, possibly for quarterly and monthly periods as well. In labour market analysis, aggregate measures for a shorter reference period are deemed preferable, although for more specific analysis of labour market attachment of individuals or participation in unpaid non-market work over a longer reference period, information on employment spells measured in weeks or months is important. *Should the proposed draft resolution recommend one equation for the calculation of each compiled measure and methodologies to estimate working time over the year?*

Total hours actually worked

143. Total hours actually worked is a derived measure that expresses the aggregate number of hours actually worked by all persons in all jobs over a specified, generally long, period. This measure is also referred to as the volume of work. Another term is labour input, for which the System of National Accounts mentions different measures. However, the number of hours actually worked is indicated as the preferred measure and when used it would be identical to all hours actually worked.
144. The proposal indicates that to compile total hours actually worked, data from more than one statistical source is usually needed to achieve acceptable results in line with national accounting requirements, depending on the range, type and quality of available information. Measures of hours actually worked may be directly available from a household survey that collects data on some working hours, whilst establishment surveys and administrative registers will generally require more computations. The draft resolution indicates three types of computation, depending on national circumstances.
145. The proposed revision goes into some detail concerning how to compile total hours from the various sources. For non-continuous household surveys, targeting the required reference period will imply extrapolation to periods within the reference period that are not directly covered. For surveys carried out only a few times during a longer observation period and, if the reference week is chosen to avoid special weeks containing public holidays or similar, extrapolation can be more difficult, therefore the draft resolution draws attention to some of the issues to take into account, such as possible calendar effects, regulations about working time specified in legislation, collective agreements and

arbitration awards, and data from other statistical sources. The quality of extrapolation is essential for level estimates and may also have an impact on estimates of change, depending on how representative the survey weeks are for the variables measured. *How does the expert opinion consider the extent of this coverage?*

Annual hours actually worked

146. The measure of annual hours actually worked is the average hours actually worked per unit (the unit may differ depending on the country) in an annual period, usually the calendar year. An ideal measure would need to comprise all hours dedicated to producing the goods and services accounted for in production statistics in countries during the accounting year. But such statistics cannot be obtained directly using conventional instruments of data collection. In view of the difficulty of accurately measuring time spent producing goods and services, covering the relevant employed population and for the whole accounting year, the draft resolution recommends different calculations of the average.
147. In computing annual hours actually worked, an average can be compiled using various denominators (which should be consistent with the numerator used) that will vary between countries and that are discussed in the draft resolution:
- The average number of employed persons, per week, over the year: use of total number of persons for whom the hours were counted as the denominator (for a wider measurement this could include unpaid service workers). If the number of persons is measured only in a limited number of weeks, extrapolations to cover all weeks should be made. If that is not carried out, that information should be made available. When using persons employed as the denominator, the rate will be influenced by the number of contractual/usual hours and both short-term and long-term absences, as well as by the number of overtime hours worked by the average number of employed persons per week.
 - The average number of jobs over the year: for countries using establishment surveys as their basis for calculating annual hours, data on jobs will be more readily available, giving higher numbers for the denominator than the number of persons employed if calculated as weekly averages. Data may be obtained for periods other than a short reference period (a week) and should be converted to data referring to a week, on the basis of the ratio between the number of working days in the period covered and an average week for that period.
 - The average population figure (number of inhabitants) over the year that is generally available in all countries. While using persons employed as the denominator indicates how many hours each person, on average, actually performed, using the population as the denominator additionally includes the effect of the size of the employment rate.

8. Tabulation of data

- 148.** The draft resolution proposes that all statistics on working time for labour market analysis should at least be classified by sex. It is recommended that, in addition to sex, age and level of education should be considered as main classification variables. Where possible for national purposes, countries should also attempt to classify working time statistics in respect of branch of economic activity, occupational groups and status in employment categories, as well as by institutional sector, including a category on the informal sector or informal employment, where relevant. Due regard for confidentiality and statistical significance when making appropriate cross-classifications, including regional distributions, is also mentioned.
- 149.** Classification by marital status, by presence of dependent/accompanying persons (young children, the elderly and others requiring care within households) and by the working hours of other/all household members is referred to in the draft resolution particularly to draw attention to the usefulness of these variables for studying gender inequalities that are important to highlight for public policy-making in countries at all levels of development.
- 150.** Reference to the main job is given priority for the purposes of classification by economic activity, occupation, institutional sector and employment status. Attention is drawn to the fact that determination of the main job for all persons and situations should be systematic to avoid problems of comparison with other employment statistics.
- 151.** For the purpose of describing all working hours, statistics on the number of working hours need to include the hours in all jobs held. To avoid double counting should the hours actually worked of persons performing more than one job simultaneously, and whether the direct hours produce two separate outputs or not, the working hours should be counted for the main job.
- 152.** The draft resolution indicates that where countries wish to compile working time statistics that result from measurement for activities within the system boundary of the System of National Accounts and in unpaid non-market service work, their tabulation and presentation should be made separately, or in such a way that a clear distinction is possible between them.
- 153.** The proposed revision recommends other variables for tabulation, such as statistics on absence from work according to reason for absence and by main reason/all reasons; working time arrangements relating to number of persons and establishments, by type of arrangement and by characteristics, and persons experiencing the various types of arrangements.

9. International reporting

154. The proposed draft resolution regards the enhancement of international comparability not as a primary objective, but as an important concern for countries. It therefore recommends that, as far as possible, countries' data collection and processing procedures are designed so that they can and do produce and disseminate, for all users, information on the differences between the statistical definitions of working time and national definitions. The definitions contained in laws, regulations, collective agreements and arbitral awards that are used within establishments or that are locally or commonly accepted, should be documented as should the types of adjustments performed by the national statistical authorities to give estimates of working time that correspond to international statistical and analytical concepts.
155. For international reporting purposes, significant differences in total hours actually worked should be presented separately. For annual hours actually worked, the most commonly used denominator will be the weekly average number of persons in employment. The proposal recommends that countries endeavour to report at least this one national estimate of annual hours. *Expert opinion may wish to denote further the minimal international reporting requirements.*
156. Countries should aim to report employment by number of hours actually worked in five-hour bands: starting with zero hours, then one to five hours, six to ten hours, and so on up to 61 hours or more. The hours in the upper hour bands may depict what is commonly referred to as excessive hours, although this concept is not singled out or defined in the proposed draft resolution.
157. Finally, it would seem essential that any international guidelines on working time not only make reference to, but also call upon countries when compiling their statistics and the accompanying methodological information, to do so in due respect of the United Nations Fundamental Principles of Official Statistics.

10. Conclusions and recommendation

158. As described in Chapter 1, since its foundation, the ILO has been concerned with and involved in issues regarding the regulation, measurement and compilation of statistics of working time. As also explained, other international and regional organizations and one city group have been very active in the development of working time statistics. Following the adoption by the Tenth ICLS (1962) of the previous international standard concerning statistics of hours of work, many national statistical offices have progressively implemented their own versions of working time measurement over the years, in part for lack of updated international statistical definitions and methods.

159. *The Meeting is therefore invited to consult the proposed draft revision of the current international standard prepared for it by the International Labour Office in collaboration with international and national labour statisticians, and to advise the Office:*

- (a) on the usefulness of a proposal for a draft resolution concerning the measurement of working time; and/or*
- (b) whether the proposed draft resolution, as reviewed and amended by the Meeting, is suitable for presentation to the future Eighteenth International Conference of Labour Statisticians.*

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Appendix

Proposed draft resolution concerning the measurement of working time

The Eighteenth International Conference of Labour Statisticians,

Having reviewed the relevant texts of the resolution concerning statistics of hours of work adopted by the Tenth International Conference of Labour Statisticians (October 1962), and the resolution concerning the measurement of employment-related income and of the resolution concerning statistics of occupational injuries, both adopted by the Sixteenth International Conference of Labour Statisticians (October 1998),

Recalling the requirements of the Labour Statistics Convention, 1985 (No. 160), and the accompanying Labour Statistics Recommendation, 1985 (No. 170),

Recognizing the need to revise the existing standard on statistics of hours of work to reflect the working time of persons in all sectors of the economy and in all forms of productive activity,

Considering the importance of having guidelines on a larger number of measures than previously defined at the international level and on measurement issues, coherent with other international standards, thereby improving consistency and international comparability of the statistics,

Acknowledging that the relevance of the various measures of working time in a given country depends on the nature of its workforce, labour markets and user needs, and so the decision to implement any of these will be determined largely by national circumstances,

Adopts this ... day of ... the following resolution in substitution for the resolution concerning statistics of hours of work (1962) and paragraphs 46 to 48 of the resolution concerning the measurement of employment-related income (1998):

Objectives

1. Each country should aim to develop a comprehensive system of statistics of working time that can adequately account for labour inputs into all productive activities of all persons male and female, and complement the statistics of the economically active population and of the demand for labour in production. This system would aid the examination and monitoring of working conditions for all population groups, in formal and informal paid and self-employment, including issues relating to health, safety and gender equity. The system should also serve to produce indicators useful for economic and social analysis as well as for the design, implementation, monitoring and evaluation of economic and social policies, including labour market policies and policies aimed at a healthy balance between private and working life.

2. Statistics on working time should be developed in line with this resolution to the extent possible.

Scope

3. *Working time* covers both concepts connected to the number of hours that persons spend towards productive activities, that is, the *Working hours* and the arrangement of these working hours over time as reflected in *Working time arrangements*. Working hour concepts and working time arrangements are defined in paragraphs 9 to 29 below.

4. Working time may comprise only the working hours in employment as currently defined in the resolution concerning statistics of the economically active population, employment, unemployment and underemployment, adopted by the Thirteenth International Conference of Labour Statisticians (October 1982). In that definition of employment, productive activities are those defined to fall within the production boundary of the United Nations System of National Accounts. This concept of working time generally serves the purposes for which national

production accounts are compiled. It also extends to the supply of labour in relation to the same productive activities as in employment and is useful for labour market analysis.

5. Working time may also refer to the working hours devoted to productive activities that are outside the production boundary of the System of National Accounts but are within its “general production boundary”. These activities comprise production of unpaid services for own final consumption within households, such as cleaning, cooking, repairs, transporting and care of dependent persons, as well as volunteer work producing services for households and non-profit institutions not operating in the market. The working hours devoted to these productive activities are hereafter referred to as working hours within “unpaid non-market services”. It is recognized that this application of working time is required for a broader understanding of the labour market, for social policies, and for the production of satellite accounts on household production and volunteer work.

6. Working time pertains to all productive activities performed in jobs, which may be carried out in a variety of (economic) units including households. A job is defined according to the International Standard Classification of Occupations as a set of tasks and duties executed by one person as a contribution to production. Jobs occur in paid and self-employment as defined in the International Classification of Status in Employment, and within unpaid non-market services. The job constitutes the basic unit for measurement of working time, consistent with the principles for applying the international statistical classifications by industry, occupation and status in employment.

7. Working time concepts may apply differently to jobs in paid and self-employment and to jobs within unpaid non-market services. Working time may also refer to a filled or vacant job, or to a job sought; all are useful in their respective context. Information on working time in jobs is collected from persons and economic units. In some cases the economic unit, the job and the working person are the same entity. All three units, namely persons, jobs and economic units, may be used as units of analysis for working time.

8. Working time can be measured for short reference periods, such as one day or one week, and for long reference periods, such as one month or one year. As indicated in paragraphs 4 and 5, it can be measured for activities within both the production boundary of the System of National Accounts and the general production boundary. Working time measures do not reflect the quality, intensity or efficiency of work. All working time concepts and definitions in this resolution (working hours and working time arrangements) apply to productive activities, irrespective of the legality of the activity, the contractual agreement or the age of the persons performing them, etc.

Concepts and definitions

Hours actually worked

9. The key concept and measure of working hours is hours actually worked.

- (1) *Hours actually worked* is the time persons spend in the performance of activities that contribute to the production of goods and services during a specified reference period.
- (2) *Hours actually worked* occur under varying work and compensation arrangements, at all types of location. Within the production boundary of the System of the National Accounts, *Hours actually worked* apply to all jobs in paid and self-employment as defined in the International Classification of Status in Employment; within the general production boundary *Hours actually worked* apply to all jobs performing productive activity, including the activities specific to unpaid non-market services.

10. Hours actually worked **include**:

- (1) “Direct hours” spent on the tasks and duties of the job.
- (2) “Related hours” (when not the “direct hours” in the job) to maintain, facilitate or enhance productive activities, such as time spent:
 - (a) to clean, care for, maintain, repair, prepare, design or administer instruments, processes, procedures or work location, and to change work clothes;
 - (b) to purchase raw or basic materials or resale goods, to bring products to/from market or source, door-to-door vending and itinerant activities;

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- (c) awaiting customers or business as part of working time arrangements and/or explicitly paid for;
 - (d) on-call duty at the work location (as in health and essential services) and away from the work location (as at home) when persons' actions or movements are restricted;
 - (e) in connection with travel between workplaces, to reach field projects, fishing areas, assignments, meetings or clients, except during natural rest periods/personal repose;
 - (f) on training or skills enhancement for a job in the economic unit, in or outside the work location (for persons in paid employment this applies when the training is provided directly or indirectly by the employer);

“Related hours” in unpaid non-market services, in addition to the above, cover:

- (g) travel time connected to household charges or care tasks, awaiting persons in one's charge, etc.
- (3) “In-between time” that is unavoidable or inherent to the nature of the job or work process, involving temporary technical, economic or material stand-by (due to work or machinery breakdown or accident, lack of power or Internet access or supplies), when persons continue to be available for work.
 - (4) “Rest periods” for short rests, relief or refreshment, including tea, coffee or prayer breaks, generally authorized by custom or contract according to national circumstances.

11. *Hours actually worked* **exclude:**

- (1) Time not worked even if paid for, such as annual leave, public holidays, sick leave, parental (maternity and paternity) leave, other absence or leave for personal or family reason or civic duty.
- (2) Commuting time between work and home when no productive activities are performed, even if paid for by the employer.
- (3) Time spent on training or skills enhancement not primarily intended for the economic unit that can be referred to as educational leave, even if authorized, paid for or provided by the employer in the case of paid employment.
- (4) Longer breaks distinguished from short rest periods, such as for meals.

Hours paid for

12. (1) *Hours paid for* are all the hours for which persons in paid employment have received payment from their employer during a specified reference period, regardless of whether the hours were actually worked or not.

- (2) *Hours paid for* include paid time not worked due to leave entitlement periods such as paid annual leave, paid public holidays and certain absences related to administrative or regulatory practices in establishments for the remuneration of working hours, which may not directly correspond to productive activities.
- (3) *Hours paid for* exclude *Hours actually worked* and *Absence hours* that are not paid (such as unpaid overtime) or paid exclusively through transfers by government or others (such as parental leave).

Normal hours of work

13. (1) *Normal hours of work* are the hours fixed by laws and regulations, collective agreements or arbitral awards to be performed in paid employment jobs over a specified reference period.

- (2) *Normal hours of work* for persons in different groups of paid employment, jobs may vary depending on the occupation or industry.
- (3) *Normal hours of work* as defined for paid employment may also apply to self-employed persons or persons in unpaid non-market services because they practise such hours.

14. For countries where *Normal hours of work* is a widely used concept, it may serve as the basis for the definition of full-time work.

15. *Normal hours of work* refer to collective prevailing working hours in contrast to working hours expected by employment contract or practice to be performed in an individual job.

Contractual hours of work

16. (1) *Contractual hours of work* are the hours that persons in paid employment are expected to spend on productive activities as predetermined by individual (explicit or implicit) employment contract.

(2) The number of *Contractual hours of work* in a job may vary depending on the organization and scheduling of the job and the length of the period for which they are measured.

17. *Contractual hours of work* based on individual employment contractual relationships are conceptually distinct from the measure of collective significance *Normal hours of work*, although the number of *Contractual hours of work* may be equivalent to prevailing *Normal hours of work*.

Hours usually worked

18. (1) *Hours usually worked* per week, or other short period, are the typical working hours over a long observation period such as a month, quarter, season or year, comprising the reference period used to measure employment or unpaid non-market services. They include regular *overtime* and irregular *absence* but exclude irregular overtime and regular absence.

(2) *Hours usually worked* each week are determined as the:

(a) modal number of hours actually worked, or when the mode is not meaningful, such as when the typical working hours per week vary in a certain pattern or from week to week; then the

(b) median number of hours actually worked; or the

(c) arithmetic mean of number of hours actually worked excluding periods of unemployment or inactivity within the long reference period.

(3) *Hours usually worked* apply to all jobs; they are of particular relevance for jobs where employment contracts stating *contractual hours* are uncommon or do not exist, such as self-employed jobs or jobs in unpaid non-market services, or paid employment jobs where the *hours actually worked* continuously differ from the contractual hours.

Overtime hours of work

19. (1) *Overtime hours* are the hours actually worked during a specified reference period in excess of *contractual hours*, and where relevant, the hours defined as *overtime* in an employment contract. When *contractual hours* do not exist, *overtime hours* are the *hours actually worked* in excess of normal hours in comparable full-time or part-time jobs.

(2) It may be useful to distinguish between regular overtime hours (included in usual hours) and irregular overtime hours.

20. (1) *Overtime hours of work* may be paid or unpaid. *Paid overtime hours* may be paid at the same rate as the other working hours in the job, paid at higher rates or compensated with time off. It may be useful to distinguish between paid and unpaid overtime as well as the different forms of paid overtime.

(2) Additional working hours due to flexitime or to modifications permitted by arrangements of working time within rotation periods performed during a short or long reference period, such as shift work, are considered overtime hours when the hours are not part of the flexible arrangement.

Absence from work hours

21. (1) *Absence from work hours* is the number of *Contractual hours of work* not worked during a specified reference period, including periods of leave taken according to the employment

contract, where relevant. When *contractual hours* do not exist, *Absence from work hours* is the difference between the *hours actually worked* and the normal hours in comparable full-time or part-time jobs.

- (2) Time not worked in the reference period due to flexitime or to modifications permitted by arrangements of working time within rotation periods performed during a short or long reference period, is considered *Absence from work hours* when the hours not worked are outside the flexible arrangement.
- (3) It may be useful to distinguish between regular *Absence from work hours* (included in *hours usually worked*) and irregular *Absence from work hours* and between paid and unpaid *Absence from work hours*. It will be useful for analytical purposes to have information on the total or elapsed duration of absence by reason for absence.

22. Absence from work hours may be due to:

- (1) Personal reasons, such as:
 - (i) compensation for overtime hours (excluding flexitime off);
 - (ii) annual leave;
 - (iii) illness or injury;
 - (iv) maternity leave;
 - (v) care for others;
 - (vi) educational leave;
 - (vii) other personal absence (including compulsory military or civilian service).
- (2) Reasons relating to the employer, economic unit or place of work:
 - (i) technical or economic breakdowns other than those specified in paragraph 10. (3);
 - (ii) industrial relations processes;
 - (iii) bad weather.
- (3) Institutional factors, such as public holidays.

Working time arrangements

23. (1) *Working time arrangements* describe the organization of work and non-work periods in terms of a combination of characteristics that relate to the length, variation and scheduling, including flexibility, of working hours in jobs, during a specified reference period.

- (2) *Working time arrangements* may or may not be formally recognized by law, collective agreement, etc. They may be explicitly agreed in written or oral employment contracts or implicitly based on reference to conventional norms, collective agreements, rules or customs of establishments or the community.
- (3) *Working time arrangements* apply not only to persons in paid employment jobs, but also to persons in self-employment and in unpaid non-market services who may decide their own *Working time arrangement* based on contractual obligations with customers, fixed opening hours, other work requirements or personal and household preferences.

24. It may be useful for analytical purposes to distinguish working time arrangements followed in all jobs, and by type of job. As *Working time arrangements* may be determined or labelled differently according to national circumstances, practice and/or industrial relations processes, a descriptive list of types of *working time arrangement* is provided in the annex.

Methods of data collection

25. Statistical information about working hours and working time arrangements can be collected through statistical surveys and censuses, including the population census, and through access to administrative registers. National policy issues concerned with working time and availability of statistical sources will affect the choice of data collection methods.

26. Household- and establishment-based surveys and administrative registers may be related more inherently to measurement of one or another of the different working time concepts. Use of a combination of available data sources is preferable to meet user requirements regarding working time statistics in general and to reduce response burden and costs.

27. The reference period often implemented for working time in relation to the currently active population implies use of a short reference period of one day or one week, measured in terms of hours. This is in contrast to the usually active population and the long reference period with measurement in units of weeks (or possibly days). For national accounts and production statistics generally, a measure of volume of work that includes all jobs and all working hours performed is required for a period longer than one week, such as a month, quarter or year.

28. In principle, the basic unit of data collection for statistics of working time is the job, although it is important that statistics on both jobs and persons be available, in order to achieve consistency of working hour measures with other related variables.

Household-based surveys

29. Household surveys are well suited to collect data for most working time concepts, for a short reference period such as a day or a week, for persons in all types of employment and all jobs, including in informal employment and unpaid non-market services, for the population as a whole. Household surveys may also be used for a longer reference period, such as a month or a year, even though there are added difficulties with formulating working hour concepts, in particular where the value varies considerably over the period, such as for hours actually worked.

30. Household surveys are least well suited to collect information on working hour concepts that have an administrative or regulatory base, which may not be known to respondents.

31. To measure labour input in production, household surveys do not normally exactly meet the coverage of national accounts and production statistics for all working hours performed in domestic economic units. Persons working but not resident in the country, or living in resident institutional households habitually are or may be excluded from the scope of household-based surveys.

32. Prior to the questions on working time, the questionnaire should ascertain status in employment and multiple job holding of respondents, which can serve to filter for separate question sequences regarding working time. Variables that relate to employment contracts or to the typical situation are easier to remember, especially for proxy interviews. This approach is a good basis for forming specific questions connected to absence, overtime and hours actually worked in the reference period. In the case of multiple job holders, data on the working hours should be collected for each job separately, or at least for the main job and all other jobs. This increases the number of questions but should make it easier for respondents to answer.

33. Different approaches may be advantageous to improve the quality of data on hours actually worked, and to reduce errors due to recall problems and rounded answers. One approach is to ask about the hours worked separately for each day, rather than for the whole week, and also to ask about the main job and each job each day. Another approach consists of arriving at the hours actually worked on the basis of questions on the hours usually worked and then taking into account any hours of overtime and absence during the reference week.

34. Specialized labour force surveys or modules may collect detailed components of some working hours and working time arrangements within and possibly beyond employment, for unpaid non-market services. To facilitate the measurement of the different working time concepts, separate question sequences for the self-employed (and unpaid non-market service workers) and for paid employees are recommended, as well as for problematic components of working time, such as overtime, work at home, short breaks and absence from work. This information can also indirectly improve measures of working hours for certain groups of persons within employment.

35. To capture seasonal variation and calendar effects on hours actually worked, the frequency of the survey can be increased or the survey sample can be spread over the year, rather than expanding the reference period, as a short reference period reduces measurement error associated with recall problems.

36. Regarding the use of statistics on hours actually worked from household surveys for the compilation of national accounts, it is important to ensure consistency with data classified by industry and institutional sector obtained from establishment surveys or administrative records.

37. Time-use surveys present advantages for capturing detailed information on time spent on all types of productive activities performed in employment and/or in unpaid non-market services, within a short reference period. When all activities are recorded they can provide a solid basis for obtaining information on hours actually worked, as well as on some aspects of working time arrangements, and are best suited to provide good quality measures of absence from work hours.

40. For individuals and the economy as a whole, time-use collection methods give fewer measurement errors for hours actually worked. This is particularly important for some self-employment jobs (often done by women) that risk being omitted from the conventional employment count due to their working hours being considered atypical, irregular, less regulated or interchangeable with activities performed close to home.

41. The use of time-use surveys as the single source for working time statistics may be constrained by their generally non-annual or irregular frequency, small sample size and high response burden and cost of data compilation. They can be important for comparing and assessing the data quality of hours actually worked, improving questionnaires, as well as for adjusting data for certain population groups from other household surveys.

42. Although conceptually more precise measures of working time may be obtained from specialized household-based surveys, the population census can also measure some working hour concepts. According to the recommendations of the UN/ILO *Handbook on the Collection of Economic Characteristics in Population Censuses*, as a minimum the census may be able to incorporate a single question on hours actually worked during the short period just before the census reference date or hours actually worked in a corresponding short reference period, and may cover only the main job or economic activity. Including a more thorough set of questions on each concept, or to obtain the working hours for each day and for each job or activity, would improve measurement accuracy. However, population census operations generally may not have the interview time and questionnaire space required. Where the census is the only available data source, and in view of its advantage of providing working time estimates for small geographic areas and for small population groups, the inclusion of at least one question on working time is recommended.

Establishment-based surveys

43. (1) Establishment surveys are an appropriate method to obtain good quality, available data relating mainly to working time concepts linked to payments and employment contracts, and to some formal working time arrangements, for all or a subset of employees and establishments. These are generally hours paid for, overtime, contractual hours and absence from work (unpaid but registered to monitor entitlements). Normal hours and hours actually worked may also be available.

44. Establishment survey data on working time are generally reported for jobs or as averages for groups of jobs at the economic unit, rather than for persons. For short-term working time statistics, data for averages over groups of jobs should be adequate.

45. Contractual hours of work may not be recorded by the establishment as exact hours, but as a percentage of a full-time job. The establishment will usually know the number of hours that constitute full-time work in different jobs, which may correspond to normal hours of work, where relevant.

46. Anticipating that all contractual hours are paid if performed, to find the hours paid for, the number of paid overtime hours not in the contract, minus the absence hours not paid, can be added to the contractual hours. It is recommended that each element be included in the questionnaire and reported separately, not only to serve as a measurement quality check but also for the producers of the statistics to calculate the concept if this is not done by the employer.

47. If working hour concepts are not collected specifically, other data, such as number of employees distinguished by full-time and part-time hours, in combination with data on wage rates and wage income can be used to calculate working time.

48. Even when establishments are unable to report working hours for all groups of employees, such as managerial staff or non-hourly paid persons, the non-inclusive level figures, although biased, can usefully indicate change.

49. Establishment surveys will not be able to capture working hours for some of the more atypical forms of employment, such as casual work. For full-population coverage, estimates for hours actually worked by persons not covered by this source must come from household-based statistics and/or relevant administrative statistics.

Administrative registers

50. Administrative registers that contain working time information for persons covered by the administrative records will be restricted by their very nature. They are useful, in particular, for concepts such as contractual hours linked to individual employment contracts, normal hours of work, including information on leave entitlements as specified in collective agreements or legislation, and compensated absence from work. Registers recording information about filled jobs usually contain more working time information than those for job vacancies and jobs searched for.

51. Administrative register-based reports from establishments will usually be on contractual hours. The contractual hours may only be specified in groups of hours, as a percentage of normal hours of work for full-time work, or as full-time/part-time units, instead of number of hours. Pension and social benefit agencies register the contributions paid into the system to reflect normal hours of work or hours paid for by the system, or hours of certain absences, such as due to own illness. Income and tax registers generally do not contain information on working time concepts as such, although data on income from employment and income from benefits can be used in combination with survey data to calculate hours paid for and absence hours.

52. Data from administrative records are generally useful to verify and correct or adjust data from establishment or household-based surveys.

53. To achieve the most efficient use of administrative information on working time for statistical purposes, coordination between the statistical and administrative authorities is necessary.

Compiled measures

Total hours actually worked

54. (1) *Total hours actually worked* is the aggregate number of *Hours actually worked* by all persons in all jobs during a specified, short or long reference period. This derived measure is also known as the volume of work or labour input.

55. (1) In household-based surveys total hours actually worked can be measured at the aggregate level for a long reference period by conducting the survey throughout the long reference period, as in a continuous survey. Accumulating estimates of hours actually worked and adjusting for days outside the reference period, where relevant, produces total hours actually worked for the longer reference period.

(2) For non-continuous household surveys, targeting the desired reference period implies extrapolation to those periods not directly covered by the survey. For surveys carried out only a few times during a long reference period and, if the reference week is chosen to avoid special weeks (containing public holidays, etc.), the extrapolation should take account of possible calendar effects, regulations about working time specified in legislation, collective agreements and arbitration awards, as well as working hour data from other statistical sources.

(3) Household survey-based estimates of *Hours actually worked* need to be supplemented by estimates of the *Hours actually worked* for employed persons living abroad, working in domestic units. The hours of employed persons living in the country but working in foreign units should be excluded. If unpaid service work is included, estimates of these hours need to be added.

56. (1) For statistics based on establishment surveys or administrative registers, compiling *Total hours actually worked* will generally start from *Hours paid for* or *Contractual* or *Hours usually worked* that must be transformed into *Hours actually worked*.

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- (2) The computations will depend on the data elements available:
- (a) *Total hours actually worked* = *Hours paid for* + *unpaid hours* – *Absence hours paid for*.
 - (b) *Total hours actually worked* = *Contractual hours* + *non-contractual Overtime hours* – *Absence hours*.
 - (c) *Total hours actually worked* = *Hours usually worked* + *irregular Overtime hours* – *irregular Absence hours*.
- (3) Where the establishment survey or register reference period is shorter than required, data from repeated observations (continuous collection) should be included if that is an option.
- (4) If these data sources do not cover the required long reference period, extrapolation is required for any missing periods, and in principle for all elements used to derive *hours actually worked* from *paid* or *contractual hours*.
- (5) For establishment-based statistics to reach full population coverage, they need to be supplemented by estimates of the *hours actually worked* by employees in out-of-scope units, such as small establishments, agricultural or informal units, units producing unpaid non-market services, and by estimates of all self-employed. In estimating totals for these other groups, it should be taken into account that their levels of working hours may be systematically different from those in the survey units (for example own-account workers who often have longer working hours than employees).

57. Limitations regarding the quality of the *hours actually worked* measure and more general quality aspects of the statistical source(s) used need to be accounted for and corrected where possible. The general limitations that concern working hour concepts will in principle also apply to other types of data from registers and establishment surveys, such as production data. To produce a coherent data set of *total hours actually worked* for the national accounts, use of the same methods to overcome these limitations is recommended.

Annual hours actually worked

58. (1) Annual hours actually worked are the average *hours actually worked* per [unit] in an annual period, that may be the calendar year.

(2) Annual hours are the input measure of labour into production. Since the methods to compute annual hours are generally complicated they should be compiled in line with this resolution.

59. (1) The influence of factors such as the size of the population and the volume of hours should be taken into account by compiling averages. The average may be computed using different denominators (that in each case should be consistent with the total number of persons in the numerator for whom the hours were counted). The denominator may be the:

- (a) average number of employed persons per week, over the year. If necessary, extrapolations to cover all weeks should be made and indicated;
- (b) average number of jobs over the year. Data on jobs will be more readily available for countries using establishment surveys as the basis. Jobs will give higher numbers for the denominator than number of persons employed if calculated as weekly averages. Data from establishment surveys obtained for different reference periods disrupt comparability if they cannot be converted to a common reference period;
- (c) average number of inhabitants in the population over the year. This figure is generally available in countries and differences in reference dates are not as important as for employment statistics for persons or jobs from household or establishment surveys.

60. If the denominator of the average computed is persons employed, the rate obtained will be influenced by the number of *Contractual* or *Hours usually worked*, short- and long-term *Absence hours* and *Overtime hours* among the average number of persons in employment per week. If the number of jobs is the denominator, as all jobs count with the same weight, the rate obtained will be influenced by the number of full-time and part-time jobs in the economy, the distinctive numbers of *contractual* versus *hours usually worked*, and short- and long-term *absence* and *overtime hours* in the jobs.

61. The choice of denominator to be computed depends on data availability, the analytical purpose and comparability between countries. All of these factors require assessment by the authority producing or publishing the statistics.

Tabulation of data

62. Statistics on working time for labour productivity need to be classified by industry for the computation of sector productivity. They should use sector and industry classifications consistent with production statistics, where possible according to the International Standard Industrial Classification of all Economic Activities (ISIC).

63. For the labour market analysis of different working time concepts, the statistics on working time should be connected to the characteristics of persons and should be classified by sex and in respect of specified age groups and levels of education. Other significant demographic, social and economic characteristics important for users, such as occupational groups, institutional sectors, branches of economic activity, a category on informal sector/employment, where relevant, and status in employment categories should be tabulated to the extent possible.

64. For cross-classifications by industry, occupation, institutional sector, status in employment and informal sector/employment, working time statistics should refer to the main job. This is understood to be the job having the longest average contractual hours or hours usually worked.

65. Statistics on total number of working hours should include the hours in all jobs held. To avoid double counting of the hours actually worked of persons performing more than one job simultaneously, and whether the direct hours produce two separate outputs or not, the working hours should be allocated to the main job.

66. Working time measures using the job as the statistical unit for working hour concepts can be aggregated over jobs, persons, households and establishments. Working time arrangements cannot be aggregated in the same way. Statistical units may be described according to the different characteristics of working time arrangements and by groups of specific arrangements.

67. For national purposes, the distribution of statistics of persons in employment and/or in unpaid non-market services according to number of working hours should be tabulated and presented in detail, to the extent possible, taking into account specific hour thresholds stipulated in laws or regulations, etc.

68. To bring to light gender equity and reconciliation of work and family life for public policy purposes, it is essential to classify working time by variables such as marital status, presence of dependent or accompanying persons (young children, the elderly and others requiring care) and the working hours of other/all household members.

69. For comprehensive information on working time arrangements, countries should determine for which aspects or variables of national working time arrangements it is possible and suitable to produce statistics for labour market analysis, for the study of differences between arrangements in paid, self-employment or unpaid non-market service settings, and of factors such as the nature of their stipulation, the control of individuals and employers over arrangements, etc.

70. Statistics regarding Absence from work hours for periods of rest such as public holidays and annual leave or compensatory leave may be tabulated separately, and usefully distinguished from, Absence from work hours that result from illness, strike or lockout, work breakdowns, etc.

71. Countries should aim at consistency between the different statistics on working time, and with other labour market statistics, as well as coherence with the general statistical system.

International reporting

72. For the purposes of the international reporting of working time statistics, countries should provide at least total hours actually worked per employed person in reference to a week and, where possible, to a year. Additionally, reporting for concepts that may be easier to compile, such as statistics on contractual hours or hours usually worked, if using data sets based on the same type of collection method and same coverage of sectors, industries and groups of employed persons, can lend themselves to comparison between countries.

73. Working hours by industry, institutional sector and status in employment are the minimum elements necessary for meaningful international comparisons. To provide a fuller description of the input of labour into production, countries should make efforts to also report working time statistics by other variables, such as level of education, occupation and type of working time arrangement. This is to indicate the link between labour composition and hours actually worked, and to give insight into the organization of working time in connection with the production process.

74. The distribution of employment statistics by working time concepts, such as number of hours actually worked for a short reference period, should be reported for five-hour bands starting with zero hours, from one to five hours, six to ten hours, etc. ..., up to and including 61 hours or more.

75. The complexity of computing annual hours actually worked will affect the quality of estimates and therefore also their international comparability. For international reporting purposes the most commonly used denominator for annual hours actually worked will be the average number of hours actually worked per week of persons in employment. Countries should endeavour to report at least this one national estimate of annual hours.

76. Where differences in annual hours actually worked are significant between groups of persons, categories of workers or according to different working time arrangements, it is important that the statistics be presented separately.

77. As changes in trends may be more comparable than changes in levels estimates, countries could consider producing the data as indices. The provision of precise information about the statistical sources and methods of calculation selected to produce these complex estimates is particularly important and should accompany the disseminated results.

78. In order to improve their international comparability, statistics on absence from work reported at the international level should be classified by reason for absence according to type of absence recommended in this resolution, and by main reason and all reasons, to the extent possible.

79. Where national working time concepts and definitions differ from this resolution, inquiries should be undertaken periodically in order to determine and document the differences between the resulting statistics and those that would have been obtained if applying these international definitions. In particular, where the statistics on working hours collected correspond to the concept of hours paid for, inquiries should be made to determine for each industry the ratio between the national concept and the number of hours actually worked as defined in this resolution.

80. Countries also measuring working time for unpaid non-market services should compile and report the resulting statistics separately from those for activities within the production boundary of the System of National Accounts, or in such a way that a distinction is possible between them.

81. In order to enhance the comparability and transparency of any statistics reported internationally, countries are urged to compile and disseminate the requisite information on their national concepts, definitions and methodology and any departures from the recommendations of this resolution. Countries should, therefore, design their data collection and processing procedures to enable them to fully document:

- (1) differences between the international and national statistical definitions of working time, where relevant;
- (2) differences between the national statistical definitions compared with legal and administrative definitions in the country;
- (3) the type of adjustments performed to arrive at estimates that correspond to the analytical and international statistical concepts, in particular, inquiries to determine for statistics of hours paid for, for each industry, the ratio between the national concept and the number of hours actually worked defined in this resolution.

82. All statistics on working time and accompanying methodological information should be compiled and produced in line with the need for confidentiality of persons and establishments, and the requirement of proper documentation and availability for all users, in accordance with the United Nations Fundamental Principles of Official Statistics.

Annex

Working time arrangements

1. Working time arrangement is the term to denote a combination of measurable characteristics that refer to the organization (length, variation) and scheduling (including flexibility) of working hours in jobs over a day, week or longer period.

2. The characteristics of working time arrangements are a reflection of their:

- (1) Organization, which differs from a norm based on national circumstances, and the departures from this norm, such as length – (shorter or longer) daily or weekly working hours, fewer or more days worked per week from the norm for a short reference period, or part-year work for a long reference period of a year, and variation, which occurs daily, weekly and/or monthly, or regarding entry and exit times that vary by day, week and/or month.
- (2) Scheduling, which is outside of core working hours or days, at night and/or on weekends, flexible or only as required.
3. These characteristics also apply to ad hoc and unusual arrangements. The working time arrangements described in paragraph 9 of this annex may be formal, explicit or implicit agreements.

4. Working time arrangements apply to persons in paid employment with an explicit or implicit employment contract that stipulates an arrangement, or to persons who practice an arrangement established by laws and regulations, collective agreements or arbitral awards.

5. Working time arrangements also apply to persons in self-employment and in unpaid non-market services who establish their own arrangement based on work or personal requirements.

6. Working time arrangements may vary according to national circumstances, given differences in institutional convention and organization. Statistics of working time arrangements are useful for national purposes although they may not be easily comparable internationally.

7. Producing statistics on formal working time arrangements may be more relevant in countries where terminology and established practices are reasonably well regulated and/or standardized, and where the number of persons to whom such arrangements apply is numerically significant.

8. To have comprehensive information on working time arrangements, statistics should relate to: (i) the number of persons employed and establishments by type of arrangement; and (ii) the number of persons experiencing the various characteristics of arrangements. Among the various types of working time arrangements in their economies, countries may wish to establish for which types it is important and possible to produce separate statistics.

9. The following descriptive list of working time arrangements according to the characteristics defined in this resolution may serve for consultation, in particular for purposes of comparison at the international level:

Organization (length and variation)

- (1) *Annualized hours arrangements*, characterized by variations in daily, weekly and monthly working hours within a weekly or monthly average or an annual total, without any requirement that the employer pay overtime rates as long as annual hours actually worked stay below an agreed maximum. Under the annualized hours contract, the distribution of the number of working hours throughout the year is generally predetermined by the employer, depending on production or service needs; but employees may be allowed to negotiate the length of their daily and weekly working hours, so long as output targets can be met.
- (2) *Compressed working week arrangements*, characterized by organizing the working hours over fewer days than what is considered the normal or standard working week; such as work on weekends giving rise to shorter working hours during the week.

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- (3) *Min-max arrangements*, characterized by a variable number of hours actually worked and paid for, depending on production or service needs, but with a guarantee of a minimum and maximum number of hours to be worked per reference period.
 - (4) *Part-time work arrangements*, characterized by normal hours of work that are less than those of comparable full-time workers, as recognized in the Part-Time Work Convention, 1994 (No. 175).
 - (5) *Regular overtime hours arrangements*, characterized by hours worked in addition to the contractual or normal hours of work that are compensated by the employer.
 - (6) *Staggered and block working arrangements*, characterized by different starting and finishing hours for individual persons or groups of persons in employment, around compulsory core hours.
 - (7) *Working time banking arrangements*, characterized by the possibility of accumulating the working hours, which can be taken off as extended leave in a subsequent period.

Scheduling (including flexibility)

- (8) *Flexible hour arrangements*, characterized by the possibility of scheduling one's daily and weekly working hours outside of the core hours during which presence at the place of employment is compulsory. Hours worked in addition to contractual hours of work for the week (or month) may be taken as leave during subsequent weeks or months, often within a deadline and up to a maximum number of hours.
- (9) *On-call work or zero hours arrangements*, characterized by no fixed schedule of contractual hours, but a requirement that persons be available to work when called with a specified notice period, for as many hours as the employer requires up to legally specified or contractual limits.
- (10) *Shift-work arrangements*, characterized by successive daily work periods involving teams of persons, known as shifts. Shifts enable the establishment to operate for longer than the working hours of individuals. Persons may work a morning, evening, night or weekend shift. Shifts may be constant, alternate with different types of shift on a weekly or fortnightly basis (including certain free days) or consist of multiple work periods on the same day, called split shifts.