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**Session 1 – Invited paper**

**CONCEPTUAL RELATIONSHIP BETWEEN QUALITY OF WORK AND WORKING  
TIME STATISTICS**

Submitted by Organization for Economic Cooperation and Development \*

1. This paper discusses the conceptual relationship between quality of work, the decent work concept and working time statistics. The focus is on the development and refinement of existing conceptual frameworks in these areas which aim to clarify concepts, the relationship between concepts and provide a conceptual basis for decisions involving the measurement of those concepts. The discussion draws heavily on relevant conceptual work undertaken over 2003-2004 by the Paris Group on Labour and Compensation Statistics in its current activities in providing input to the revision of the 1962 International Conference of Labour Statisticians (ICLS) Resolution concerning statistics of hours of work. It should be emphasised at the outset that the Paris Group work described below (in particular, the initial conceptual framework presented in Section (d)) is still very much work in progress and will no doubt be modified in future meetings of the Group (the next scheduled for Spring 2006) leading up to the next meeting of the ICLS in 2008. All of the papers cited in this paper are available at the Paris Group website maintained by INSEE<sup>1</sup>.

2. The main dimensions of the working time framework currently being discussed (number of hours, variability of those hours, their scheduling and perhaps location) are also important

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<sup>1</sup> At [http://www.insee.fr/en/nom\\_def\\_met/colloques/citygroup/citygroup.htm](http://www.insee.fr/en/nom_def_met/colloques/citygroup/citygroup.htm)

issues when considering quality of work issues. Also, many of the considerations of the users of working time statistics overlap with those dealing with quality of work issues. Finally, at a more practical level, many of the measurement aspects between the two areas of labour market analyses are also very similar. For these reasons, the key theme of this paper is for the linkage of the conceptual relationship between working time statistics and any future work on indicators and frameworks on the quality of work (as represented by the work of the European Commission discussed in para. 22 below) and the concept of “decent work” (as described in para. 23 below) to be maintained and where necessary firmed up. This linkage also concerns the use of common terminology and definitions.

#### **a. Background to Paris Group work on working time statistics and their use(s)**

3. Statistics on working time are used by government agencies (with policy responsibilities covering finance and economics, labour market, health and safety, and industrial relations), central banks, trade unions, private companies, academics and researchers. They are required to further understand and interpret the nature, quality and volume of employment in the labour market. These data help users to identify individuals’ labour supply choices, and to understand how these interact with the wider macro-economy. Working time statistics, encompassing hours worked and working time arrangements also help ensure that the well-being of workers (dependent on returns from work) can be monitored.

4. Although changes in working time arrangements differ by country, certain trends can be identified. Changes can be observed from both the supply side, how individuals supply their labour, and the demand side, how firms are prepared to (or find convenient to) package available work into jobs to produce their outputs.

#### ***Labour supply side issues***

5. One main development impacting labour supply choice, is the growing policy interest in working arrangements and the promotion of a work-life balance. Regulations on working hours or working time arrangements have been introduced or were recently changed in a number of countries (e.g. European Union Working Time Directive or the statutory 35 hour week in France). Although take-up differs by country (and by occupation), guidelines have been introduced to protect workers’ health, as studies show a direct relationship between number of hours worked and various individual health problems.

6. Demographic and societal changes have also affected labour supply. There has been a shift away from the traditional “nuclear” family and associated employment and home-life patterns. More single people (of both sexes) are choosing to live alone. There are also a greater number of couples who both work, and an increase in single parent families. These shifts, away from the “nuclear” family and from traditional male-orientated employment, are associated with increased female participation in the labour market, in both full-time and part-time employment. Other non-work commitments / life-style choices, and the requirement / choice to work, have also increased the supply of labour in “non standard” ways – to the extent that in many countries and for many labour market groups it is no longer meaningful to think of “standard” working arrangements.

7. These demographic, societal and regulatory changes have coincided with improvements in technology (such as laptops, mobile phones, and internet access) and travel, which allow for a greater choice for individuals supplying their labour.

### *Labour demand side perspective*

8. From the demand perspective, improvements in technology and increased competition, combined with relaxation of certain trading practices (e.g. the 24/7 economy), have increased the demand for labour at “non-standard” times, e.g. night work, revolving shift work, weekend work, etc. The change has been accompanied by a general shift away from a demand for labour in the manufacturing and production sectors, to a demand for labour in the service sector. This shift is associated with a heightened demand for labour outside daytime hours on weekdays.

9. It is unclear whether employers or individuals have driven the diversification of working time arrangements, although changes have been observed from both perspectives. Certainly, working time statistics are relevant to both supply and demand sides although the focus of statistics on working time arrangements should be the person rather than the job. The “person” is of interest with regards to quality of life and work/life balance issues and the “job” in other contexts, for example, in describing employment arrangements or working time arrangements which are specific to a job and where the hours usually worked in that job will be of interest. One of the primary purposes for obtaining measures of hours worked is for productivity purposes where the focus should be on the job.

#### **b. Need for revising existing international standards**

10. The changes outlined above have heightened the need for existing international standards on working time statistics to be modified to take account of a more complex work environment and the development of new standards in emerging areas of need. In this context, the main issues with respect to working time measurement discussed at the September 2003 (in London) and September 2004 (in Lisbon) meetings of the Paris Group were those outlined in the section of the General Report to the 17<sup>th</sup> ICLS dealing with statistics of working time (Section 3.2, General Report to the 17<sup>th</sup> International Conference of Labour Statisticians, Geneva, 24 November – 3 December 2003<sup>2</sup>). This report described (refer Section 3.2.22) the need to revise existing international recommendations for statistics on working time in at least three areas:

- a) “The revision of the existing international definition and measurement methodologies for the production of statistics on **hours actually worked** during short as well as longer reference periods. The current international definition should be broadened to cover all persons in employment, including the self-employed, by extending the content of each of the defining categories of working time to include all work situations, such as irregular, seasonal, work at home and unpaid work. Guidelines need to be developed on how to apply the revised definition in household-based surveys, including time-use surveys.
- b) The development of new international definitions and methodologies for the measurement of **other working-time concepts**, some of which are already being measured in countries. These include the hours usually worked, overtime hours, the hours of absence from work, and working-time arrangements. Full worker coverage should be targeted. Guidelines need to be developed on how to apply the revised definition in household-based surveys, including time-use surveys.
- c) The development of an international definition of **annual hours of work** that allows for alternative estimation procedures that takes into account variations in the type and range of national statistics of working time.”

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<sup>2</sup> The relevant extract from the report is available from [http://www.insee.fr/en/nom\\_def\\_met/colloques/citygroup/pdf/Extract-Report-ICLS.pdf](http://www.insee.fr/en/nom_def_met/colloques/citygroup/pdf/Extract-Report-ICLS.pdf).

**c. Focus of Paris Group work on working time measurement, and issues considered**

11. One of the objectives of the 2004 Paris Group meeting was the preparation of a conceptual framework for measuring hours worked. Initial discussion on the need for a framework was primarily in the narrower context of working time arrangements. There was support by delegates for the inclusion of a framework somewhere at the beginning of a revised Resolution on working time measurement, though the idea was to extend the scope of the framework beyond working time arrangements. The five main elements of an expanded framework could entail:

- placement of working time in a general framework for the use of time. A general conceptual scheme of hours of work presented by Italy<sup>3</sup> offered possibilities for further elaboration. This scheme placed the different categories of work in a four cell table: paid / not-paid; worked / not worked, though the current placement of the components in each of the four cells may need to be looked at further. Such a general framework could perhaps be further expanded to include time not worked (i.e. on activities outside the SNA production boundary), etc. There was considerable support for the notion that a definition of annual hours limited to the concept of actual hours could be too narrow for labour market analyses and that a definition of annual hours of work on the basis of hours paid should also be included in the revised ICLS Resolution on working time measurement. Such a need arose out of relevant differences between hours worked and hours paid and hours not worked and not paid. However, it was also felt that the treatment of absences in the revised Resolution should be consistent with the existing definition of employment (in the 1998 ICLS Resolution);
- a precise linkage of “hours actually worked” to time spent producing goods and services within the SNA production boundary. The revised Resolution may need to be prescriptive in this area, though there are a number of grey areas in SNA 1993 which were discussed in the context of the definition of annual hours. The concept of working time in the 1962 ICLS Resolution (“hours actually worked during normal working time”) is considerably less relevant now in most countries and any revised definition would need to consider the inclusion or exclusion of the working time for: the self-employed; unpaid overtime or extra work; hours worked at home; on-call hours, personnel training or education, hours worked in main and second jobs; etc. In this regard, a decision could be made on the uniform application of a small number of criteria or principles<sup>4</sup>;
- the preparation of a crosswalk between key working time measurement concepts, in particular, between the key concept of “hours actually worked” and related concepts of normal hours / usual hours, and paid hours;
- making a clearer distinction between hours worked per job and hours worked per person and the uses of both types of data. A number of countries expressed the view that issues of jobs v. persons concerned both use and measurement and that because of the prevalence of multiple job holders in some countries there was a need for statistics to be compiled on both bases;

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<sup>3</sup> See page 3 “The Measurement of annual hours of work” presented by ISTAT

<sup>4</sup> See principles underlying the measurement of hours worked outlined on page 1 of the Canadian paper prepared for Session 2, Measuring Hours Actually Worked.

- linkage between working time measurement concepts and how “working” hours are actually arranged. The explosion in the variety of working arrangements in place in almost all countries makes the old dichotomy between “normal” work and “alternative” working time arrangements significantly less relevant today. The current situation is more accurately described as a continuum of working arrangements defined on the basis of a limited number of dimensions such as: number of hours; stability of those hours; and their scheduling.

12. Discussions by the Paris Group in 2004 also highlighted the importance of ensuring that any framework (and definitions) included in a revised Resolution on working time measurement should be consistent with and aligned to other relevant existing international guidelines and recommendations. In addition to the SNA, these include other ICLS Resolutions such as the October 1982 Resolution concerning economically active population, employment, unemployment and underemployment adopted by the 13<sup>th</sup> ICLS.

13. There was also considerable discussion of the elements of the conceptual framework outlined above in the context of the main uses of working time statistics. These were labour input and labour market analyses. Although the former were considered to be very important (for national account and productivity purposes) several delegates at the meeting emphasized that labour input was not the only use and that recommendations in a revised Resolution should also meet the needs for labour market analyses. In the main, it was considered that the broad conceptual requirements of the two main uses of the statistics were not necessarily inconsistent with each other. However, it was felt that the new Resolution should include a list of the major uses together with target measures that should be used.

14. The Resolution could also include a component approach whereby estimates are provided for key work or work-related components (travel time, training time, etc.) for users to create different measures for different uses. Thought would need to be given as to the level of component detail to be provided in the new Resolution.

#### **d. An initial conceptual framework and dimensions for working time statistics**

15. The conceptual framework below represents the initial thoughts of the Paris Group which will no doubt be revised extensively in future discussions by the Group leading up to the 2008 ICLS meeting convened by the ILO.

16. During the 2005 Paris Group meeting working time arrangements were discussed both in the context of labour input and labour market analyses, the latter in relation to issues such as work-life balance, health and safety, etc. There was agreement regarding the overall need to ensure that hours worked in all relevant working time arrangements were incorporated into measures of hours worked, paid, etc. Because of the large number of such arrangements, the different names applied to them in different countries<sup>5</sup> and the blurring of the boundaries (and overlap) between different arrangements, terminology is an issue in the setting of international standards in this area. It was felt that a revised Resolution should only define a very small number of key working time arrangements and that the emphasis should not be on formal titles for the different arrangements but instead on their description on the basis of a framework comprising a minimum number of key dimensions or characteristics which the Resolution would recommend the collection of data as core items. Information on these core characteristics would then form the basis of international comparisons of working time arrangements.

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<sup>5</sup> See page 3, “Notes on possible working time arrangements statistics development”- ISTAT

17. As above, working arrangements are more appropriately seen as a continuum comprising a multiplicity of arrangements defined on the basis of a limited number of measurable dimensions. There was discussion in Lisbon on making the distinction between formalized working time arrangements themselves (WTAs) and the measurable dimensions that characterize such WTAs which collectively could be referred to as working time patterns (WTPs)<sup>6</sup>. WTPs could comprise:

- number of hours (i.e. measure of the length of time spent on work activities);
- the variability (or stability) of those hours on daily, weekly, monthly or annual time scales; and
- when those hours are worked (i.e. the scheduling of time spent on work activities). These include measures of the extent to which people work outside “standard” (i.e. regular hours, Monday to Friday, during daytime, core v. non-core time) arrangements and the ability to work extra hours in order to take time off.

18. After some discussion it was felt that the location where hours were worked (at home, etc) was not considered to be a key pattern for defining working time arrangements<sup>7</sup> but for purposes of labour market analyses could be included in a supplementary list of variables (see below).

19. For more detailed labour market analyses the Paris Group identified the following supplementary variables on working time arrangements that could also be listed in the revised Resolution, though these would be considered optional<sup>8</sup>:

- duration of the arrangement;
- the contractual situation (i.e. whether or not spelt out explicitly in a formal working contract or are in the nature of an informal understanding);
- the control workers have in the setting of working time patterns (i.e. the extent to which the pattern is chosen or imposed);
- the predictability of the arrangement over the week, month, year (i.e. the advance notice given to workers);
- location of employment (i.e. at home, etc).

20. With regard to measurement of WTPs the Paris Group believed that the revised Resolution should provide guidance on the strengths and weaknesses of each of the main sources of statistics on working time arrangements<sup>9</sup> with respect to the collection of information on both the core items on working time patterns and supplementary items listed above. Issues discussed here included:

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<sup>6</sup> See page 2, “Measurement issues on overtime working and annualised working time schemes” – DARES, France

<sup>7</sup> Refer ISTAT paper, op. cit. Footnote 4 above.

<sup>8</sup> Some of these supplementary items are described in detailed in the paper “Working time arrangements: Suggestions for data items based on experience in Australia” – Australian Bureau of Statistics

<sup>9</sup> The DARES paper (op. cit. footnote 7) outlines the advantages and disadvantages of the alternative / complementary sources of information on WTAs.

- the possible restriction of WTA statistics to employees or whether or not to include the self-employed. For labour input purposes, hours worked by the self-employed under different working time arrangements would need to be included in measures of actual working time. However, for labour market analyses some of the supplementary variables listed above would not be relevant for the self-employed and priority would be for data on employees;
- the need to make the distinction between formalized WTAs specified by law or by contract and their informal application within business. It is the actual application of the myriad of arrangements that is of interest in working time statistics;
- the compilation of WTA statistics for second jobs and whether or not the analytical unit is the job or the person. Ideally, information with respect to second jobs should be collected, however, there was recognition of limitations in collecting detailed information for these on a regular basis from LFS. For some types of WTA analyses (duration, location, control, predictability, variability) the job is the appropriate analytical unit, whereas for other (work-life balance) it would be the person;
- reference period that should be used for the data items and whether or not questions should ask about the “usual” situation. The main difficulties here are that some people may not have a usual situation” or that the normal cycle within which various working time arrangements are worked can be 12 months or more.

21. The issue of whether or not to include a definition for part-time work in the revised Resolution has been considered at length by the Paris Group, the general opinion being that reaching international agreement on a single hour cut-off appropriate for all countries would not be possible. Given the importance attached to the part-time concept in the user community it was also considered necessary for the Resolution to provide some guidance in this area. Such guidance could be restricted to recommending the compilation of annual hours worked statistics to include specific groups of workers (to be specified in the Resolution) such as part-time workers and that the presentation of statistics by countries using a full-time / part-time dichotomy should be accompanied by their national definition expressed in hours. International organizations would request the provision of hours worked data using discrete categories also outlined in the Resolution.

#### **e. Relationship between working time, quality of work and “decent work” frameworks**

22. As stated above in para. 2 of this paper, there are strong conceptual relationships between working time statistics and indicators used to measure the quality of work even though many of the dimensions of work quality are mostly outside the direct sphere of interest of working time measurement. This is illustrated in the framework of quality in work indicators developed by the European Commission (EC) in the 2001 paper *Employment and social policies: a framework for investing in quality*<sup>10</sup> that was cited in the Background information for this meeting. The two broad job quality dimensions outlined in the EC paper relate to: the characteristics of the job itself; and the work and wider labour market context. The Commission further disaggregated these broad dimensions and provided examples of possible measurement indicators. The EC framework is summarised in Table 1 below.

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<sup>10</sup> *Employment and social policies: A framework for investing in quality*, Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions, Commission of the European Communities, COM(2001)313 final, Brussels, 20.6.2001

**Table 1. European Commission quality of work framework**  
(Shaded boxes indicate dimensions currently included in Paris Group working time measurement framework)

Dimension	Sub-elements and indicators
1.Characteristics of the job itself	a. Intrinsic job quality
	- job satisfaction among workers
	- contract type
	- hours worked
	- level of qualification relative to job requirement
	- proportion of workers advancing to higher paid employment
	- low wage earners, working poor and distribution of incomes
	b. Skills, life-long learning and career development
	- proportion of workers with medium and high levels of education
	- proportion of workers undertaking some form of training
	- proportion of workers with basic or higher levels of digital literacy
2. The work and wider labour market context	c. Gender equality
	- gender pay gap adjusted for sector, occupation and age
	- gender segregation – extent to which women or men are over or under represented
	- proportion of women and men with different levels of responsibility
	d. Health and safety
	- composite indicators of accidents at work
	- rates of occupational disease
	- stress levels and other difficulties concerning working relationships
	e. Flexibility and security
	- proportion of workers with flexible working arrangements
	- job losses – proportion of workers losing their job through redundancies
	- proportion of workers changing the geographical location of their work
	f. Inclusion and access to the labour market
	- effective transition of young people to active life
	- employment and long term unemployment rates by age, educational level, region
	- labour market bottlenecks and mobility between sectors and occupations
	g. Work organisation and work-life balance
	- proportion of workers with flexible working arrangements
	- opportunities for maternity and parental leave and take-up rates
	- scale of child-care facilities for pre-school and primary school age group
	h. Social dialogue and worker involvement
	- coverage of collective agreements, etc
	- proportion of workers with a financial interest/participation in their firms
	- working days lost in industrial disputes
	i. Diversity and non-discrimination
	- employment rates and pay gaps of older workers compared with average
	- similar pay gaps of persons with disabilities, persons from ethnic minorities
	- information on existence of labour market complaints procedures
	j. Overall economic performance and productivity
	- average hourly productivity per worker
	- average annual output per worker
	- average annual living conditions per head of population

Source: *Employment and social policies: A framework for investing in quality*, Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions, Commission of the European Communities, COM(2001)313 final, Brussels, 20.6.2001, pp. 11-14



23. The breadth and scope of the indicators recommended for use in the measurement of the concept of “decent work” outlined by the ILO in the General Report of the 17<sup>th</sup> ICLS in 2003 expands even further on the EC quality of work dimensions. The decent work indicators also include measures for the least well-off in both developed and developing countries (such as child labour) and link into a broader range of labour force indicators (such as labour force participation rates and unemployment rates). These are summarised in Table 2 below :

<b>Table 2. ILO Decent work framework</b> (Shaded boxes indicate dimensions currently included in Paris Group working time measurement framework)	
Element of decent work	Measurement indicators
Indicators relating to employment opportunities	1. Labour force participation rate 2. Employment-population ratio 3. Unemployment rate 4. Youth unemployment rate 5. Share of wage employment in non -agricultural employment
Indicators relating to work that should be eliminated or abolished	6. Percentage of children not at school 7. Percentage of children in wage or self-employment
Indicators relating to adequate earnings and productive work	8. Percentage of employment with low pay rate 9. Average earnings in selected occupations
Indicators relating to decent hours	10. Percentage of employment with excessive hours of work 11. TimereLATED underemployment rate
Indicators relating to stability and security of work	12. Percentage of employed persons with job tenure < 1 year 13. Percentage of employees with temporary work
Indicators relating to combining work and family life	14. Ratio of employment rate for women with children under compulsory school age to the employment rate for all women aged 20-49
Indicators relating to equal opportunity and treatment in empl.	15. Occupational segregation on the basis of sex 16. Ratio of the share of employment in managerial and administrative occupations to the female share of non-agricultural employment
Indicators relating to safe work environment	17. Fatal injury rate per 100,000 employees 18. Labour inspection 19. Occupational injury insurance coverage
Indicators relating to social protection	20. Public social security expenditure 21. Public expenditure on needs based cash income support 22. Beneficiaries of cash income support (% of poor) 23. Share of population over 65 benefiting from a pension 24. Share of economically active population contributing to a pension fund 25. Average monthly pension expressed as a % of median/minimum earnings
Indicators relating to social dialogue and workplace relations	26. Union density rate 27. Collective wage bargaining coverage rate 28. Strikes and lockouts
Indicators relating to the economic and social context of decent work	29. Informal economy employment

Source: ILO 2003, Report 1: General Report, 17<sup>th</sup> ICLS, Geneva, 24 November – 3 December 2003, Ch. 2 Measurement and monitoring of “decent work”, pp. 21-25

24. Finally, recent work published in the OECD’s annual *Employment Outlook* cover a number of statistical indicators on the quality of work. These have been discussed in the context of the OECD Job Strategy and the need for governments to take measures with the aim of increasing working time flexibility. In addition to measures related to the level and composition of total hours worked, the *Outlook* over the last five years has discussed work-life balance, employment protection legislation in OECD Member countries, health and safety and perceptions

of job security. By and large, OECD work has not been presented in the context of an explicit broad conceptual framework on quality of work.

25. In the context of both the European discussion on the quality of work and the concept of “decent work” as outlined by the ILO, it can be seen that the dimensions included cover a broader set of issues than those relating to working time measurement. The issues covered in work to date by the Paris Group on working time measurement in fact comprise a sub-set of some of the quality of work issues outlined above in Tables 1 and 2. Those covered by the Paris Group are highlighted in these tables.

26. There would be advantages in ensuring the consistency in the frameworks adopted at the European level for quality of work (either in the 2001 EC paper or in any subsequent versions), on any future work on “decent work” carried out under the auspices of the ILO, and that developed by the Paris Group for input to the revised ICLS Resolution on working time measurement. However, each of these frameworks have a different focus and therefore the need for consistency is only required where the frameworks overlap. In its current form only relatively minor additions would be required to the EC framework to include some of the additional detail in the Paris Group framework for both the core measures outlined in para. 17 above and supplementary variables listed in para 19. Required changes could of course also be made to the working time statistics measurement framework. More extensive changes would be required in the case of the decent work framework. Finally, care should also be taken to ensure that where overlap exists there is also consistency in terms of terminology and definitional content.

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